SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 20-F

(Mark One)

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended 31 March 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Date of event requiring this shell company report_

For the transition period from _ to_

Commission file number: 001-14958

NATIONAL GRID PLC

(Exact name of Registrant as specified in its charter)
England and Wales
(Jurisdiction of incorporation or organization)
1-3 Strand, London WC2N 5EH, England
(Address of principal executive offices)

Alison Kay
011 44 20 7004 3000
Facsimile No. 011 44 20 7004 3004
Group General Counsel and Company Secretary
National Grid plc
1-3 Strand London WC2N 5EH, England
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Name of each exchange on which registered
Ordinary Shares of 12 204/473 pence each	The New York Stock Exchange*
American Depositary Shares, each representing five Ordinary Shares of 12 204/473 pence each	The New York Stock Exchange
Preferred Stock ($100 par value-cumulative):	
3.90% Series	The New York Stock Exchange
3.60% Series	The New York Stock Exchange

* Not for trading, but only in connection with the registration of American Depositary Shares representing Ordinary Shares pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Securities Exchange Act of 1934: None.

Securities for which there is a reporting obligation pursuant to Section15(d) of the Securities Exchange Act of 1934: None.

The number of outstanding shares of each of the issuer's classes of capital or common stock as of 31 March 2019 was

Ordinary Shares of 12 204/473 pence each	3,687,483,073

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act: Yes ☑ No ☐

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ☐ No ☑

Note — Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days: Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files): Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of "large accelerated filer" "accelerated filer" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☑	Accelerated filer ☐
Non-accelerated filer ☐	Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act. ☐

†The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐
International Financial Reporting Standards as issued by the International Accounting Standards Board ☑
Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

This constitutes the annual report on Form 20-F of National Grid plc (the "Company") in accordance with the requirements of the US Securities and Exchange Commission (the "SEC") for the year ended 31 March 2019 and is dated 4 June 2019. Details of events occurring subsequent to the approval of the annual report on 15 May 2019 are summarised in section "Further Information" which forms a part of this Form 20-F. The content of the Group's website (www.nationalgrid.com/uk) should not be considered to form part of this annual report on Form 20-F.

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Annual Report and Accounts 2018/19

Bring
Energy
to Life

nationalgrid

Bring Energy to Life

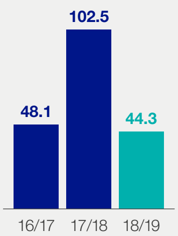
National Grid plc is one of the world's largest investor-owned energy utilities, committed to delivering electricity and gas safely, reliably and efficiently to the customers and communities we serve.

Highlights

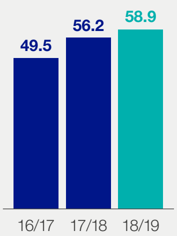
We have continued to make strong strategic and operational progress whilst maintaining excellent safety levels and reliability across all our networks. We have retained a focus on our environmental sustainability record and employee engagement.

Group financial highlights

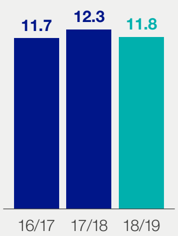
Statutory EPS (p)*



Underlying EPS (p)* Ⓐ



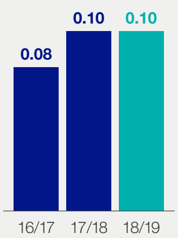
Group Return on Equity (RoE) % Ⓐ



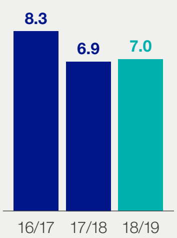
* From continuing operations

Group operational highlights

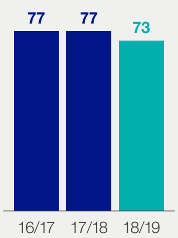
Group safety performance (injury frequency rate per 100,000 hours worked)



Greenhouse gas emissions (CO_2 equivalent, m tonnes)



Employee engagement (%)



Contents

Reporting currency

Our financial results are reported in sterling. We convert our US business results at the weighted average exchange rate during the year, which for 2018/19 was $1.31 to £1 (2017/18: $1.36 to £1).

Alternative performance measures Ⓐ

In addition to IFRS figures, management also use a number of 'alternative measures' to assess performance. Definitions and reconciliations to statutory financial information can be found on pages 225 – 234. These measures are highlighted with the symbol above.

Online report

The PDF of our Annual Report and Accounts 2018/19 includes a full search facility. You can find the document by visiting the 'About us' section at www.nationalgrid.com.

Further reading

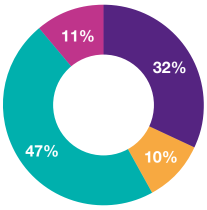
Throughout this report you can find links to further detail within this document or online. Please look out for the following icon:

Business model: what we do

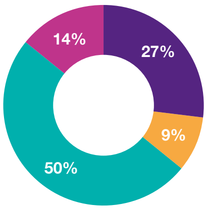
National Grid operates at the heart of the energy system, connecting millions of people safely, reliably and efficiently to the energy they use every day.

Our business is organised into segments, based upon activity and location

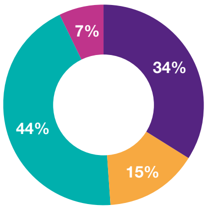
Underlying operating profit (%) Ⓐ



Statutory operating profit (%)



RAV, rate base and other assets (%) Ⓐ



Key:
- UK Electricity Transmission
- UK Gas Transmission
- US Regulated
- National Grid Ventures and Other activities

Principal operations – UK

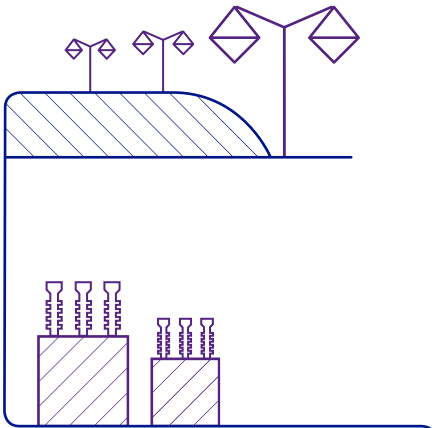
UK Electricity Transmission

We own the high-voltage transmission network in England and Wales. We are responsible for ensuring electricity is transported safely and efficiently from where it is produced; reaching homes and businesses safely, reliably and efficiently. In addition, we facilitate the connection of assets to the transmission system.

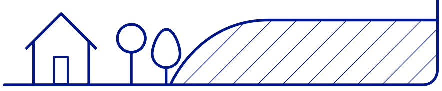
Our role as Electricity System Operator (ESO)

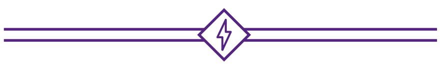
The ESO now operates as a separate company within National Grid effective from 1 April 2019. We are responsible for making sure supply and demand of electricity is balanced in real time across Great Britain. We are also the ESO for the Scottish networks, but do not own them. During 2018/19 we worked to separate the ESO from the electricity transmission system.

4,481
miles (7,212 kilometres) of overhead lines (2017/18: 4,474 miles; 7,200 kilometres)



1,417
miles (2,280 kilometres) of underground cable (2017/18: 969 miles; 1,560 kilometres)



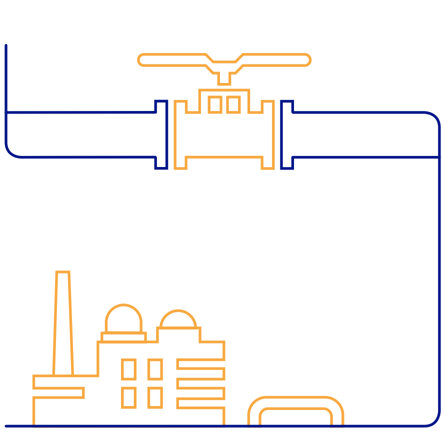


UK Gas Transmission

We also own and operate the high-pressure gas transmission network in Great Britain. We are responsible for making sure Great Britain's gas is transported safely and efficiently from where it is produced to where it is consumed.

As the Gas System Operator we are responsible for ensuring that supply and demand are balanced in real time on a day-to-day basis.

4,760
miles (7,660 kilometres) of high-pressure pipe (2017/18: 4,760 miles; 7,660 kilometres)



Principal operations – US

US Regulated:

Electricity

We own and operate transmission facilities across upstate New York, Massachusetts, New Hampshire, Rhode Island and Vermont.

We also own and operate electricity distribution networks in upstate New York, Massachusetts and Rhode Island.

Our electricity locations by state:

- New York;
- Massachusetts;
- New Hampshire;
- Rhode Island; and
- Vermont.

Gas

We own and operate gas distribution networks across the northeastern US and are responsible for connecting millions of customers to the energy they use.

Our gas locations by state:

- New York;
- Massachusetts; and
- Rhode Island.

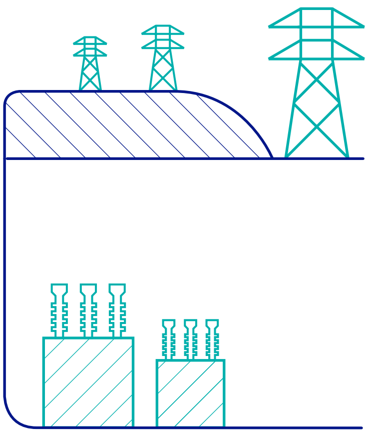
National Grid Ventures and Other activities

National Grid Ventures (NGV) manages our diverse portfolio of energy businesses that are adjacent to our core regulated operations. This operating segment represents our main strategic growth area outside our regulated core in competitive markets across the US and the UK. The business comprises all commercial operations in energy metering, transporting primarily renewable energy long distances through our electricity interconnectors and storing liquefied natural gas (LNG) in the UK.

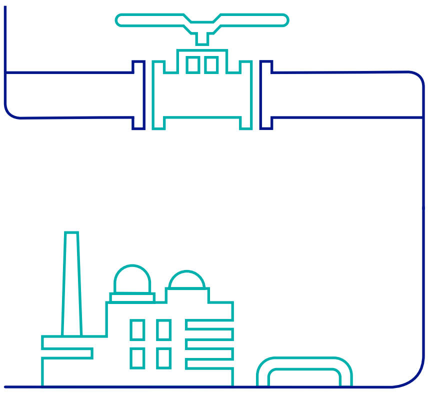
In November 2018, we established National Grid Partners with a focus on investment and future activities in emerging growth areas.

Our other activities mainly relate to UK property activities, together with corporate activities in the UK and US.

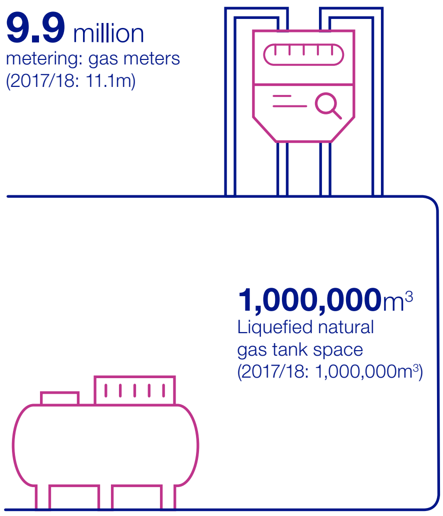
8,881
miles (14,293 kilometres) of overhead lines
(2017/18: 8,881 miles; 14,293 kilometres)



35,560
miles (57,228 kilometres) of gas pipelines
(2017/18: 35,419 miles; 57,001 kilometres)

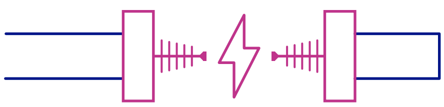


9.9 million
metering: gas meters
(2017/18: 11.1m)



1,000,000m³
Liquefied natural gas tank space
(2017/18: 1,000,000m³)

7.8 GW
GW capacity of interconnectors in operation or under construction
(2017/18: 6.4 GW)



You can find more information about what we do on our website: www.nationalgrid.com

Business model: how we operate

At National Grid we bring energy to life. In its simplest form this means getting the heat, light and power that customers rely on to their homes and businesses.

What we rely on

The key internal resources that we rely on to do business are:

- our physical assets that move the energy;
- appropriate funding that allows us to invest in our people and assets; and
- our talented workforce that ensures energy is moved efficiently and reliably.

We also rely on maintaining relationships with a number of key external stakeholder groups, to ensure we best meet their needs and maintain our licence to operate (see pages 40 – 45).

How we do business

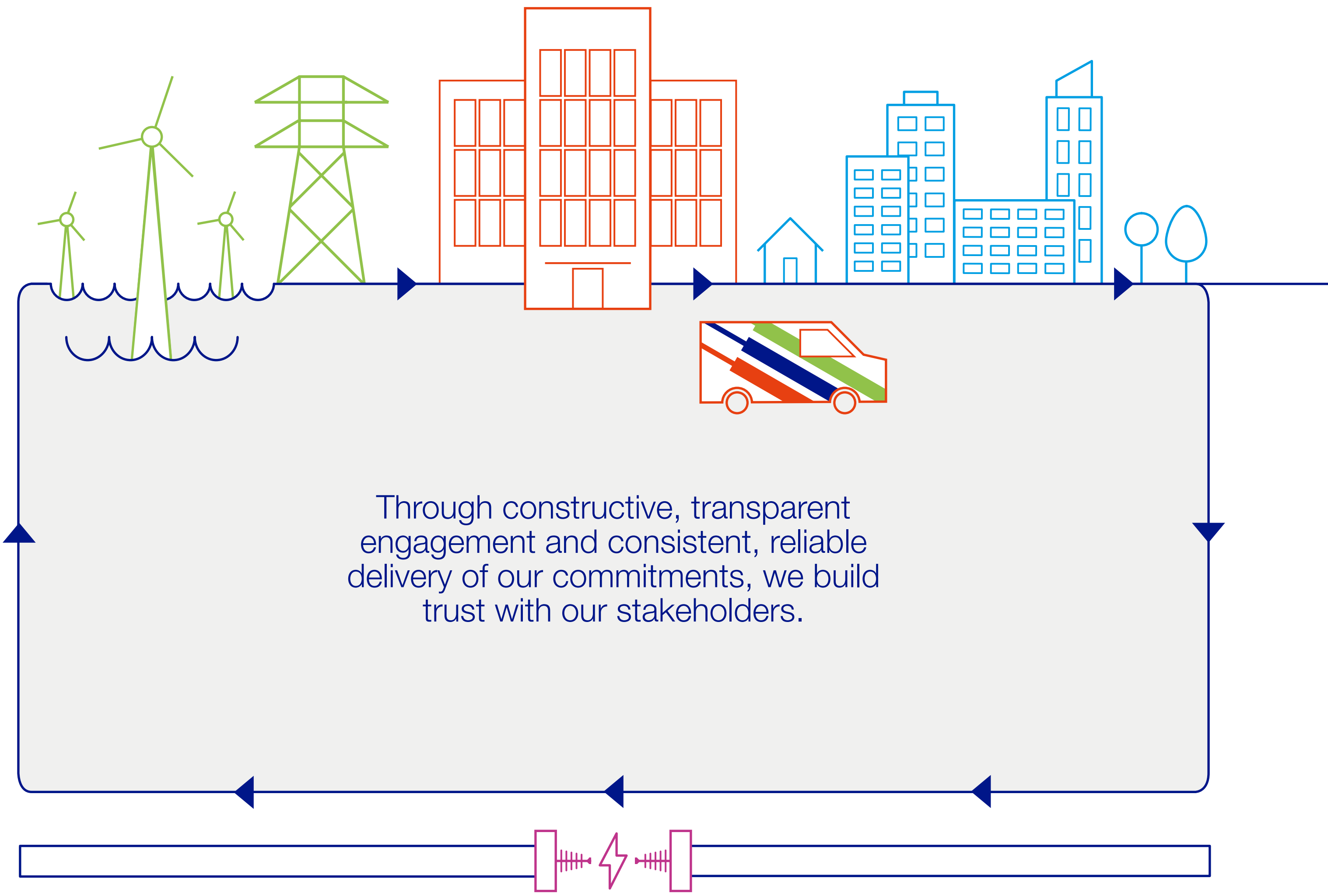
We combine these input factors along with our technical expertise to achieve our purpose and our vision.

We do all of this in accordance with our values, which guide everything that we do.

Our strategy is designed to maintain and develop our business model, and is supported by robust governance and risk management processes.

The value we create

Our operating model creates a stable, reliable and sustainable business that benefits both our stakeholders and the wider society.



What we rely on

Internal resources

Physical assets

We own electricity and gas networks that transmit energy over long distances from where it is produced and distribute it locally to where it is consumed. These networks are built to last for many decades and it would be impractical for duplicate infrastructure to exist. Such networks account for the vast majority of our asset base. In addition, we own various subsea electricity interconnectors and LNG importation facilities which, while scarce, are subject to competition.

c.**£5** billion p.a.
Investment in our assets over the next three years

Funding

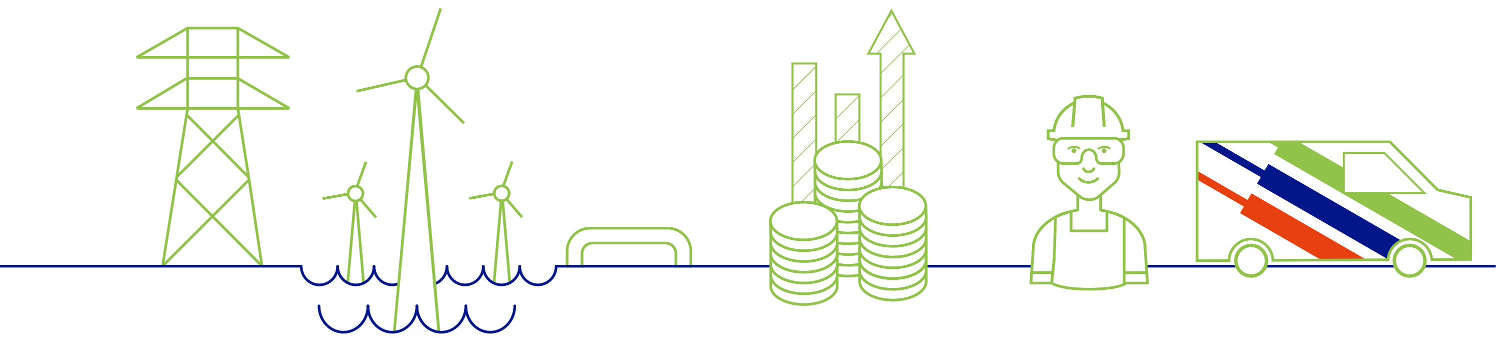
We fund our business through a combination of shareholder equity and long-term debt. We maintain an appropriate mix of the two and manage financial risks prudently.

66%
Regulatory gearing (net debt as a proportion of the value of regulatory assets and other invested capital)

Employees

Our highly skilled, dedicated employees have a strong public service ethos. They manage and maintain the physical energy infrastructure, and develop and sustain the many stakeholder relationships that are crucial to the Company's success.

22,576
Employees worldwide



External relationships

Customers

In the UK we do not own the energy that flows through our electricity cables and gas pipes. This energy is owned by our customers, such as electricity generators and gas shippers. These industrial customers, together with domestic consumers, pay to use our networks. In the US we deliver electricity and natural gas serving more than 20 million people through our networks.

Contractors and suppliers

We work in partnership with our supply chain that has complementary experience, skillsets and resources. We agree mutually beneficial contractual arrangements and, wherever possible, leverage economies of scale and use sustainable and global sourcing opportunities.

Communities and governments

The fundamental societal impact of our activities means that a range of stakeholders have a legitimate interest in and influence on the work we do. These include national and regional governments, local communities, our supply chain, and business and domestic consumers of the energy we transport.

Economic, health, safety and environmental regulators

We are subject to economic regulation by bodies that are entirely independent of National Grid. These economic regulators set the prices we can charge for providing an economic, efficient and non-discriminatory service. Our regulated revenue therefore covers day-to-day running costs, financing capital expenditures to renew and extend our networks, and incentives or penalties relative to performance targets. It also affords our shareholders a fair return on their investment.

The energy we transport is intrinsically hazardous; our operations therefore have to comply with laws and regulations set by government agencies responsible for health, safety and environmental standards.

Business model: how we operate
continued

How we do business

Our know-how

Over the many decades in which we have played a vital role connecting people to the energy they use, National Grid has built safe and reliable networks. We have also developed a well-respected and trusted reputation for engineering excellence.

We couple our extensive skills, knowledge and capabilities with innovation to ensure our core competencies continuously create value for shareholders and wider stakeholders alike.

We are recognised for our excellence in:

Asset management

We invest in and maintain our assets across their life as cost-effectively as possible.

Our focus ensures efficient management of our assets across their lifetime.

7.2%
Asset growth 2018/19

Capital delivery

We add value to our stakeholders by ensuring safe and effective delivery of large and complex infrastructure projects, ranging from large portfolios of smaller works to stand-alone mega projects.

£4.5 billion
Capital investment in 2018/19

Engineering

The skills of our engineers are vital to delivering safe, efficient, reliable and sustainable performance for all our businesses. Our people:

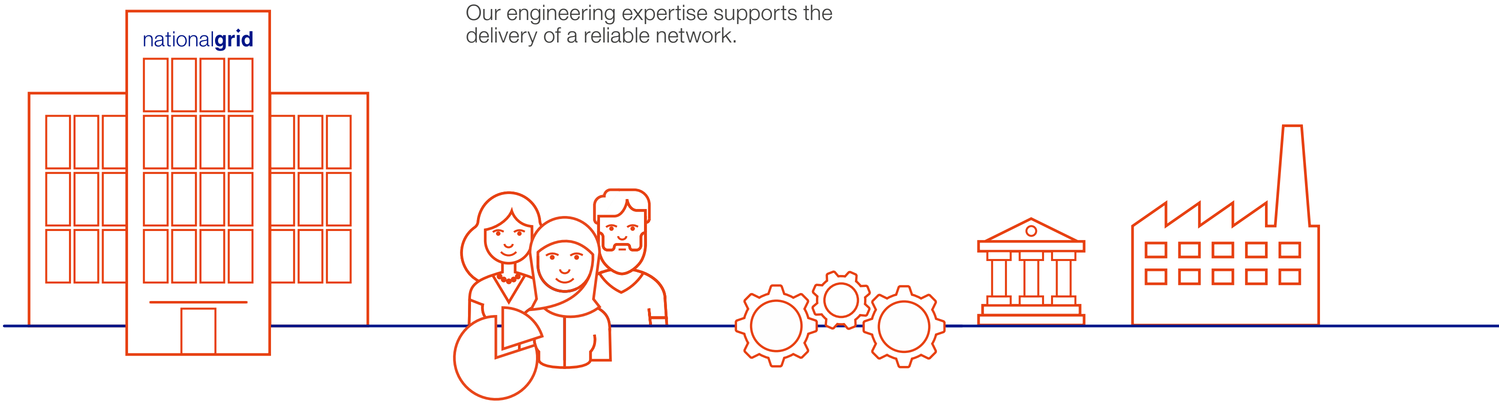
- find practical and innovative solutions to complex problems;
- employ risk-based decision-making; and
- adopt common approaches and continuous improvements.

Our engineering expertise supports the delivery of a reliable network.

Innovation

We focus our innovation activities to future proof the business for our customers as the energy landscape changes. Collaboration is crucial as we search for new technologies and techniques that will support the transformation.

£19 million
Research and development (R&D) 2018/19



Purpose, vision and values

Our purpose is to
Bring Energy to Life

We believe it is crucial to have a clear sense of what we stand for as a Company.

Our vision is to exceed the expectations of our customers, shareholders and communities today and make possible the energy systems of tomorrow.

We have to play an active role in helping to shape the changing energy landscape.

Our values are unambiguous: every day we do the right thing and find a better way.

Our values define the mindset and behaviours important for our business. They also guide us to achieve the right outcomes and our desired culture.

Our culture

National Grid's culture is the values, beliefs and behaviours that characterise our Company and guide our practices.

We are working hard to continue progress as an inclusive employer that values diversity. The knowledge and expertise of our employees is fundamental to our business success. Enabling our employees to reach their potential requires investing in building the skills and capabilities of all our people.

Strategy and risk management

Our strategy places the **customer at the heart of our decision-making** and consists of three long-term priorities:

- optimising our operational performance;
- growing our core business; and
- evolving for the future.

We have well-established **governance** structures that include comprehensive **risk management, strong controls and financial discipline.**

Further reading
Our strategy on pages 14 – 15
Principal operations on pages 34 – 39
Internal control and risk management on pages 20 – 22
Corporate governance from page 46

The value we create

Society
We provide the energy systems that help economies grow in a sustainable, affordable and reliable way.

£54 million
Contribution to communities 2018/19

Investors
We aim to be a low-risk business, focused on generating shareholder value through dividends supported by asset growth from investing in essential assets under primarily regulated market conditions, to service long-term sustainable consumer-led demands.

11.8%
Group Return on Equity 2018/19

Employees
We create an environment in which our people can make a positive contribution, develop their careers and reach their full potential.

73%
Employee engagement score 2018/19

Customers
By delivering the energy they need and dealing with them in a transparent and responsive manner, our customers trust us to deliver services to them.

Our customer satisfaction measures are listed in our KPIs on page 16

Economic, health, safety and environmental regulators
Through constructive, transparent engagement and consistent, reliable delivery of our commitments, we build trust with our regulators.

0.1LTI
Group safety performance 2018/19

Contractors and suppliers
We maintain sustainable, responsible and efficient supply chains in which our interests and those of our suppliers are aligned with the interests of customers.

£5.1 billion
Group supply chain spend 2018/19

Communities and governments
We help national and regional governments formulate and deliver their energy policies and commitments. The taxes we pay help fund essential public services. We have a role to play in sustainability, enabling the transition to a low-carbon future.

100%
IT equipment re-used or recycled 2018/19

Further reading
Our Key Performance Indicators on pages 16 – 19
Our commitment to being a Responsible Business on pages 40 – 45
Stakeholder Engagement on pages 54 – 55

Chairman's Statement

Sir Peter Gershon
Chairman

"Our vision is of an energy future where bills are kept low for consumers, energy is decarbonised, and innovation is encouraged and where together these efforts support the growth and prosperity of the economies we work in."

National Grid has continued to make strong operational progress in 2018/19, while maintaining excellent levels of safety and reliability. This has been in the context of a year of wide regulatory and political uncertainty for our stakeholders and the energy industry. In the US, federal politics remain partisan including the debate around the climate change agenda. In contrast, at state level, we have strong alignment with policymakers and regulators who, like us, are committed to cleaner energy.

During the year we have worked to manage the risk arising from continuing uncertainty over Brexit in the UK. There has been strong engagement with government and regulators. We have conducted a number of Brexit scenario-planning exercises and worked to maintain access for customers to European energy markets.

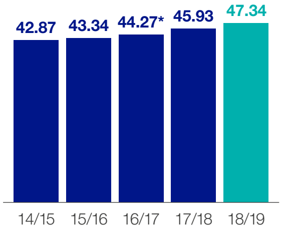
Our Group safety performance remains first class. It is a key focus this year. We will be introducing increased reporting on safety, including 'near miss' incidents that will support continued learning. We also recognise the heightened concerns among our US customers, regulators and communities about gas safety following the tragic explosions in the natural gas system owned by Columbia Gas.

In November 2018, we announced our decision to exercise our options for the sale of our remaining 39% share in the Cadent Gas distribution business that should complete in June 2019.

The International Financial Reporting Standard (IFRS) technical requirements make reporting some of the performance measures that we use as a regulated business challenging. We provide additional information, on page 30, about both our significant assets and liabilities that do not form part of our audited accounts, to help our investors gain a fair, balanced and understandable view of our business. Where practicable we reconcile these with our statutory measures in 'Other unaudited financial information' on pages 225 – 234.

Our share price, meanwhile, continues to be affected by external factors, particularly the uncertainty over the UK political and regulatory environment. The Labour Party's support of a state ownership agenda for utilities and public services adds further to this uncertainty. The Board does not believe that state ownership is in the best interests of consumers or wider stakeholders and the disruption and bureaucracy that would be involved would inevitably slow down the UK's transition to being a low-carbon economy.

Full year dividend (pence per share)



* excludes a special dividend of 84.375p.

Final dividend of

31.26p/share

proposed to be paid on 14 August 2019

Annual General Meeting 2019

The 2019 AGM will be held at 11.30am on 29 July 2019 at the ICC, Birmingham.

Directors' duties

In our effort to balance the relationship between National Grid and our key stakeholder groups, the Board has taken into consideration Financial Reporting Council guidance. We continue to be mindful of the need to create value. By considering our purpose, vision and values together with our strategic priorities, we balance outcomes for our suppliers, communities, employees, regulators and customers alongside long-term sustainable growth for our investors.

The Board, advised by the Group General Counsel & Company Secretary of our duty under section 172, determines the impact of our decisions on all stakeholders.

Further reading
Board engagement with stakeholders – pages 54 – 55

Further reading
Responsible business
www.nationalgrid.com/group/responsibility-and-sustainability

National Grid has delivered first class safety performance, excellent network reliability and invested £10 billion in UK energy critical national infrastructure during the first six years of RIIO. This allows us to continue to play a central role in enabling the decarbonisation of the UK economy. Indeed, in April, the ESO announced that it will be able to fully operate the electricity system with zero carbon by 2025. Through innovative arrangements in RIIO we have also generated £640 million savings to date for UK consumers.

At a time when there is an increased urgency to meet the challenge of climate change the last thing that is needed is the enormous distraction, cost and complication that state ownership would bring. It is pleasing that the majority of our investors agree with this sentiment through their long-term view of our financial and operational performance.

Ongoing dialogue with our regulators remains an area of major focus. In the US, the completion of a full refresh of our distribution business rates supports one of our key strategic pillars in the continued growth of our business. We also considered our focus on costs and efficiency. The resulting cost efficiency and restructuring programmes in both the UK and US will continue to drive performance for both customers and shareholders.

The Board also reviewed the resolution of the lengthy labour dispute with two of the Massachusetts gas worker unions over employment terms and conditions. I am conscious that this has been a difficult period for key stakeholders including our employees and the communities we serve in the Massachusetts gas business. We are now focused on addressing the backlog of work, re-integrating our workforce and rebuilding the reputation of this business.

The Board and I note the progress we are making on our strategic priorities. Against the background of delivering on our priority of optimising operational performance, we continued discussions with Ofgem on the RIIO-T2 price control. The overall framework proposals in the sector-specific consultation are a step in the right direction but we are concerned that the proposals, as currently set out, will not bring about the change consumers need.

Similarly, the decision to apply a new and untested regulatory model to the Hinkley-Seabank Connection Project was disappointing. This model seeks to impose on us the results of simulated competition without giving us the freedom of choice to decide to participate and allocate scarce capital to the project. We continue to review our option to challenge the decision when it becomes possible to do so.

Innovation

We continue to support stakeholders, including governments, communities and our regulators, to review policy within a rapidly evolving energy market. To prepare for the future, the Board supports opportunities to adopt and embrace technology and innovation. Two examples of our ongoing adoption of digital come to mind: the UK ESO now uses artificial intelligence to improve wind and solar output forecasting; and our US gas businesses now provide innovative data to our field force and use technology to improve work scheduling.

Dividend policy

Our dividend policy aims to grow the ordinary dividend per share at least in line with the rate of UK RPI each year for the foreseeable future. Accordingly, the Board has recommended an increase in the final dividend to 31.26 per ordinary share ($2.0256 per American Depository Share). If approved, this will bring the full year dividend to 47.34p per share ($3.0872 per American Depository Share), an increase of 3.07% over the 45.93p per share for the financial year ended 31 March 2018.

Sustainability

Our environmental sustainability performance was strong in 2018/19. By embedding sustainability in our business strategy and ensuring it is integral to the way we do business, we deliver positive outcomes for society. We also drive more efficient performance while identifying opportunities and managing risk in a changing environmental and social landscape.

Our approach to environmental sustainability focuses on those areas where we can have the most impact and that are important to our stakeholders. These themes are reducing our greenhouse gases, managing waste and natural resources efficiently and caring for the natural environment. We will be reviewing our strategy, targets and ambition in 2019/20.

Additional projects and awards

The Board was delighted to see recognition and positive movement in a range of indexes, such as The Times Top 50 Employers for Women and Top 70 Best Employers for Race. These awards recognise the important work we are doing to support workplace equality and inclusion.

People changes

We announced the appointment of Andy Agg as Chief Financial Officer (CFO) and Executive Director with effect from 1 January 2019. We also announced a further strengthening of the Board with the appointment of three additional Non-executive Directors: Amanda Mesler, Jonathan Silver and Earl Shipp. Andrew Bonfield, Pierre Dufour and Nora Mead Brownell have left the Board. You can read more details of all our Board members' experience and the Committees they support in my Corporate Governance review on pages 48 – 49.

I would like to extend my deepest appreciation to all our employees and our wider workforce for their hard work, dedication and commitment, without which the Company's achievements this year would not have been possible.

Sir Peter Gershon
Chairman

Chief Executive's review

John Pettigrew
Chief Executive

"I truly believe that a purpose-led company delivers superior performance for all of its stakeholders."

This has been another extremely busy year for National Grid, one in which we have made significant progress, not without its challenges, in pursuing our operational and strategic priorities and delivering our investor proposition.

Keeping our workforce and the public safe

Let me start with safety – this is always our top priority. This year we maintained our lost time injury frequency rate at equivalent to one lost time injury per million hours worked. This is consistent with the best-performing organisations worldwide, but this also means striving relentlessly to do better – our ambition is to ensure that all of our employees and contractors are able to go home safely at the end of each and every day. We have continued our campaign of making safe working second nature to all our employees and contractors, and as instinctive as putting on your seat belt before driving. That is the safety culture I am proud to say we continue to promote throughout National Grid.

Maintaining network reliability and putting our customers first

We have also continued to maintain excellent reliability across our networks, despite significant winter storms in the US. In fact, looking across our US electric businesses, we have seen a 35% increase in the number of adverse weather days across our service territories since 2015. Despite this, the efforts that we have made to significantly improve our speed of restoration means that we are now able to reconnect the majority of customers in less than 24 hours.

Customer performance is also a major priority. I am really pleased that our customer satisfaction scores for our UK businesses have increased by 3%. And in the US, customer satisfaction scores increased by 5 and 12 points for electric and gas residential customers respectively. The scores are helped by the continued improvements we are making to our customer portal and the digitalisation of our customer touchpoints.

Delivering for investors

Our financial performance shows the strength of our portfolio and of our strategy. We have delivered another year of strong organic growth in renewing and extending our energy networks, investing a record £4.5 billion and delivering asset growth of 7.2%, at the upper end of our target range. The full year dividend, subject to shareholder approval of the final dividend, is up 3.1% to 47.34p, in line with our policy, and is covered 1.2 times by underlying earnings per share, up 5% to 58.9p. Statutory earnings were somewhat lower because of certain exceptional charges which I will refer to below.

Optimising performance

Our core regulated businesses have commenced efficiency and restructuring programmes to create leaner, more agile organisations that are more responsive to customers' needs whilst delivering sustainable cost savings. We have made good progress with our cost efficiency programme in the UK as well as starting a similar exercise in the US, recognised as exceptional charges. These are taking action to remove costs from across the business, simplify our supply chain, rationalise our property portfolio and minimise future increases to customer bills.

The UK delivered another year of good returns, with a Return on Equity of 12.4%, within the range of 200 to 300 basis points of out-performance that we have committed to under RIIO-T1. The efficiency and restructuring programme means we are on track to maintain this strong performance by saving operating costs of £50 million in 2019/20 and £100 million from 2020/21 onwards.

In the US we achieved a Return on Equity of 8.8%, representing 93% of allowed return. This was slightly down on last year due to additional safety compliance spend in New York, the increased volume of minor storms, and additional costs of restoring service to our gas business in Rhode Island, following a low supply issue into our distribution network.

After protracted union negotiations, during which we brought in contractors and additional supervision to ensure we completed our work to the highest standard, we reached a satisfactory agreement with members of our Massachusetts gas workforce. These actions led to an exceptional charge which, whilst significant, reflects our commitment to safety and implementing the right contracts for the future.

We made good regulatory progress, reaching a significant milestone, with all our distribution businesses operating under new rates. We agreed new rates for Rhode Island gas and electric and Massachusetts gas during the year and this has given us the right regulatory platform to invest appropriately to best serve our customers.

Pursuing disciplined, quality growth

During the year we announced the exercise of our option to sell our remaining stake in Cadent, and are expecting £2 billion of cash proceeds in June 2019.

Our transmission networks in the UK have delivered £1.2 billion of capital investment, including two projects I am particularly proud of. Firstly, we completed the first new electricity overhead line route in England and Wales in the last 16 years. The Canterbury to Richborough connection is a 13-mile (21-kilometre) route that was built in only 15 months enabling the connection of the Nemo interconnector to the grid. Secondly, our Feeder 9 tunnel project under the Humber is now 75% complete and is the largest single investment in our gas infrastructure in a decade. Efficient delivery of projects such as these is key to maintaining our strong financial performance.

Our dialogue around RIIO-T2 also continues. We remain committed to the importance of a regulatory framework that fairly reflects the risk return balance for both consumers and shareholders. This supports the delivery of energy innovatively and efficiently.

During the year both the NuGen and Horizon nuclear projects cancelled their proposed connection agreements. The regulatory arrangements we have in place have mitigated the economic impact of these cancellations, though we have recognised an exceptional charge for development costs incurred on these projects over the last decade.

Our US business invested $3.5 billion in the year, resulting in asset growth of 9.2%, up 180 basis points on last year. The focus of our investment has been in modernising ageing networks, whilst also providing better safety, reliability and resilience.

We have also continued to make significant progress on our interconnector portfolio. The Nemo Link with Belgium was commissioned early and under budget. This was a complex build, with 1,200 unexploded bombs and a loaded 17th century cannon all needing to be negotiated as we laid the cables across the English Channel. With over 2.6 million working hours on the project, I am pleased to say we only had one minor safety incident. Progress on IFA2 and North Sea Link, our new interconnectors to France and Norway, have continued on track, with the converter stations' construction on IFA2 going well and NSL having now laid over 168 miles (271 kilometres) of cable. On Viking Link, the interconnector to Denmark, on which we took the final investment decision during the year, we have all planning approvals and land rights and plan to start construction in spring of 2020.

Evolving for the future

We are making major investments in improving security of supply and connecting low-carbon sources of energy to our networks. In addition to the substantial interconnectors programme, we recently announced our proposed acquisition of Geronimo Energy and a joint venture with the Washington State Investment Board (WSIB). This is our first meaningful step into renewable generation in the US, providing us with a potential pipeline of over 6 GW of solar and onshore wind projects at different stages of development.

We are also helping to further New York's clean energy goals, with a filing in November, for smart meter infrastructure that would result in over 2.3 million gas and electric meters being installed between 2021 and 2024.

We reached another milestone this year, with the legal separation of the Electricity System Operator from 1 April 2019, representing another step forward in the evolution of the energy industry in the UK.

Further, our National Grid Partners business, which invests in innovative emerging technology start-ups, has made great progress, investing in over a dozen new companies which will provide benefits across our businesses in future.

Becoming a purpose-led organisation and inspiring future generations

Expectations on big businesses have changed. Our purpose and how we conduct ourselves is increasingly important. Given the role we play at the heart of society, we are acutely aware of this and it guides what we do. I truly believe that a purpose-led company delivers superior performance for all its stakeholders. During 2018/19, we commenced a holistic review of the impact our business has on our society and on a sustainable future. The work will support us to build on our purpose to Bring Energy to Life.

We are working hard to continue to inspire the talent of the future with the promotion of careers with science, technology, engineering and maths (STEM) components. It is a privilege to be able to support young people from a wide range of backgrounds to follow rewarding careers in these areas.

We continue to nurture the talent and capability of our employees and our commitment to inclusion and diversity. Women now make up 32.1% of our management population and 10.6% come from ethnic minorities, but we still need to do more. Connecting better with our customers is enabled by diversity of thought and that can only come from diversity of our people.

Enabling the energy transition

National Grid has a critical role to play in enabling the energy transition. Power and heat networks are key to the energy system. It is our responsibility to create value for our customers and society more broadly by delivering affordable energy efficiently and sustainably, whilst being agile and anticipating and responding to the changing needs of our customers.

We continue to help shape the debate on creating cleaner, smarter energy networks that future generations can rely on. Our engineering excellence and the work we do on a daily basis keeps the lights on and the energy flowing, but we need to find more sustainable and less carbon-intensive options.

Our key focus is to keep customers at the forefront of everything we do. With that in mind, we are continuing improvements in customer service to deliver information to our customers more quickly. We are also digitising our customer-facing processes. This will make us more efficient and make it easier for customers to communicate with us.

Giving back to the communities in which we operate is always important to us. We need to maintain our absolute focus on keeping our people and the public safe. Therefore safety will always be the priority on our agenda.

Finally, I want to thank everybody who has worked so hard to deliver these results for National Grid in 2018/19.

J. Pettigrew

John Pettigrew
Chief Executive

Our business environment

The energy industry is experiencing unprecedented change, shaped by four key themes: affordability, decarbonisation, decentralisation and digitisation.

Affordability

As the energy industry transitions to a decarbonised, decentralised, and digital future, new investment will be required to maintain the reliability customers expect. National Grid has a role to play in helping customers reduce their carbon footprint and total energy costs.

3%

UK transmission network costs per average household dual fuel bill – representation of the total bill

£107m

allocated to address UK fuel poverty since 2017

2018/19 developments

UK

In the UK, affordability of energy continues to be a critical topic as highlighted in the Government's response to the 'Cost of Energy' review.

US

The cost of energy remains a priority for consumers and regulators who expect affordable, reliable and cleaner energy. New outcome-based performance incentives are aligning shareholder value with customer value and societal benefits. Such incentives are in place in upstate New York, called Earnings Adjustment Mechanisms (EAMs), and Rhode Island, called Performance Incentive Mechanisms (PIMs), and are proposed in Massachusetts and downstate New York.

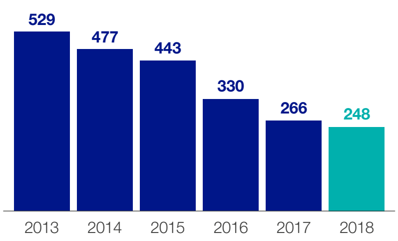
Our response

- We are focused on managing our networks over the long term, maintaining highly reliable systems at cost efficiency.
- Our US and UK regulated businesses are pushing for greater affordability and innovative ways to minimise the total cost of energy to consumers.
- In the UK, we have generated £640 million of savings for consumers in the first six years of the RIIO arrangements.
- In the US, we delivered an estimated $217 million in net societal benefits in our first year of EAM performance incentives in upstate New York. Such benefits increase the affordability of energy and were achieved through a range of activities. These include reducing the electric system peak to mitigate supply costs, enabling Distributed Energy Resource adoption and increased adoption of energy efficiency.
- We are helping customers to lower their 'total energy wallet' by enabling electric vehicle infrastructure and encouraging adoption of electric vehicles, as well as enabling customers to switch from oil heating to heat pumps, helping customers realise the benefits of lower costs.
- Our £107 million voluntary investment in Affordable Warmth Solutions across 2017-2019, supports addressing fuel poverty in the UK.

Decarbonisation

Climate events during 2018 were widespread and some, such as the wildfires in California, impacted energy networks significantly. Understanding the social, environmental and economic impact to business and measuring its value is likely to become more important as a result of these events.

Carbon intensity of British electricity, 2013-2018 (gCO_2/kWh)



Source: nationalgridESO

2018/19 developments

UK

During 2018, European carbon prices rose above €20/tonne; three times the level seen in 2017. This increase was likely due to fossil fuels burnt during abnormal weather conditions, as well as the reduction in carbon permits from 2019. Almost a third of electricity was generated by renewables in 2018 Q3 (source: Gov.uk); however, gas remains the primary fuel source for generation and heating (source: Gov.uk).

US

State regulators continue to support renewable energy. For example, a new Massachusetts energy bill approved by the Senate in June 2018 doubles the state's offshore wind ambition to 3.2 GW by 2035, up from 1.6 GW by 2027. In New York, Governor Cuomo announced a commitment to 100% carbon-free electricity by 2040, doubling a distributed solar goal and more than tripling the state's offshore wind target.

Our response

- Reducing greenhouse gas emissions forms part of the Company's KPIs (see page 18). We have also committed to meeting Task Force on Climate-related Financial Disclosure recommendations in full (see pages 210 – 211).
- 'Our Contribution' environmental strategy focuses on the areas where we can make a difference. You can read more about our approach and work on page 41.
- In November 2018, NGV confirmed £850 million of investment in the Viking Link interconnector with Denmark.
- In both the UK and US, we are supporting the adoption of electric vehicles through charge point infrastructure, to support decarbonising transport and improving air quality.
- In March 2019, NGV signed an agreement to acquire Geronimo Energy, a leading developer of wind and solar generation assets based in Minneapolis, Minnesota. This provides National Grid with a solid foundation on which to develop and grow a large-scale renewable business in the US.
- Massachusetts, Rhode Island, and Connecticut recently announced winners of their offshore wind tenders totalling 1.4 GW, with Ørsted, supported by National Grid, winning in Rhode Island and Connecticut. Pricing on the Massachusetts contract demonstrates the potential for US costs to reflect the downward trend in technology costs, spurred on by the European market.
- In June 2018, we published our Northeast US 80x50 Pathway: an integrated blueprint for New York and New England to reduce greenhouse gas emissions deeply below 1990 levels, while supporting economic growth and maintaining affordability and customer choice.
- Our recently launched energy efficiency and solar marketplaces allow our customers to shop online and receive instant rebates for energy-efficient products such as LED light bulbs and smart thermostats, receive free quotes for solar and compare financing options.

Decentralisation

The energy system is in transition from high to low carbon. This change coincides with a shift to more decentralised generation, from renewables to emerging battery storage. As the volume of this intermittent and distributed generation increases, a more resilient and flexible system will be required; one that makes best use of available energy resources to meet consumers' needs in a balanced, efficient and economical way.

65%

The Community Renewables scenario in FES 2018 suggests that 65% of all generation could be produced locally by 2050

Source: Future Energy Scenarios July 2018, ESO

2018/19 developments

UK

In July 2018 the Future Energy Scenarios (FES) document, published by the System Operator, suggested that by 2050 up to 65% of all generation could be locally produced. In July 2018, the first London streets received Ultra Low Emission Zone status. This has since expanded to the congestion zone. With increasing local electricity demand from cars, and potential for vehicles to both charge and discharge electricity onto the network, balancing demand, supply and power flows will become increasingly complex. Electricity storage and smart demand management will play a key role in easing this complexity.

US

In the US, distributed and decentralised energy resources growth and investment, including small-scale residential and commercial solar and storage, continue to accelerate. Seeing this growing trend, utilities across the US are exploring how they can best be compensated for effectively integrating Distributed Energy Resources (DER) into the grid. As the trend continues, our key priority will be creating innovative and productive ways to ensure utilisation is effective, safe and reliable.

Our response

- During 2018, the UK's transmission network made connection offers to 47 transmission-connected batteries, each approximately 50 MW. These batteries represent a new type of connection for the transmission grid. They also reflect the emergence of new business models for grid balancing.
- National Grid Partners has invested in DER companies. These include Leap, a marketplace to effectively monetise distributed energy grid services, and Omnidian, which provides comprehensive protection plans for solar energy systems investments.
- In the US, we expanded our partnership with Sunrun, providing $8 million for a share in revenues from new grid services contracts.
- The ESO has introduced new reforms to increase market transparency and lower barriers to entry for new providers of ancillary services, enabling greater participation from non-traditional providers including DER.

Digitisation

Businesses and lives are being transformed by innovations such as artificial intelligence and virtual reality. The energy landscape has seen several changes as companies look to create new business models and reduce energy prices through digital technologies. Technology commercialisation, consumer demand and regulatory stimulus will continue to drive these trends.

5%

The year-on-year reduction in unplanned outages attributable to use of enhanced sensors, smart meters and advanced automation on electricity grids in Europe and the US

Source: Bloomberg New Energy Finance

2018/19 developments

In 2018, the application of digital technologies to drive sustained profitable growth by optimising the way we work was a key global trend. It is expected to continue exponentially in the coming years.

The energy landscape is already being transformed by technologies such as smart meters and demand aggregators. These devices employ the latest advances in artificial intelligence to create new business models and reduce energy prices.

Utility networks are beginning to identify significant potential for their businesses through digital transformations. Advances in technologies to operate systems, manage assets and engage with customers will be a key facet of our business going forward.

Our response

- We are taking advantage of innovations in digital technology and innovation to improve our business performance. For example, we are using the latest advances in artificial intelligence in our UK energy forecasting to lower balancing costs and improve energy security.
- Using state-of-the-art machine learning, the ESO team, building on initial research by the Alan Turing Institute, enabled improvement in forecasting for the Solar Power Forecast. This improvement in forecasting enables the decarbonisation and decentralisation of the power grid and delivers efficiency savings to consumers. The team are building on this success to deliver the next generation of Demand Forecasting Capabilities.
- 2018 also saw the launch of National Grid Partners, our new venture capital and innovation group. The group has already made several investments in companies that are at the forefront of developing potentially pivotal technologies.

Regulatory, political landscape

Brexit

National Grid is supportive of the EU and UK agreeing on a deal and a transition period to minimise any disruption and keep costs down for consumers. We are working with the Government, regulators and others to ensure that the efficient flow of gas and electricity can continue whatever the outcome of Brexit, with minimal impact to consumers. The interconnectors will continue to operate in any scenario and do not anticipate any major disruption.

It is essential that energy is prioritised in the upcoming discussions on the EU-UK future relationship to the mutual benefit of both the EU and the UK. We also support the UK's continued participation in the EU's Internal Energy Market as the most effective way to preserve the consumer benefits and maintain certainty for investors.

State Ownership

The Labour Party has set out its aim to bring the energy networks under state ownership as part of its plans to deliver a decentralised renewable energy future. This forms part of a wider state ownership agenda across key public utilities and services.

National Grid does not believe that this is in the best interests of consumers or stakeholders and is focused on enabling the transition to a low-carbon energy system while maintaining a reliable and cost-effective service for consumers.

Our strategy

We ensure that customers are at the heart of our decision-making and this guides everything we do. We are focused on three strategic priorities for our business, which will set the foundations of our future success.

Customer first

We have a vital role to play in enabling customers to benefit from the changes in our industry. The energy transition and associated technological advancements mean we can provide our customers with a more cost-effective service. We measure customer satisfaction as a KPI within each of our business segments.

1. Optimise performance

Our customers want us to be more efficient, so we must find ways to improve how we run our business.

We need to enhance the customer experience and our productivity through more efficient and customer-focused processes. Given the scale of our core business in the UK and US, even small improvements will have a huge impact on our overall performance. Finding new ways of optimising operations will be an important factor in our ability to compete and grow.

Performance in 2018/19

- Identified savings and began the transition to leaner and more efficient operating models in the UK and US core businesses;
- Completed union negotiations in Massachusetts and integrated employees back to work;
- Agreed rate case settlements for gas in Massachusetts and gas and electric in Rhode Island;
- Commenced embedding our Business Management System (BMS) across the Group;
- Gave the notice to exercise the options for the sale of the remaining 39% of the Cadent gas distribution business; and
- Agreed RIIO-T1 reopeners during autumn 2018, including investment in cyber and physical security.

Further reading
See more on these in the Additional Information section on pages 199 – 209

2. Grow core business

Delivering strong operational performance provides a foundation from which we can invest in our core business and pursue other opportunities.

We continue to look for business development opportunities that are close to our core business. In the US, we will build on our successful efforts to pursue opportunities in electricity and gas transmission as well as large-scale renewable options.

Interconnectors will continue to be our focus over the next decade.

Performance in 2018/19

- Grew our UK and US regulated businesses capex to £3.9 billion;
- Approved investment in the Viking Link interconnector in September 2018;
- Delivered our first new overhead line this century in England: Richborough to Canterbury, connecting the Nemo Link interconnector;
- Launched the Nemo Link interconnector, which became operational on 31 January 2019;
- Interconnectors IFA2 and North Sea Link are under construction and are on track to be delivered to plan; and
- Delivered new infrastructure to replace the century-old substation that powers Rhode Island's capital city.

Further reading
See more on these in the Additional Information section on pages 199 – 209

3. Evolve for the future

We need to future-proof our business against the effects of a changing energy landscape. Our networks are already managing changes to the generation mix, while the needs and expectations of our customers are evolving.

Our preparations for the future have already begun with the creation of NGV. This collaboration brings together our non-network businesses to focus on targeted investment in the energy sector outside of our core business.

We are also looking to develop new capabilities that are essential for long-term success. For example, the creation of National Grid Partners allows us to increase our capability in new and disruptive energy technologies to meet the changing needs of our customers and communities.

Performance in 2018/19

- Achieved separation of the Electric System Operator from the UK electricity transmission company;
- Continued to participate in the debate on decarbonisation, contributed to the 80x50 Pathway and supported electric vehicle charging networks;
- Launched National Grid Partners with £58 million invested to date; and
- Announced in March 2019 the proposed acquisition of Geronimo Energy, a developer of wind and solar generation.

Further reading
See more on these in the Additional Information section on pages 199 – 209 and pages 223 – 224

Progress against our strategy

The Board uses a range of metrics, reported periodically, against which we measure Group performance. These metrics are aligned to our strategic priorities and were refreshed during the year.

This year we revised our Key Performance Indicators to ensure we measure performance against our strategy that was updated in 2017. This revamp has resulted in 5 new KPIs, as identified below.

We report our performance measures as follows:

KPIs

- Principal measures that track individual progress against each of our three strategic priorities. See below.
- Non-financial measures that underpin delivery of all three strategic priorities. See below.

Other performance indicators

- Financial measures that result from the delivery of our strategic priorities. These are set out within our financial review, from page 25.
- Business-unit-level measures that are specific to our three strategic priorities. These are set out within our Principal Operations review, on pages 34 – 39.

Key

New KPI for 2018/19

Link to strategy

Optimise performance

Grow core business

Evolve for the future

A Indicates an alternative performance measure

Link to remuneration

Remuneration of our Executive Directors, and our employees, is aligned to successful delivery of our strategy. We use a number of our KPIs as specific measures in determining the Annual Performance Plan (APP) and Long Term Performance Plan (LTPP) outcomes for Executive Directors. While not explicitly linked to APP and LTPP performance outcomes, the remaining KPIs and wider business performance are considered. For further detail, please see our remuneration report, on pages 69 – 90.

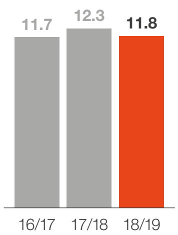
Principal measures

Strategy link | **KPI and performance** | **Progress in 2018/19**

Group Return on Equity (RoE, %) A

We measure our performance in generating value for shareholders by dividing our annual return by our equity base. This calculation provides a measure of whole Group performance compared with the amounts invested in assets attributable to equity shareholders.

Target: 11–12.5% p.a.



Group RoE fell slightly during the year. The UK regulated businesses delivered an improved operational return of 12.4% in aggregate (2017/18: 12.1%). This was offset by slightly reduced RoE in the US of 8.8% (2017/18: 8.9%) where lower operating profits were not fully mitigated by the benefit of a lower tax charge following US tax reform. In addition, Group RoE benefited from the Fulham property sale and US legal settlements, partially offset by the removal of the share of Cadent earnings, following its classification as a discontinued operation.

Customer satisfaction

We measure customer and stakeholder satisfaction, while also maintaining engagement with these groups and improving service levels.

£m	2018/19	2017/18	2016/17	Target
UK Electricity Transmission (/10)	7.9	7.7	7.4	6.9
UK Gas Transmission (/10)	7.8	7.6	8.0	6.9
US Residential – Customer Trust Advice survey (%)	58.7	56.6	60.7	57.4
Domestic and Industrial and Commercial Metering NPS score (index)	+44	+39	–	–

The US metric measures customers' sentiment with National Grid by asking customers their level of trust in our advice to make good energy decisions. The metric, which is tied to the value customers feel they receive from National Grid, increased and was above target in 2018/19. The Trust Advice metric recovered half of its decline from the prior year (two percentage points) due to improved communications and customer experiences.

Our customer satisfaction KPI comprises Ofgem's UK electricity and gas transmission customer satisfaction scores. Figures represent our baseline targets set by Ofgem for reward or penalty under RIIO (maximum score is 10).

Following a review, our Interconnector and LNG businesses will no longer use NPS to measure customer satisfaction. Both units will continue to monitor customers through an annual survey designed to gauge the quality of services provided to wholesale energy market participants. NPS scores reported represent the Domestic and Industrial and Commercial Metering business.

Principal measures continued

Strategy link	KPI and performance	Progress in 2018/19

Network reliability

We aim to deliver reliability by planning our capital investments to meet challenging demand and supply patterns, designing and building robust networks, having risk-based maintenance and replacement programmes, and detailed and tested incident response plans. We measure network reliability separately for each of our business areas. The table below represents our performance across all our networks in terms of availability. For both our UK and US networks we continued to maintain excellent reliability.

£m	2018/19	2017/18	2016/17
UK Electricity Transmission (%)	99.999984	99.999984	99.999964
UK Gas Transmission (%)	99.9896317	99.996151	99.975
US Electricity Transmission	99.952	99.953	99.97
US Electricity Distribution	99.995	99.995	99.994
IFA interconnector	93.9	92.6	77.5
BritNed interconnector	98.2	97.8	98.2

For UK Gas Transmission, there was one incident at Didcot Power station which meant that flows were restricted over three gas days.

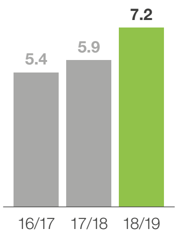
For UK Electricity Transmission, there were three Loss of Supply incidents in 2018/19, of which one was incentivised, one non-incentivised and the third not-reportable under the Energy Not Supplied (ENS) incentive scheme. The ENS incentive scheme returned a profit of £3.7 million in 2018/19.

In the US, we continued to maintain high levels of reliability.

Total regulated asset growth (%) Ⓐ

Maintaining efficient growth in our regulated assets ensures we are well positioned to provide consistently high levels of service to our customers and increases our future revenue allowances.

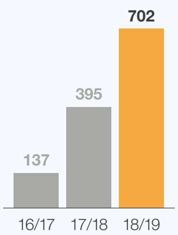
Target: 5–7% growth each year



Asset growth during the year was 7.2% (2017/18: 5.9%). This was primarily driven by the accelerated US rate base growth of 9.2% (2017/18: 7.4%) and higher levels of investment in other assets, such as in NG Partners. This is partially offset by lower UK RAV growth of 3.6% (2017/18: 4.5%).

Cumulative investment in delivering new low-carbon energy sources (£m)

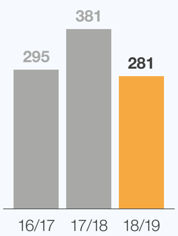
We invest in new low-carbon energy sources primarily through our interconnector businesses (Nemo, North Sea Link, IFA 2 and Viking), investments in companies delivering low-carbon energy sources (for example our investment in Sunrun) and investments into large-scale renewables.



Cumulative investment in delivering new low-carbon energy sources was £702 million, up from £395 million in 2017/18. This is principally from ongoing investment in our interconnector projects, with Nemo Link successfully completed during the year and significant progress made in the construction of IFA2 and North Sea Link.

Connections of renewable schemes to US electric distribution network (MW)

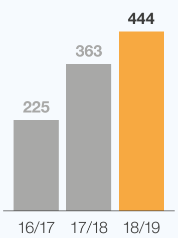
The table represents the amount of customer-owned renewable energy capacity installed on our distribution network across our US footprint. Given the variability and unpredictability of customer driven projects, the Company does not presently have an MW target. Current targets primarily focus on regulatory compliance and customer need date attainment.



Though the installed capacity shows a year-on-year decline, Rhode Island actually installed a record amount of capacity (76 MW) while the installed capacity in New York was on par with 2017/18. The installed capacity in New York enabled the Company to earn incentives through the state's Peak Reduction and DER Utilisation Earning Adjustment Mechanisms. Though Massachusetts experienced a decline in customer-ready projects to interconnect, attributed to a delay in the launch of the state's new incentive programme (SMART), it received a record amount of capacity (1.15 GW). While non-residential systems have represented less than 5% of connected applications, they have accounted for 75% of the installed capacity over the last three years.

NGV capital investment (£m) Ⓐ

NGV is focused on investment in a broad range of energy businesses across the UK and US, including our interconnector business, large-scale renewable generation, LNG storage and regasification, and energy metering.



NGV capital investment has increased in the year by £81 million (22%). This was principally due to increased investment in our interconnector projects under construction, with further progress made in the construction of IFA2 and North Sea Link. In addition, further investment has been made to upgrade and expand the Millennium gas pipeline with our joint venture partners.

Progress against our strategy continued

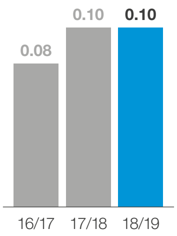
Non-financial measures

KPI	Performance	Progress in 2018/19

Group lost time injury frequency rate (LTIs per 100,000 hours worked)

This is the number of worker lost time injuries per 100,000 hours worked in a 12-month period (including fatalities) and includes our employee and contractor population.

Target: < 0.1 LTIs

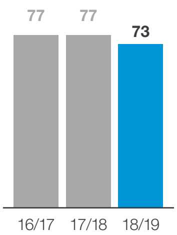


As at March 2019, our Group lost time injury frequency rate was 0.10. We have moved to reporting on combined employee and contractor LTI rates to reflect our continued focus on encouraging good safety behaviours across our entire worker community. The results for 16/17 and 17/18 have been restated with Group LTI rates.

The majority of lost time injuries are as a result of individual issues such as slips, trips and falls, soft tissue injuries from inappropriate lifting and carrying and non-fault road traffic collisions – we are treating these incidents with appropriate focus whilst acknowledging that they do not generally have the potential for more serious harm. Our analysis shows that in 2018/19 the number of incidents with higher potential for harm has been lower than expected.

Employee engagement index (%)

This is a measure of how engaged our employees feel, based on the percentage of favourable responses to questions repeated annually in our employee engagement survey. Our target is to increase engagement compared with the previous year.

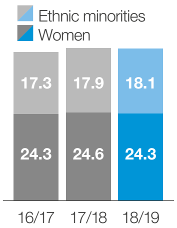


We measure employee engagement through our employee engagement survey. The results of our 2018/19 survey, which was completed by 76% of our employees, have helped us identify specific areas where we are performing well and those areas we need to improve.

Our engagement score was 73% favourable. While the score has dropped by four points from our 2017/18 results, we remain in the range of other high-performing companies for employee engagement. We have a range of action plans underway to support addressing the change in our scoring during 2019/20.

Workforce diversity

We measure the percentage of women and ethnic minorities in our workforce. We aim to develop and operate a business that has an inclusive and diverse culture (see page 43).

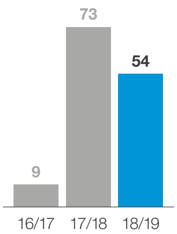


During 2018/19, we have seen a reduction in the size of the UK, US and NGV populations. Within this though, our female representation has decreased by a greater proportion than male representation; leading to a slight decrease overall of 0.3%, from 24.6% to 24.3%.

On the other hand, our ethnic minority representation has grown across the UK, US and NGV populations; leading to an overall increase of 0.2%, from 17.9% to 18.1%.

Contribution of our corporate responsibility work (£m)

Working with communities is important for creating shared value. The significant increase in donations in 2017/18 and 2018/19 is due to our contributions through the Warm Homes Fund.



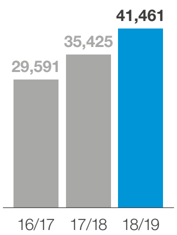
We use the London Benchmarking Group measurement framework to provide an overall community investment figure which includes education (but excludes investment in university research projects). Whilst we have no specific target, our overall aim is to ensure we add value to society to enable communities to thrive.

In the UK, the overall contribution of our activities was valued at nearly £46 million. The significant increase between 2016/17 and 2017/18 is due to our continued investment through the Warm Homes Fund. In the US, our contribution was just over £7 million.

This gives us a combined Group-wide contribution of nearly £54 million.

Education, skills and capabilities

We support the development of young people's skills and capabilities through skills-sharing employee volunteering. In particular, we focus on STEM subjects as these support our future talent recruitment and our desire to see young people gain meaningful employment.

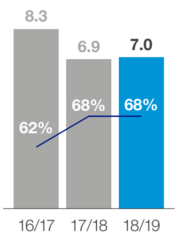


We measure quality (>1 hour) interactions with young people on STEM subjects. In the UK, in 2018/19, we have had 2,285 quality interactions with young people on STEM subjects. We had 39,176 interactions in the US. Overall we have seen a total of 41,461 interactions with young people on STEM, an increase of 6,036. The 2018/19 and 2017/18 data excludes UK Gas Distribution. All figures prior to 2017/18 include UK Gas Distribution.

Climate change

This is a measure of our reduction of Scope 1 and Scope 2 emissions of the six primary Kyoto greenhouse gases. Our target is to reduce our greenhouse gas emissions by 45% by 2020, 70% by 2030, and 80% by 2050, compared with our 1990 emissions of 21.6 million tonnes.

Further reading
You can read more about TCFD on pages 210 – 211



Our Scope 1 greenhouse gas emissions for 2018/19 equate to 4.5 million tonnes of carbon dioxide equivalent (2017/18: 4.0 million tonnes) and our Scope 2 emissions (including electricity line losses) equate to 2.5 million tonnes (2017/18: 2.9 million tonnes); combined this is a 68% reduction against our 1990 baseline. These figures include line losses and updated lower emissions factors for US Gas Distribution.

These are equivalent to an intensity of around 469 tonnes per £1 million of revenue (2017/18: 505).

Our Scope 3 emissions for 2018/19 were 32.3 million tonnes (2017/18: 31.9 million tonnes).

We measure and report in accordance with the World Resources Institute and World Business Council on Sustainable Development Greenhouse Gas Protocol. 100% of our Scope 1 and 2 emissions and 100% of our Scope 3 emissions are independently assured against ISO 14064-3 Greenhouse Gas assurance protocol. This statement, along with more information about our wider sustainability activities and performance can be found in the 'responsible business' section of our website www.nationalgrid.com

Financial measures that result from the delivery of our strategic priorities

In addition to the above measures, the Board also monitors a range of financial output indicators that measure the successful delivery of our strategy. These measures are listed below. Further detail can be found in our financial review:

- Dividend growth, page 33;
- Asset growth, page 30;
- Accounting profitability:
  - Underlying EPS, page 26;
  - Statutory EPS, page 26;
- Value creation: Value added per share, page 31; and
- Balance sheet strength: Regulatory gearing, page 31 (new in 2018/19).

Research and Development

The Group's investment in research and development (R&D) during the year was £19 million (2017/18: £13 million; 2016/17: £14 million).

However, our work is wider than just R&D. Across our organisation we have dedicated innovation functions in several of our core businesses. Additionally, due to the large number of partners we work with to advance new ideas, our disclosed R&D expenditure is lower than the overall contribution we make to the industry. We only disclose directly incurred expenditure and not those amounts our partners contribute to projects.

Innovation in our UK and US principal operations

Collaborating across the industry is crucial to developing new ideas and delivering value to our stakeholders. We search for new technologies and techniques to challenge the way we work. Partnerships are critical. One focus area is the impact of the changing energy landscape, which we explore through workshops and bilateral engagements. We are also developing innovation projects to drive the decarbonisation of transport, heat and industry.

We work in collaboration with technical organisations, academia and suppliers in the energy sector that align with our goals and objectives. This collaboration also helps inform our strategic direction in response to US jurisdictional requests for modernisation.

The UK electricity transmission network is continuing with innovation investments. We started 23 new projects to support delivery of secure, reliable and sustainable energy systems. We are also continuing our contribution to academic research, supporting 24 grants to the value of £64.4 million, working with the Engineering and Physical Sciences Research Council (EPSRC) to support allocation. We are also committed to finding sustainable solutions to our operational challenges. A good example of this is the use of bamboo as sound insulation to reduce the impact on local communities from transformer noise.

The System Operator has been innovating to ensure we continue to provide secure, affordable and sustainable supplies of energy in a fast-changing world. The year ahead will see even more projects generated by the Electricity System Operator, including the world's first Black Start from Distributed Energy Resources (DERs). This is a £10 million Network Innovation Competition (NIC) project with SP Energy Networks. It will develop and demonstrate coordination of DERs to provide a safe and effective Black Start service and lower cost to consumers. The ESO also uses innovation to accelerate market development.

In the US, we focus innovation and R&D on the advancement of products, systems and work methods that may be new to National Grid. This is accomplished by working with internal departments to identify where strategic investment is needed and will prove beneficial to our business and stakeholders. In Massachusetts, under our Solar Phase II programme, we have built 15.27 MW of photovoltaics (PV). These PV sites have been developed with advanced grid interactive controls. The aim of the project is to test and analyse the impact of future high levels of DERs on distribution systems.

In our US gas businesses, our main R&D priority is increasing public safety, protecting our workforce and reducing the cost of the work we perform. An example is the successful deployment of new equipment to stop the flow of gas in our distribution mains when maintenance or repair is required. We are now expanding the applicability to mains sized 750mm and above. Such innovative technology allows our workforce to operate more quickly and safely in smaller excavations with less customer impact.

National Grid Partners

In 2018 we launched National Grid Partners, our dedicated corporate innovation investment function. We completed our first direct venture investments during summer 2018 and we continue to pursue strategically aligned and financially attractive global opportunities for National Grid. National Grid Partners has brought in professional venture capital, incubation and business development experience to invest in start-up ventures directly. The function also provides visibility to emerging technologies globally.

We have established offices in Silicon Valley, an incubation facility in San Francisco, and have participated in funds based in the US, Europe and Israel to further our outreach and visibility in key innovation regions. We have made a strong start, having directly invested in 12 start-up ventures and the additional venture capital funds in 2018/19, with a cumulative investment of £58 million to date.

Our investment strategy largely targets digital enabling technologies covering five competitively attractive themes:

- Smart enterprise;
- Smart assets;
- Intelligent operations;
- Smart home, cities and mobility; and
- Energy efficiency.

More details can be found at www.ngpartners.com including details of each of our portfolio investments.

The value we look to create through innovation is often associated with introducing new methods to better manage our assets and finding ways to more efficiently build new infrastructure. We also aim to identify opportunities to enhance our customer service delivery, and continually strive to make our businesses safer and more sustainable over the long term.

Further reading
Further details about our R&D and innovation activities can be found in Additional Information on pages 223 – 224

Internal control and risk management

The Board is committed to protecting and enhancing our reputation and assets, while safeguarding the interests of our shareholders.

Top-down, bottom-up assessment

Risk management activities take place through all levels of our organisation. Through a 'top-down, bottom-up' approach, all business areas identify the main risks to our business model and to achieving their business objectives. Each risk is assessed by considering the financial, operational and reputational impacts, and how likely the risk is to materialise. The business area identifies and implements actions to manage and monitor the risks. The risks and actions identified are collated in risk registers and reported at functional and regional levels of the Company quarterly. The most significant risks for the UK and US businesses are highlighted in regional risk profiles and reported to the Executive Committee and the Board twice a year. In addition to these reports, the Executive Committee and the Board may also identify and assess principal risks. These risks and any associated management actions are cascaded through the organisation as appropriate.

Our internal control process

We have a number of processes to support our internal control environment. These processes are managed by dedicated specialist teams, including: risk management; ethics and compliance management; corporate audit and internal controls; and safety, environment and health. Oversight of these activities is provided through regular review and reporting to the appropriate Board committees, as described in the Corporate Governance section on page 61.

Internal control over financial reporting

The periodic Sarbanes-Oxley (SOX) Act 2002 reports, which contain management's opinion on the effectiveness of internal control over financial reporting, are received by the Board in advance of the full year results. They concern the Group-wide programme to comply with the requirements of section 404 of the SOX Act 2002 and are received directly from the Group Controls Team, and through the Executive and Audit Committees. For more information, including reporting, see the report of the Audit Committee on pages 58 – 62.

Managing our risks

National Grid is exposed to a variety of uncertainties that could have a material adverse effect on the Group's financial condition, our operational results, our reputation and the value of our shares.

The Board oversees the Company's risk management and internal control systems. As part of this role, the Board sets and monitors the amount of risk the Company is prepared to seek or accept in pursuing our strategic objectives (our risk appetite). The Board assesses the Company's principal risks and monitors the risk management process through risk review and challenge sessions twice a year.

Risk management process

Overall risk strategy, policy and process are set at Group-level with implementation owned by the business. Our enterprise risk management process provides a framework through which we can consistently identify, assess, prioritise, manage, monitor and report risks. The process is designed to support the delivery of our vision and strategy, described on pages 14 – 15.

Our corporate risk profile contains the principal risks that the Board considers to be the main uncertainties currently facing the Group as we endeavour to achieve our strategic objectives. These top risks are agreed through discussions about the Group's risk profile with the Executive Committee and the Board. The risks are reported and debated with the Executive Committee and the Board every six months.

When determining what our principal risks should be, a broad range of factors are considered. In 2018/19, external events played a large part in the assessment of threats and opportunities. Brexit is not currently one of our principal risks but the implications continue to be kept under review, especially in relation to our access to energy markets and the impacts on interconnector revenues and costs. During the year, our Brexit working group assessed these issues and devised scenarios to cover the possible outcomes. Based on the worst case scenario ('no deal'), we determined that the risk of increased costs of tariffs and any possibility that our partners might be compelled to 'switch off' the interconnectors is low. Throughout the year, we engaged with our customers, stakeholders and especially our regulators, as we seek to inform them of the Brexit outcome we believe would be in the best interests of consumers.

In the US, gas industry events on third-party networks not only influenced companies to incorporate lessons learnt, but also changed significantly the regulatory environment for the industry. These events included the Columbia Gas Company explosion/fires incident caused by the over pressurisation of a natural gas pipeline system that led to one fatality, 25 people injured and extensive property losses in three Massachusetts towns. We incorporated considerations from a safety and regulatory perspective into our principal risk analysis and viability testing scenarios.

The fires in California that caused numerous deaths and widespread destruction led us to review our focus on climate change within our principal risk scenario testing. The review considered our insurance coverage, cash flow and reputation following the subsequent findings concerning the liability of California's utility company, Pacific Gas and Electric (PG&E).

In addition to the issues above, senior leaders and the Board also considered certain aspects of the principal risks in more detail, including cyber security, emerging technology, asset safety and Ofgem's sector specific RIIO-T2 consultation.

We test principal risks annually to establish their impact on the Group's ability to continue operating and to meet its liabilities over the assessment period. We test the impact of these risks on a reasonable worst-case basis, alone and in clusters, over a five-year assessment period. This work informs our viability statement (see pages 23 – 24). The Board, Executive Committee and other leadership teams discuss the results of the annual principal risk testing at the end of the year.

Changes during the year

During the previous financial year, the Executive Committee and the Board undertook a re-assessment of the Company's principal risks and approach to risk appetite. The output from these workshops resulted in two new principal risks:

- 'failure to predict and respond to a significant disruption of energy that adversely impacts our customers and/or the public'; and
- 'failure to deliver any one of our customer, investor and wider stakeholder propositions due to increased political and economic uncertainty'.

The Board also considered the potential for state ownership of energy supply networks by the UK Labour Party. Should the UK Labour Party come to power, the timing and routes for energy supply network to move to state ownership are currently uncertain. The impact upon National Grid remains unclear. The Government would have to pay fair compensation for the Company's property which would be determined at the time, and could be calculated in a number of ways. We have canvassed a wide range of stakeholders to understand their views of state ownership.

Our Group Technology and Innovation function re-launched in January 2018 and adopted the National Grid Partners (NGP) brand externally. NGP continues our mission to identify disruptive technology and new business models. NGP also supports us connecting disruptive innovation more tightly with our growth strategy. Incorporated within NGP are our corporate venture capital and incubation functions that make and manage investments in financially attractive and complementary start-up organisations. Our disruptive innovation and business development functions foster greater collaboration and accelerate new ideas for growth.

During this year, we worked to embed the risk appetite framework in the business. As part of this process, we developed Key Risk Indicators (KRIs) for our principal risks at the Group level and for the risks at the US and UK regional level. KRIs are useful tools to enhance the monitoring and mitigation of risks and have multiple purposes:

- help signal a change in the level of risk exposure associated with specific activities;
- indicate the effectiveness of controls; and
- help assess if we are operating within our risk appetite framework.

Generally, the KRIs have been taken from our existing business performance metrics and utilised in a way that helps provide visibility to specific risk issues. The KRIs may be modified as we fully assess their effectiveness in this coming year.

Our principal risks and uncertainties

Accepting that it is not possible to identify, anticipate or eliminate every risk that may arise, and that risk is an inherent part of doing business, our risk management process aims to provide reasonable assurance that we understand, monitor and manage the main uncertainties that we face in delivering our objectives. This aim includes considering inherent risks, which in turn, exist because of the nature of day-to-day operations in our industry, and financial risks, which exist because of our financing activities. Our principal risks, and a summary of actions taken by management, are provided in the table below. We have provided an overview of the key inherent risks we face on pages 212 – 215, as well as our key financial risks, which are incorporated within note 32 to our consolidated financial statements on pages 162 – 172. Risk trends* reported below take into account implemented mitigation actions and may be influenced by internal or external developments.

Operational risks

Operational risks relate to the losses resulting from inadequate or failed internal processes, people and systems, or due to external events. These risks normally fall within our low-risk appetite level as there is no strategic benefit from accepting the risk and accepting that it is not in line with our vision and values.

Our operational principal risks have a low likelihood of occurring. However, should an event occur without effective prevention or mitigation controls it would have a high level of impact. The risk owners, executive leaders, and their teams develop and monitor actions to control the risks. Operational risks are managed through policy, standards, procedure-based controls, active prevention and monitoring. The operational risks link to our strategic priority to 'Optimise Performance'. Principal risk assessment includes reasonable worst case scenario testing i.e. gas transmission pipeline failure, loss of licence to operate, cyber security attack – and the financial and reputational impact should a single risk or multiple risks materialise. External events over this past year – the extreme weather events, the fires in California and the Columbia Gas Company incident – were considered in the assessment and testing, as well as in the development of mitigation actions.

Please also refer to pages 210 – 211 for the discussion of climate-related influences on risk management.

Risks

Catastrophic asset failure results in a significant safety and/or environmental event.

***Risk trend: (17/18 Neutral)**

Major cyber security breach of business, operational technology and/or critical national infrastructure (CNI) systems/data.

Risk trend: due to the dynamic nature of the cyber security threat (17/18 Increasing Risk)

Failure to predict and respond to a significant disruption of energy that adversely affects our customers and/or the public.

Risk trend: (17/18 Increasing Risk)

Failure to adequately identify, collect, use and keep private the physical and digital data required to support Company operations and future growth.

Risk trend: (17/18 Neutral)

* Risk trends are assessed to include any external factors outside our control as well as the strength and effectiveness of mitigations as reviewed by management.

Actions taken by management

We continue to commit significant resources and financial investment to maintain the integrity and security of our assets and data. This year, we continued to focus on risk mitigation actions designed to reduce the risk and help meet our business objectives. We incorporated monitoring action status into various business processes and senior leadership including:

- Putting our Group-wide process safety management system in place to make sure a robust and consistent framework of risk management exists across our higher hazard asset portfolio;
- Implementing asset management and data management standards with supporting guidelines to provide clarity around what is expected, with a strong focus on what we need in place to keep us safe, secure and legally compliant. In support of this, we developed a capability framework to make sure our people have the appropriate skills and expertise to meet the performance requirements in these standards;
- Continually investing in strategies that are commensurate with the changing nature of the security landscape. This includes collaborative working with the Department for Business, Energy and Industrial Strategy (BEIS) and the Centre for Protection of National Infrastructure (CPNI) on key cyber risks, as well as development of an enhanced CNI security strategy; and our involvement in the US with developing the National Institute of Standards and Technology Cyberspace Security Framework;
- Exceptional network reliability is maintained through a holistic approach encompassing preventative and mitigating actions. Implementation of asset health programmes which include inspection, maintenance, refurbishment and replacement minimises network interruptions due to asset failure. Our UK Gas Transmission's Winter Preparedness Plan and diversity in our US gas procurement are additional examples of pre-emptive measures undertaken to maintain network reliability. Should energy flow disruptions occur, business continuity and emergency plans are in place and practiced, including black start testing. Critical spares are maintained to ensure we can quickly and effectively respond to a variety of incidents – storms, physical and cyber-related attacks, environmental incidents and asset failures; and
- We have a mature insurance strategy that uses a mix of self-insurance, captives and direct (re)insurance placements. This provides some financial protection against property damage, business interruption and liability risks.

Internal control and risk management continued

Strategic and regulatory risks

Strategic risk is the risk of failing to achieve the Company's overall strategic business plans and objectives, as well as failing to have the 'right' strategic plan. We voluntarily accept some risk so we can generate the desired returns from our strategy.

Management of strategic risks focuses on reducing the probability that the assumed risk would materialise, while improving the Company's ability to effectively respond to the risk should it occur. The risk owners, executive leaders, and their teams develop and monitor actions to control the risks. These risks link to our strategic priorities of 'Grow our core business' and 'Evolve for the future'. The political climate and policy decisions of our regulators in 2018/19 were key considerations in assessing our risks.

Risks

Failure to influence future energy policy and secure satisfactory regulatory agreements.

Risk trend: due to energy regulatory environment (17/18 Increasing Risk)

Failure to deliver our customer, stakeholder and investor proposition due to increased political and economic uncertainty.

Risk trend: due to current political environment (17/18 Increasing Risk)

Failure to adequately anticipate and minimise the adverse impact from disruptive forces such as technology and innovation on our business model.

Risk trend: (17/18 Neutral)

Actions taken by management

In both the UK and the US, we strive to maintain a good understanding of the regulatory agenda and emerging issues, so that robust, public interest aligned responses can be selected and developed in good time. Our reputation as a competent operator of important national infrastructure is critical to our ability to do this. We have plans and governance structures in place to address specific issues such as RIIO-T2 and US rate case filings. We also continuously work to foster open and effective relationships with our regulators and other stakeholders.

Processes and resources are in place to review, undertake due diligence and progress new investment opportunities, dispose of existing businesses, and identify and execute on opportunities that provide organic growth. These processes, along with twice-yearly National Grid Board strategy offsite discussions, are reviewed regularly to ensure they continue to support our short and long-term strategy. We regularly monitor and analyse market conditions, competitors and their potential strategies, the advancement and proliferation of new energy technologies, and the performance of our Group portfolio.

We created the Group Technology and Innovation team to develop our strategy with regards to new technology, to monitor disruptive technology and business model trends, and to act as a bridge for emerging technology into the core regulated businesses and business development teams. In addition, we established the partnership with Energy Impact Partners in 2015 to gain exposure to emerging start-up companies.

The new National Grid Ventures function will further the focus on new strategies, business development and technology and innovation.

People risks

It is through the high-quality work of our employees that we will achieve our vision, respond to the changing needs of our stakeholders and create a competitive advantage. Building and fostering an engaged and talented team that has the knowledge, training, skills and experience to deliver our strategic objectives is vital to our success. We must attract, integrate and retain the talent we need at all levels of the business.

Risks

Failure to build sufficient capability and leadership capacity (including effective succession planning) required to deliver our vision and strategy.

Risk trend: (17/18 Neutral)

Actions taken by management

We have embedded strategic workforce planning in our US and UK organisations. This process helps to effectively inform financial and business planning, as well as human resourcing needs.

Our entry-level talent development schemes (graduate training and apprenticeships) are a potential source of competitive advantage in the market place. We are involved in a number of initiatives to help secure the future engineering talent we require, including the UK annual residential work experience week and the US Pipeline and Graduate Development Programmes.

During the year, we also improved the rigour of our succession planning and development planning process, particularly at senior levels. It is now being applied deeper into the organisation. Our Strategic Talent Acquisition team now includes internal executive search capability and market mapping of critical roles. Ongoing attention is required in relation to the ethnic diversity of our management population. There are multiple activities under way to drive this agenda, including 'blind' talent and selection processes, development interventions and a global review of our inclusion and diversity strategy and resources.

Financial risks

While all risks have a financial liability, financial risks are those which relate to financial controls and performance. Financial risk management is a critical process used to make investment decisions and aims to maximise investment returns and earnings for a given level of risk.

Our key financial risks, which are incorporated within the notes to our consolidated financial statements, are described in note 32 in our financial statements on pages 162 – 172.

Viability statement

The Board's consideration of the longer-term viability of the Company is an extension of our business planning process. This process includes financial forecasting, a robust risk management assessment, regular budget reviews and scenario planning incorporating industry trends and economic conditions. Our business strategy aims to enhance our long-term prospects by making sure our operations and finances are sustainable.

Utilising our established top-down/bottom-up risk management process, we identify, monitor and challenge the principal risks facing the Company as described on pages 21 – 22. Throughout the year, the Board considered the principal risks shown in the table below and reviewed preventative and mitigating controls and risk management actions. The Board also discussed the potential financial and reputational impact of the principal risks against our ability to deliver the Company's business plan.

By assessing the potential impact of our principal risks on the longer-term viability of the Company, we can test the solvency and liquidity risks involved in delivering our business objectives and priorities. Although it has considered adopting a longer period, the Board believes that five years is the most appropriate timeframe over which we should assess the long-term viability of the Company. The following factors have been considered in making this decision:

- we have reasonable clarity over a five-year period, allowing us to make an appropriate assessment of our principal risks;
- to test this timeframe, the Board considered whether there are specific, foreseeable risk events that are likely to materialise within a five- to ten-year period, which might affect the Company's viability and should therefore be taken into account when setting the assessment period. No risks of this sort were identified; and
- it matches our business planning cycle.

We considered each principal risk for inclusion in the testing. Where appropriate, we identified and assessed a reasonable worst case scenario for impacts on operations and/or financial performance over the five-year assessment time period, as detailed below:

Operational impacts

Scenario 1 – A significant cyber attack in the UK.
Scenario 2 – A wide spread electrical network interruption in the UK.
Scenario 3 – A catastrophic gas transmission pipeline failure in the US.
Scenario 4 – Emerging technology leading to significant numbers of people going 'off grid'.

Performance impacts

Scenario 5 – A breach of personal data information.
Scenario 6 – The state ownership of the energy sector in the UK.
Scenario 7 – A poor outcome to RIIO-T2 negotiations.

In addition to testing individual principal risks, we also considered the impact of a cluster of principal risks materialising over the assessment period. Recent external developments such as incidents that affected other utilities were considered, such as the significant financial and reputational impacts of the Columbia Gas Company explosion/fires incident in Woburn. We also considered climate change-related weather scenarios, as well as incidents such as our gas outage on Aquidneck Island in Rhode Island. We chose a combination of risks which, in the opinion of the Board, represented worst-case scenarios.

Scenario 8 – A cyber attack resulting in a data breach and widespread electrical outage leading to the state ownership of UK gas and electric networks.
Scenario 9 – Catastrophic asset failure of a gas pipeline in New York, resulting in the loss of ability to operate local gas networks.

The Board considered the reputational and financial impacts for each scenario (to the nearest £500 million). The risk relating to leadership capacity was not tested, as the Board did not feel this would threaten the viability of the Company within the five-year assessment period.

The Board assessed our reputational and financial headroom and reviewed results against that headroom. The testing of risk clusters also included an assessment of the potential impact on the business plan. The Board considered key financial metrics, specifically Group gearing, RCF/Net Debt, FFO/Net Debt and FFO/Gross Debt credit rating metrics to ascertain the viability of the Company. In keeping with our worst case scenario analysis, it is assumed that management does not take any remedial actions over the five-year assessment period.

No single principal risk, cluster or combination of principal risks was found to have an impact on the viability of the Company over the five-year assessment period. In addition, our assurance system contains preventative and mitigating controls to minimise the likelihood of occurrence and/or financial and reputational impact.

In assessing the impact of the principal risks on the Company, the Board considered the stability of the markets in which we operate, the robust financial position of the Group and our ability to sell assets, raise capital and suspend or reduce dividends. It also took into account Ofgem's legal duty to consider funding requirements for the licensed activities of National Grid Gas plc, National Grid Electricity Transmission plc and National Grid Electricity System Operator Limited.

Each Director was satisfied that they had sufficient information to judge the viability of the Company. Based on the assessment described above and on page 20, the Directors have a reasonable expectation that the Company will continue operating and meet its liabilities over the period to May 2024.

Viability statement continued

Principal risk	Viability scenario	Matters considered by the Board
Major cyber security breach of business, operational technology and/or CNI systems/data.	**Scenario 1** – A significant cyber attack.	The Board received updates on cyber security in: • March 2018; • June 2018; • July 2018; • September 2018; • December 2018; and • March 2019.
Failure to predict and respond to a significant disruption of energy that adversely affects our customers and/or the public.	**Scenario 2** – An extended electrical outage in the UK.	• Two Board Strategy sessions held during the year; • Bi-annual NGV overviews; and • Considered technology and innovation.
Catastrophic asset failure resulting in a significant safety and/or environmental event.	**Scenario 3** – A gas transmission pipeline failure in the US.	• The Board reviews the current safety performance of the Company at each meeting. Additionally, safety is a fundamental priority and is looked at in detail by the Safety, Environment and Health Committee ('SEH Committee') who have delegated authority from the Board; and • Our Electricity and Gas Engineering Reports to the SEH Committee also provide progress updates on our asset management improvement.
Failure to adequately identify, collect, use and keep private the physical and IT data required to support Company operations and future growth.	**Scenario 5** – The breach of personal data information.	• Annual updates on the Company's information systems.
Failure to build sufficient leadership capacity (including succession planning) required to deliver our vision and strategy.	N/A	• Bi-annual updates on people matters; • Considered capabilities to support the delivery of strategic priorities; and • Nominations Committee: considers the structure, size and composition of the Board and committees and succession planning. It identifies and proposes individuals to be Directors and establishes the criteria for any new position.
Failure to deliver any customer, investor and wider stakeholder propositions due to increased political and economic uncertainty.	**Scenario 6** – The state ownership of the energy sector in the UK.	The Board received updates and reviews of: • the impact of Brexit and access to the Internal Energy Market; • the potential threat of state ownership; • US tax reform; • UK regulatory strategy; • US regulatory strategy; • bi-annual UK/US/NGV customer key issues for 2018/19; and • US customer proposition strategy (March 2019).
Failure to influence future energy policy and secure satisfactory regulatory agreements.	**Scenario 7** – A poor outcome of RIIO-T2 negotiations.	The Board received updates and reviews of: • US regulatory strategy; • UK regulatory strategy; • UK System Operator; • Key regulatory policy issues for 2018/19; and • RIIO-T2.
Failure to adequately anticipate and minimise the adverse impact from disruptive forces such as technology and innovation on our business model.	**Scenario 4** – Emerging technology leading to significant numbers of people going 'off grid'.	• Bi-annual updates from National Grid Partners; and • During the year, Board strategy sessions considered digital strategy as well as technology and innovation items such as electric vehicles.

Financial review

Here we explain how we create value for our shareholders and provide commentary on our key financial performance metrics.

Our investment proposition

We aim to be a low-risk business, focused on generating shareholder value through dividends supported by asset growth from investing in infrastructure assets under primarily regulated market conditions, to service long-term sustainable consumer-led demands.

The Group comprises a portfolio of high-quality, long-term assets at the heart of the energy system. These assets share certain key characteristics – low commercial risk profile and stable cash flows, underpinned by long-term contracts or regulatory arrangements. Our core regulated businesses in the UK and US generate nearly 90% of our operating profits. They benefit from independent and/or stable regulation and macro-economic protection, and the chart below describes how these businesses create financial value.

Revenue and profits

The vast majority of our revenues are set in accordance with our regulatory agreements (see pages 199 – 209), and are calculated based on a number of factors including investment in network assets; performance against incentives; allowed returns on equity and cost of debt; and customer satisfaction.

Cash flows

Our ability to convert revenue to profit and cash is important. By managing our operations efficiently, safely and for the long term, we are able to generate strong sustainable cash flows to finance returns through dividends, and also to provide funds for growth.

Investment

We invest efficiently in our networks to deliver strong and sustainable growth in our regulated asset base over the long term.

We continually assess, monitor and challenge investment decisions so we can continue to deliver safe, reliable, and cost-effective networks.

We also own a diverse and growing portfolio of commercial energy businesses operating in markets across the UK and US. These include our Grain LNG terminal and electricity interconnectors between the UK and continental Europe, which generate revenue by selling capacity to store or transmit energy. Our UK metering business generates revenue primarily through meter rentals. We also own a commercial property business which develops and sells surplus land.

We deliver value for shareholders and stakeholders alike by:

- operating within our regulatory frameworks as efficiently and compliantly as possible;
- performing well against our regulatory incentives, thus delivering customer benefits and good returns;
- managing our cash flow requirements and securing low-cost funding; and
- maintaining a disciplined approach to investment in our networks.

Summary of Group financial performance

Performance management framework

In managing the business we focus on various non-IFRS measures which provide meaningful comparisons of performance between years, monitor the strength of the Group's balance sheet as well as profitability and reflect the Group's regulatory economic arrangements. Such alternative and regulatory performance measures are supplementary to, and should not be regarded as a substitute for, IFRS measures, which we refer to as statutory results. We explain the basis of these measures and, where practicable, reconcile these to statutory results in 'Other unaudited financial information' on pages 225 – 234.

Specifically, we measure the financial performance of the Group from different perspectives:

- **Capital investment and asset growth:** Currently we expect to invest c.£5 billion per year and annual growth in our asset base is expected to be at the top end of the 5 – 7% range.
- **Accounting profit:** In addition to statutory IFRS measures we distinguish between adjusted results, which exclude exceptional items and remeasurements, and underlying results, which further take account of: (i) volumetric and other revenue timing differences arising from our regulatory contracts, and (ii) major storm costs which are recoverable in future periods, neither of which give rise to economic gains or losses. In so doing we intend to make the impact of such items clear to users of the financial statements.
- **Economic profit:** Measures such as Return on Equity and Value Added take account of the regulated value of our assets and of our regulatory economic arrangements to illustrate the returns generated on shareholder equity.
- **Balance sheet strength:** Maintaining a strong investment grade credit rating allows us to finance our growth ambitions at a competitive rate. Hence, we monitor credit metrics used by the major rating agencies to ensure we are generating sufficient cash flow to service our debts.

This balanced range of measures of financial well-being informs our dividend policy, which is to grow the dividend per share at least in line with UK Retail Price Index inflation for the foreseeable future.

Financial review continued

Summary of Group financial performance for the year ended 31 March 2019

Financial summary for continuing operations

£m	2018/19	2017/18	Change
Statutory results			
Operating profit	**2,870**	3,493	(18)%
Profit after tax	**1,502**	3,549	(58)%
Earnings per share (pence)	**44.3p**	102.5p	(57)%
Dividend per share (pence), including proposed final dividend	**47.34p**	45.93p	3%
Capital expenditure	**4,321**	4,074	6%
Alternative performance measures:			
Underlying operating profit	**3,427**	3,495	(2)%
Underlying profit after tax	**1,998**	1,945	3%
Adjusted earnings per share (pence)	**59.0p**	55.3p	7%
Underlying earnings per share (pence)	**58.9p**	56.2p	5%
Underlying dividend cover	**1.2**	1.2	–
Capital investment	**4,506**	4,251	6%
Retained cash flow/adjusted net debt	**9.4%**	9.7%	(30)bps
Regulatory performance measures:			
Asset growth	**7.2%**	5.9%	130bps
Group Return on Equity	**11.8%**	12.3%	(50)bps
Value added	**2,071**	2,004	3%
Regulatory gearing	**66%**	64%	200bps

We explain the basis of these alternative performance measures and regulatory performance measures and, where practicable, reconcile them to statutory results on pages 225 – 234.

The Group's statutory results for the year were impacted by exceptional charges incurred in respect of the Massachusetts Gas labour dispute (-6.2p EPS), our UK and US cost efficiency and restructuring programme (-4.7p) and impairment of development costs in respect of the termination of the NuGen and Horizon nuclear connection projects (-3.3p). Last year's statutory results benefited (by 43.8p EPS) from the reduction in deferred tax provisions as a result of The Tax Cuts and Jobs Act (tax reform) in the US.

Underlying operating profit was down 2% as the return of certain UK Gas Transmission revenue allowances and the impact of tax reform on US regulated revenues were partly mitigated by favourable legal settlements and sales to the St William property joint venture. With net financing costs steady at around £1 billion, the lower US federal tax rate and lower share count contributed to a 5% increase in underlying EPS to 58.9p. Capital investment of £4.5 billion helped deliver asset growth above our targeted 5 – 7% annual range. Value added (our measure of economic profit) increased year-on-year although Group RoE was lower, reflecting the removal of the Cadent contribution from underlying results. RCF/net debt was consistent with the Company's strong investment grade credit rating. The recommended full-year dividend per share of 47.34p is in line with policy and is covered 1.2 times by underlying EPS.

Profitability and earnings

The table below reconciles our statutory profit measures for continuing operations, at actual exchange rates, to adjusted and underlying versions.

Reconciliation of profit and earnings from continuing operations

	Operating profit			Profit after tax			Earnings per share		
£m	2018/19	2017/18	Change	2018/19	2017/18	Change	2018/19	2017/18	Change
Statutory results	**2,870**	3,493	(18)%	**1,502**	3,549	(58)%	**44.3p**	102.5p	(57)%
Exceptional items	**624**	(26)		**480**	(1,532)		**14.2p**	(44.3)p	
Remeasurements	**(52)**	(10)		**19**	(101)		**0.5p**	(2.9)p	
Adjusted results	**3,442**	3,457	n/c	**2,001**	1,916	4%	**59.0p**	55.3p	7%
Timing	**(108)**	(104)		**(72)**	(62)		**(2.1)p**	(1.7)p	
Major storm costs	**93**	142		**69**	91		**2.0p**	2.6p	
Underlying results	**3,427**	3,495	(2)%	**1,998**	1,945	3%	**58.9p**	56.2p	5%

In calculating adjusted profit measures, where we consider it is in the interests of users of the financial statements to do so, we exclude certain discrete items of income or expense that we consider to be exceptional in nature. The table below summarises such items; full details are contained in note 5 to the financial statements together with an explanation of the process used to make this determination.

Exceptional income/(expense) from continuing operations

	Impact on operating profit		Impact on profit after tax		Impact on EPS	
£m	2018/19	2017/18	2018/19	2017/18	2018/19	2017/18
Massachusetts Gas labour dispute	(283)	–	(209)	–	(6.2)p	–
UK and US cost efficiency and restructuring programme	(204)	–	(160)	–	(4.7)p	–
Impairment of nuclear connections development costs	(137)	–	(111)	–	(3.3)p	–
LIPA MSA settlement	–	26	–	17	–	0.5p
US tax reform	–	–	–	1,515	–	43.8p
Total	(624)	26	(480)	1,532	(14.2)p	44.3p

This year we have classified the following items as exceptional:

- **Massachusetts Gas labour dispute:** As described in the Chief Executive's review on page 11, in the period between the expiration of contracts for the union workforce in June 2018 and their return to work in January and February 2019, we implemented a workforce contingency plan. The £283 million of incremental costs (pre-tax) incurred principally relate to the employment of fully qualified external contractors, alongside supervisors and workers from other areas of our business to ensure work continued safely;
- **Efficiency and restructuring:** A total of £204 million has been provided to reorganise our core regulated businesses in the UK (£136 million) and US (£68 million); and
- **Impairment of nuclear connections development costs:** £137 million of charges relating to the write-off of costs incurred in connection with the Horizon and NuGen nuclear connection projects that UK Electricity Transmission had been working on for the last decade, which were cancelled during the period, net of £13 million termination income. From an economic perspective, we expect to recover the bulk of these charges in future years through established regulatory arrangements.

In the prior year we classified the £1.5 billion gain arising as a result of US tax reform as exceptional, along with a £26 million gain on the final settlement of contractual matters relating to the cessation of the Management Services Agreement with LIPA in 2013.

We also exclude certain unrealised gains and losses on mark-to-market financial instruments from adjusted profit; see notes 5 and 6 to the financial statements for further information. Net remeasurement gains of £52 million on commodity contract derivatives were more than offset by net remeasurement losses of £76 million on financing-related instruments.

Timing over/(under-recoveries)

In calculating underlying profit we exclude regulatory revenue timing over- and under-recoveries and major storm costs. Under the Group's regulatory frameworks, most of the revenues it is allowed to collect each year are governed by regulatory price controls in the UK and rate plans in the US. If more than this allowed level of revenue is collected, the balance must be returned to customers in subsequent years; likewise, if less than this level of revenue is collected, the balance will be recovered from customers in subsequent years. These variances between allowed and collected revenues give rise to over- and under-recoveries.

The following table summarises management's estimates of such amounts for the two years ended 31 March 2019. All amounts are shown on a pre-tax basis and, where appropriate, opening balances are restated for exchange adjustments and to correspond with subsequent regulatory filings and calculations.

£m	2018/19	2017/18
Balance at start of year (restated)	299	175
In-year over-recovery	108	104
Balance at end of year	407	279

Timing under-recoveries of £77 million in UK Electricity Transmission and £38 million in UK Gas Transmission were more than offset by timing over-recoveries of £223 million in US Regulated in 2018/19. In calculating the post-tax effect of these timing recoveries, we impute a tax rate, based on the regional marginal tax rates, consistent with the relative mix of UK and US balances. For the year ended 31 March 2019 this tax rate was 34%.

Major storm costs

We also take account of the impact of major storm costs in the US where the aggregate amount is sufficiently material in any given year. Such costs (net of certain deductibles) are recoverable under our rate plans but are expensed as incurred under IFRS. Accordingly, where the total incurred cost (after deductibles) exceeds $100 million in any given year, we exclude the net amount from underlying earnings. In 2017/18 we faced a challenging winter with the October wind storm and three northeasters storms. During 2018/19 we experienced bad weather events across the year, with storms, unusually, in April and May as well as during the winter months.

Financial review continued

Segmental operating profit

The following tables set out operating profit on adjusted and underlying bases.

Adjusted operating profit

£m	2018/19	2017/18	Change
UK Electricity Transmission	**1,015**	1,041	(2)%
UK Gas Transmission	**303**	487	(38)%
US Regulated	**1,724**	1,698	2%
NGV and Other activities	**400**	231	73%
Total	**3,442**	3,457	–

Underlying operating profit

£m	2018/19	2017/18	Change
UK Electricity Transmission	**1,092**	1,055	4%
UK Gas Transmission	**341**	505	(32)%
US Regulated	**1,594**	1,704	(6)%
NGV and Other activities	**400**	231	73%
Total	**3,427**	3,495	(2)%

The statutory operating profit for all three reportable segments fell in the year primarily as a result of the £624 million exceptional charges referred to earlier. The reasons for the movements in underlying operating profit are described in the segmental commentaries below. Unless otherwise stated, the discussion of performance in the remainder of this financial review focuses on underlying results.

UK Electricity Transmission

£m	2018/19	2017/18	Change
Revenue	**3,351**	4,154	(19)%
Operating costs	**(2,573)**	(3,113)	(17)%
Statutory operating profit	**778**	1,041	(25)%
Exceptional items	**237**	–	n/a
Adjusted operating profit	**1,015**	1,041	(2)%
Timing	**77**	14	
Underlying operating profit	**1,092**	1,055	4%
Analysed as follows:			
Net revenue	**1,954**	1,911	2%
Regulated controllable costs	**(332)**	(321)	3%
Post-retirement benefits	**(49)**	(50)	(2)%
Other operating costs	**(65)**	(24)	171%
Depreciation and amortisation	**(493)**	(475)	4%
Adjusted operating profit	**1,015**	1,041	(2)%
Timing under-recovery	**77**	14	
Underlying operating profit	**1,092**	1,055	4%

UK Electricity Transmission statutory revenue and costs decreased by £1.0 billion following adoption of IFRS 15, which we applied with effect from 1 April 2018. Revenues we collect from customers but pass onto the Scottish and Offshore transmission operators at nil margin are now excluded from both revenue and operating costs (in 2017/18, £1,027 million is reported in relation to these revenues on a gross basis). There were £137 million of exceptional costs related to the cancellation of nuclear connections (net of termination income) and £100 million in relation to our cost-efficiency and restructuring programme.

Underlying operating profit increased by 4%. Net revenues were higher, reflecting the annual RPI uplift and increased incentive income. Regulated controllable costs were slightly higher, with efficiency savings partly offsetting the costs of separating the Electricity System Operator, higher IT run-the-business costs and inflation. Post-retirement benefit costs were little changed year-on-year. Other costs were higher, principally relating to provisions against income recognised on early termination of connections.

The increase in depreciation and amortisation charges reflects the ongoing investment driven growth in the asset base.

UK Gas Transmission

£m	2018/19	2017/18	Change
Revenue	**896**	1,091	(18)%
Operating costs	**(629)**	(604)	4%
Statutory operating profit	**267**	487	(45)%
Exceptional items	**36**	–	n/a
Adjusted operating profit	**303**	487	(38)%
Timing	**38**	18	
Underlying operating profit	**341**	505	(32)%
Analysed as follows:			
Net revenue	**669**	834	(20)%
Regulated controllable costs	**(144)**	(146)	(1)%
Post-retirement benefits	**(27)**	(18)	50%
Other operating costs	**(14)**	11	n/a
Depreciation and amortisation	**(181)**	(194)	(7)%
Adjusted operating profit	**303**	487	(38)%
Timing under-recovery	**38**	18	
Underlying operating profit	**341**	505	(32)%

UK Gas Transmission revenue decreased, reflecting the refund of revenues previously received in respect of the proposed Avonmouth pipeline project that is no longer required. The exceptional charge relates to cost efficiency and restructuring.

Underlying operating profit fell by 32%. Net revenues were lower, reflecting the Avonmouth refund. Regulated controllable costs were flat, with efficiency savings offsetting higher IT run-the-business costs and inflation. Post-retirement costs were higher year-on-year, mainly related to the Guaranteed Minimum Pension (GMP) equalisation ruling in October 2018. Other costs were higher due to prior year provision releases.

The depreciation charge was lower following a detailed review of asset lives in the period.

US Regulated

£m	2018/19	2017/18	Change
Revenue	9,846	9,272	6%
Operating costs	(8,421)	(7,538)	12%
Statutory operating profit	**1,425**	1,734	(18)%
Exceptional items	351	(26)	
Remeasurements	(52)	(10)	
Adjusted operating profit	**1,724**	1,698	2%
Timing	(223)	(136)	
Major storm costs	93	142	35%
Underlying operating profit	**1,594**	1,704	(6)%
Analysed as follows:			
Net revenue	5,868	5,468	7%
Regulated controllable costs	(1,895)	(1,720)	10%
Post-retirement benefits	(94)	(96)	2%
Bad debt expense	(146)	(100)	46%
Other operating costs	(1,309)	(1,219)	8%
Depreciation and amortisation	(700)	(635)	10%
Adjusted operating profit	**1,724**	1,698	2%
Timing over-recovery	(223)	(136)	
Major storm costs	93	142	
Underlying operating profit	**1,594**	1,704	(6)%

US Regulated statutory operating profit fell and statutory costs increased principally as a result of the Massachusetts Gas labour dispute costs of £283 million and £68 million of restructuring costs.

Underlying operating profit fell by 6%. Net revenues increased as the benefits of rate case increments came into effect, partly offset by the impact of US tax reform (as the billing tariffs now reflect lower tax requirements) and the adoption of IFRS 15, under which customer connections revenues are now recognised over the life of the asset, rather than on completion of works. A stronger US dollar increased underlying operating profit by £69 million in the year.

US Regulated controllable costs increased as a result of workload increases agreed with regulators and inflation. Bad debt expense increased as a result of higher receivables, including commodity charges. Other costs were higher due to more expenditure on 'minor' storms (non-deferrable) and increased cost of removal.

Depreciation and amortisation charges increased in line with the strong growth in asset base driven by the high level of capital investment.

US timing over-recoveries mainly related to collection of the 2017/18 build-up of commodity deferrals offset by lower NYSERDA over-recoveries. There were lower major storm costs incurred in 2018/19 than in the prior year.

National Grid Ventures and Other activities

£m	2018/19	2017/18	Change
Statutory operating profit	**400**	231	73%
Exceptional items	–	–	–
Adjusted operating profit	**400**	231	73%
Timing	–	–	–
Underlying operating profit	**400**	231	73%
Analysed as follows:			
NGV	263	234	12%
Property	181	84	115%
Corporate and Other activities	(44)	(87)	(49)%
Underlying operating profit	**400**	231	73%

National Grid Ventures' operating profits were 12% higher year-on-year reflecting lower costs incurred setting up our new business compared to 2017/18. Last year also included an impairment of land value.

The Property business delivered a strong performance aided by the sale of the Fulham site to the St William joint venture, which recognised half the profit on the sale of this site.

Corporate activities include a benefit of £95 million this year of legal settlements to recover costs associated with a US systems implementation, partly offset by costs related to the GMP equalisation ruling in the UK High Court in October 2018 and higher IT-related costs.

Financing costs and taxation

Net finance costs

Underlying net finance costs for the year were similar to last year at £1 billion, the cost of higher average net debt being offset by lower RPI rates and the efficient use of low-cost commercial paper. The effective interest rate on treasury managed debt was 4.3%.

Joint ventures and associates

The Group's share of net profits from joint ventures and associates fell marginally.

Tax

The underlying effective tax rate of 19.6% was 4.2% lower than last year mainly because of the full-year effect of the reduction in the US federal corporate tax rate as a result of tax reform which took effect from 1 January 2018. The tax charge for the year benefited from the release of reserves following settlement of tax audits relating to earlier years and gains on chargeable disposals which are offset by previously unrecognised capital losses. The Group's tax strategy is detailed later in this review.

Discontinued operations

In November 2018 we announced our decision to exercise our put options over our entire 39% interest in Cadent, and the sale is expected to complete in June 2019 for approximately £2 billion. As described further in note 10 to the financial statements, we have treated all items of income and expense relating to Cadent within discontinued operations, and re-presented the prior year accordingly. The statutory income for the year of £12 million principally reflects £23 million of interest on shareholder loans net of £5 million tax and £5 million share of post-tax loss of Quadgas.

Financial review continued

Capital investment, asset growth and value added

Value added is a measure that reflects the value to shareholders of our dividend and the growth in National Grid's regulated and non-regulated assets (as measured in our regulated asset base, for regulated entities), net of the growth in overall debt. It is a key metric used to measure our performance and underpins our approach to sustainable decision-making and long-term management incentive arrangements.

A key part of our investor proposition is growth in our regulated asset base. The regulated asset base is a regulatory construct, representing the invested capital on which we are authorised to earn a cash return. By investing efficiently in our networks, we add to our regulatory asset base over the long-term and this in turn contributes to delivering shareholder value. Our regulated asset base comprises our regulatory asset value in the UK, plus our rate base in the US. We also invest in related activities that are not subject to network regulation and this further contributes to asset growth.

Capital investment

Capital investment comprises capital expenditure in critical energy infrastructure, equity investments, funding contributions and loans to joint ventures and associates, and, in the case of National Grid Partners, investments in financial assets.

	At actual exchange rates			At constant currency		
£m	2018/19	2017/18	Change	2018/19	2017/18	Change
UK Electricity Transmission	925	999	(7)%	925	999	(7)%
UK Gas Transmission	308	310	(1)%	308	310	(1)%
US Regulated	2,650	2,424	9%	2,650	2,521	5%
NGV and Other activities	623	518	20%	623	527	18%
Total	4,506	4,251	6%	4,506	4,357	3%

Investment in UK Electricity Transmission fell primarily due to lower load related spend. The investment in the Feeder 9 gas pipeline replacement project under the Humber Estuary was offset by lower asset health spend, contributing to broadly similar investment in UK Gas Transmission. In the US, investment was up 5% on a constant currency basis, reflecting capital expenditure in New York and Rhode Island, partly offset by reduced capital expenditure in Massachusetts during the labour dispute. Investment in National Grid Ventures stepped up with the ongoing construction of two new subsea interconnectors, IFA 2 (France) and North Sea Link (Norway). A total of £52 million (excluding JVs) was invested by National Grid Partners in the year in 14 portfolio companies.

Asset growth and value added

To help readers' assessment of the financial position of the Group, the table below shows an aggregated position for the Group, as viewed through a regulatory perspective. The measures included in the table below are calculated in part from financial information used to derive measures sent to and used by our regulators in the UK and US, and accordingly inform certain of the Group's regulatory performance measures, but are not derived from, and cannot be reconciled to, IFRS.

There are certain significant assets and liabilities included in our IFRS balance sheet, which are treated differently in the analysis below, and to which we draw readers' attention. These include the £1.5 billion reduction in IFRS deferred tax liabilities we recognised in relation to US tax reform last year, which, from a regulatory perspective, remains as a future obligation. The UK RAV is higher than the IFRS value of property, plant and equipment and intangibles, principally because of the annual indexation (inflationary uplift) adjustment applied to RAV, compared to the IFRS value of these assets (held at amortised cost). In addition, under IFRS we recognise liabilities in respect of US environmental remediation costs, and pension and OPEB costs. For regulatory purposes, these are not shown as obligations because we are entitled to full recovery of costs through our existing rate plans. Regulatory IOUs which reflect refunds due to customers in future periods are treated within this table as obligations but do not qualify for recognition as liabilities under IFRS.

	2018/19			2017/18		
£m	31 March 2019	31 March 2018	Change	31 March 2018	31 March 2017	Change
UK RAV	19,692	19,005	4%	19,059	18,234	5%
US rate base	17,565	16,087	9%	14,762	13,751	7%
Total RAV and rate base	37,257	35,092	6%	33,821	31,985	6%
NGV and Other	2,815	2,300	22%	2,167	1,984	9%
Total assets	40,072	37,392	7%	35,988	33,969	6%
UK other regulated balances	(278)	(474)		(519)	(479)	
US other regulated balances	1,898	1,920		1,921	1,487	
Other balances	(158)	(343)		(343)	(260)	
Total assets and other balances	41,534	38,495	3,039	37,047	34,717	2,330
Dividends and share buyback costs			1,160			1,494
Increase in net debt			(2,128)			(1,820)
Value added			2,071			2,004

Figures relating to prior periods have, where appropriate, been re-presented at constant currency, for opening balance adjustments following the completion of the UK regulatory reporting pack process in 2018, and finalisation of US balances.

During 2018/19, our combined regulated asset base and NGV and Other businesses grew by £2.7 billion or 7.2% on a constant currency basis compared to an increase of 5.9% in the prior year. UK RAV growth was 3.6% including RPI indexation of 2.4% while US rate base grew strongly by 9.2%.

Value added, which reflects the key components of value delivery to shareholders (i.e. dividend and growth in the economic value of the Group's assets, net of growth in net debt) was £2.1 billion in 2018/19. This was slightly higher than last year's £2.0 billion, with improved returns, the impact of asset growth and strong performance from NGV and Other, partially offset by cash spent on exceptional items. Of the £2.1 billion value added, £1.2 billion was paid to shareholders as cash dividends and £0.9 billion was retained in the business. Value added per share was 61.2p compared with 57.9p in 2017/18.

Cash flow, net debt and funding

Net debt is the aggregate of cash and cash equivalents, borrowings, current financial and other investments and derivatives (excluding commodity contract derivatives and the fair value of the put options in relation to Cadent) as disclosed in note 29 to the financial statements. Adjusted net debt is principally adjusted for pension deficits and hybrid debt instruments. For a full reconciliation see page 230.

The following table summarises the Group's cash flow for the year, reconciling this to the change in net debt.

Summary cash flow statement

£m	2018/19	2017/18	Change
Cash generated from:			
Continuing operations	**4,464**	4,702	(5)%
Discontinued operations	**85**	(56)	n/a
Total cash generated	**4,549**	4,646	(2)%
Net capital investment	**(4,135)**	(4,098)	1%
Dividends from JVs and associates	**68**	69	(1)%
Business net cash flow	**482**	617	(22)%
Net interest paid	**(846)**	(823)	3%
Net tax (paid)/received	**(75)**	8	n/a
Ordinary dividends and scrip share buyback costs	**(1,160)**	(1,494)	(22)%
Return of capital	**–**	(4,010)	n/a
Other cash movements	**2**	162	(99)%
Net cash flow	**(1,597)**	(5,540)	(71)%
Non-cash movements	**(1,930)**	1,812	n/a
(Increase)/decrease in net debt	**(3,527)**	(3,728)	(5)%
Net debt at start of year	**(23,002)**	(19,274)	19%
Net debt at end of year	**(26,529)**	(23,002)	15%

Cash flow generated from continuing operations was £4.5 billion, £0.2 billion lower than last year as a result of cash expended on exceptional items, partly offset by lower pension contributions and provision related outflows. Cash expended on investment activities increased for the reasons described above. Net interest paid increased mainly due to the growth in net debt, partly offset by beneficial interest income received in the year. The Group moved into a tax-paying position. A 26% scrip take-up reduced the cash dividend and, considering the high asset growth rate, we did not buy back any shares this year. Last year's return of capital related to the special dividend and share buybacks following the sale of the majority interest in UK Gas Distribution. Non-cash movements primarily reflect changes in the sterling-dollar exchange rate, accretions on index-linked debt and other derivative fair value movements.

Overall, the increase in net debt was driven by continuing high levels of capital investment and the impact of a stronger US dollar on the translation of US dollar-denominated debt. As at 31 March 2019 the Group maintained approximately $21 billion of its total financial liabilities denominated in US dollars as a substantial hedge of foreign exchange movements in the value of its US businesses.

During the year we raised over £2.9 billion of new long-term debt including fourteen bond issues. The Group remains well funded as it enters 2019/20. The three major credit rating agencies – Moody's, Standard & Poor's (S&P) and Fitch – have all maintained their strong investment grade ratings of National Grid plc on stable outlook.

Financial position

The following table sets out a condensed version of the Group's IFRS balance sheet.

Summary balance sheet

£m	31 March 2019	31 March 2018	Change
Goodwill and intangibles	**6,953**	6,343	10%
Property, plant and equipment	**43,913**	39,853	10%
Assets held for sale	**1,956**	–	n/a
Other (liabilities)/assets	**(507)**	1,614	n/a
Tax balances	**(4,000)**	(3,645)	10%
Pension liabilities	**(218)**	(263)	(17)%
Provisions	**(2,199)**	(2,052)	7%
Net debt	**(26,529)**	(23,002)	15%
Net assets	**19,369**	18,848	3%

Property, plant and equipment increased as a result of the continuing capital investment programme. Assets held for sale comprise our residual 39% interest in Quadgas, which will be sold in June 2019. Provisions include environmental provisions of £1.6 billion, unchanged from last year and restructuring provisions of £83 million. Other movements are largely explained by changes in the sterling-dollar exchange rate.

Regulatory gearing, measured as net debt as a proportion of total regulatory asset value and other business invested capital, was 66% as at 31 March 2019. This was up slightly from 64% at the previous year-end at constant currency but remains appropriate for the current credit rating of A-/A3 (S&P/Moody's).

Retained cash flow as a proportion of net debt was 9.4% (10.8% excluding expenditure on exceptional items), which is above the long-term average 9% level currently indicated by Moody's as important to maintain the A3 rating.

Off balance sheet items

There were no significant off balance sheet items other than the commitments and contingencies detailed in note 30 of the financial statements.

Economic returns

In addition to value added, one of the principal ways in which we measure our performance in generating value for shareholders is to divide regulated financial performance by regulatory equity, to produce Return on Equity (RoE).

As explained on page 230, regulated financial performance adjusts reported operating profit to reflect the impact of the Group's various regulatory economic arrangements in the UK and US. In order to show underlying performance, we calculate RoE measures excluding exceptional items of income or expenditure.

Group RoE is used to measure our performance in generating value for our shareholders by dividing regulated and non-regulated financial performance, after interest and tax, by our measure of equity investment in all our businesses, including the regulated businesses, NGV and Other activities and joint ventures.

Financial review continued

Regulated RoEs are measures of how the businesses are performing compared to the assumptions and allowances set by our regulators. US and UK regulated returns are calculated using the capital structure assumed within their respective regulatory arrangements and, in the case of the UK, assuming 3% RPI inflation. As these assumptions differ between the UK and the US, RoE measures are not directly comparable between the two geographies. In our performance measures, we compare achieved RoEs to the level assumed when setting base rate and revenue allowances in each jurisdiction.

Return on Equity

£m	2018/19	2017/18	Change
UK Electricity Transmission	**13.7%**	13.1%	+60bps
UK Gas Transmission	**9.5%**	10.0%	-50bps
UK weighted average	**12.4%**	12.1%	+30bps
US Regulated	**8.8%**	8.9%	-10bps
Group Return on Equity	**11.8%**	12.3%	-50bps

Overall RoE for the two UK transmission businesses was 12.4%, representing 230 basis points outperformance of the base allowed return. Electricity Transmission performance improved in the year due to improved totex incentive performance, whilst Gas Transmission return fell due to totex underperformance as a result of an adverse emissions re-opener outcome. The exceptional charges in relation to the UK nuclear connection terminations do not impact RoE.

RoE for the US Regulated business was 10 basis points lower in the year and represents 93% of the weighted average allowed return across all jurisdictions. US returns exclude the impact of the Massachusetts Gas labour dispute.

Overall Group RoE, which incorporates Property, Corporate and Other, and financing performance, remained around the 12% level.

Tax strategy

National Grid is a responsible tax payer. Our approach to tax is consistent with the Group's broader commitments to doing business responsibly and upholding the highest ethical standards. This includes managing our tax affairs, as we recognise that our tax contribution supports public services and the wider economy. We endeavour to manage our tax affairs so that we pay and collect the right amount of tax, at the right time, in accordance with the tax laws in all the territories in which we operate. We will claim valid tax reliefs and incentives where these are applicable to our business operations, but only where they are widely accepted through the relevant tax legislation such as those established by government to promote investment, employment and economic growth.

We have a strong governance framework and our internal control and risk management framework helps us manage risks, including tax risk, appropriately. We take a conservative approach to tax risk. However, there is no prescriptive level or pre-defined limit to the amount of acceptable tax risk.

We act with openness and honesty when engaging with relevant tax authorities and seek to work with tax authorities on a real-time basis. We engage proactively in developments on external tax policy and engage with relevant bodies where appropriate. Ultimate responsibility and oversight of our tax strategy and governance rests with the Finance Committee, with executive management delegated to our CFO. For more detailed information, please refer to our published global tax strategy on our website.

Total UK tax contribution (continuing and discontinued operations combined)

This year we have again disclosed additional information in respect of our total UK tax contribution for consistency and to aid transparency in an area in which there remains significant public interest. As was the case in prior years, the total amount of taxes we pay and collect in the UK year-on-year is significantly more than just the corporation tax which we pay on our UK profits. Within the total, we again include other taxes paid such as business rates and taxes on employment together with employee taxes and other indirect taxes.

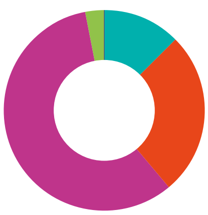
For 2018/19 our total tax contribution to the UK Exchequer was £1.0 billion (2017/18: £0.9 billion), taxes borne in 2018/19 were £0.4 billion (2017/18: £0.3 billion) and taxes collected were £0.6 billion (2017/18: £0.6 billion). The increase in our total tax contribution against prior year is primarily due to higher corporation tax payments.

Our 2017/18 total tax contribution of £0.9 billion meant that National Grid was the 25th highest contributor of UK taxes (2016/17: 15th) based on the results of the 100 Group's 2018 Total Tax Contribution Survey (being the most recent available), a position commensurate with the size of our business and capitalisation during that year relative to other contributors to the survey. In 2017/18 we ranked 23rd in respect of taxes borne (2016/17: 9th). As expected, our ranking fell as a result of the sale of the UK Gas Distribution business on 31 March 2017 which reduced the overall size of the UK business.

National Grid's contribution to the UK economy is again broader than just the taxes it pays over to and collects on behalf of HMRC. The 100 Group's 2018 Total Tax Contribution Survey ranks National Grid in 4th place in respect of UK capital expenditure on fixed assets, falling slightly from 3rd place in 2017. National Grid's economic contribution also supports a significant number of UK jobs in our supply chain.

UK total tax contribution 2018/19 (taxes paid/collected)

Taxes borne



Key:	£m
VAT	1
PAYE and NIC	48
UK corporation tax	102
Business rates	225
Other	11
Total	**387**

Taxes collected

Key:	£m
VAT	533
PAYE and NIC	122
Total	**655**

Tax transparency

The UK tax charge for the year disclosed in the financial statements in accordance with accounting standards and the UK corporation tax paid during the year will differ. To aid transparency we have included a reconciliation below of the tax charge per the income statement to the UK corporation tax paid in 2018/19.

The tax charge for the Group from continuing operations as reported in the income statement is £0.3 billion (2017/18: £0.9 billion credit). The UK tax charge is £0.1 billion (2017/18: £0.3 billion) and UK corporation tax paid was £102 million (2017/18: £35 million), with the principal differences between these two measures as follows:

Reconciliation of UK total tax charge to tax paid

£m	2018/19	2017/18[1]
Total UK tax charge	**149**	245
Adjustment for non-cash deferred tax	**(29)**	(63)
Adjustments for current tax credit in respect of prior years	**12**	18
UK current tax charge	**132**	200
UK corporation tax instalment payments not payable until the following year	**(69)**	(98)
UK corporation tax instalment payments (net of refunds) in respect of prior years	**39**	(67)
UK corporation tax paid	**102**	35

1. Comparatives have been re-presented to reflect the classification of our retained interest in Quadgas HoldCo Limited as a discontinued operation in the current period.

Tax losses

We have total unrecognised deferred tax assets in respect of losses of £1.5 billion (2017/18: £0.5 billion) which are predominantly capital losses in the UK as set out on page 125. These losses arose as a result of the disposal of certain businesses or assets, some of which were agreed with HMRC in the current period. They may be available to offset against future capital gains in the UK.

Development of future tax policy

We believe that the continued development of a coherent and transparent tax policy in the UK is critical to help drive growth in the economy. We continue to contribute to research into the structure of business tax and its economic impact by contributing to the funding of the Oxford University Centre for Business Tax at the Saïd Business School.

We are a member of a number of industry groups which participate in the development of future tax policy, including the 100 Group, which represents the views of Finance Directors of FTSE 100 companies and several other large UK companies. This helps to ensure that we are engaged at the earliest opportunity on tax issues which affect our business. In the current year we have reviewed and responded to a number of HMRC consultations, the subject matter of which directly impacts taxes borne or collected by our business, with the aim of openly contributing to the debate and development of UK tax legislation. We undertake similar activities in the US, where the Company is an active member in the Edison Electric Institute, the American Gas Association and the Organization for International Investment.

Pensions

In 2018/19, the pensions and other post-retirement benefits operating costs increased by £76 million to £294 million, principally as a result of our UK restructuring programme and the GMP equalisation ruling. Employer contributions during the year were £419 million (2017/18: £475 million), including £84 million (2017/18: £81 million) of deficit contributions.

As at 31 March 2019, the total UK and US assets and liabilities and the overall net IAS 19 (revised) accounting deficit is shown below. Further information can be found in note 25 to the financial statements.

Net pension and other post-retirement obligations

	UK	US	Total
Plan assets	15,507	9,286	24,793
Plan liabilities	(14,276)	(10,735)	(25,011)
Net surplus/(deficit)	1,231	(1,449)	(218)

As at 31 March 2019, pension assets of £1,307 million in the UK pension schemes and £260 million in the US Niagara Mohawk Plan were recognised on the basis that these plans were in a surplus position.

Dividend

The Board has recommended an increase in the final dividend to 31.26p per ordinary share (£1.56 per American Depository Share) which will be paid to shareholders on the register as at 31 May 2019. If approved, this will bring the full year dividend to 47.34p per ordinary share, an increase of 3.1% over the 45.93p per ordinary share in respect of the financial year ended 31 March 2018. This is in line with the increase in average UK RPI inflation for the year ended 31 March 2019 as set out in the announcement of 28 March 2013, in which we stated that our dividend policy aims to grow the ordinary dividend per share at least in line with the rate of RPI inflation each year for the foreseeable future.

At 31 March 2019, National Grid plc had £3.5 billion of distributable reserves, which is sufficient to cover more than two years of forecast Group dividends. If approved, the final dividend will absorb approximately £1.0 billion of shareholders' funds. This year's dividend is covered approximately 1.2x underlying earnings. Although this exceeds the statutory EPS of 44.6p result for the period, in proposing the final dividend, the Directors note that total cumulative statutory earnings per share over the last three years were some 354p, compared to dividend payout of 222p.

The Directors consider the Group's capital structure and dividend policy at least twice a year when proposing an interim and final dividend and aim to maintain distributable reserves that provide adequate cover for dividend payments.

Brexit

As described elsewhere in the Strategic report, our Brexit working group considered the issues and consequences of the UK's decision to leave the EU. In the last month of the year, and in anticipation of the original 29 March 2019 deadline for the UK to exit the EU, we executed our plan to bring forward the procurement of key items for capital delivery and operations in case of delays at ports. In the context of the Group financial statements, however, these actions did not have a material effect.

New accounting standards

As of 1 April 2018 we adopted two new accounting standards, IFRS 9 'Financial Instruments' and IFRS 15 'Revenue from Contracts with Customers'. These did not have a material impact on the Group's reported profits or earnings.

As of 1 April 2019 we will adopt IFRS 16 'Leases'; again, we do not expect this will have a material impact on the Group's results or financial position, although as described in note 1 to the financial statements, on transition our property, plant and equipment and net debt will each increase by £0.4 billion to take account of lease obligations. We note that the rating agencies already make adjustments to impute this and accordingly we do not expect adoption to impact our credit ratings.

Post balance sheet events

On 1 April 2019, the UK Electricity System Operator became a legally separate company, with its own board of directors, within the National Grid Group. This change will have no impact on the consolidated financial results of the Group.

Principal operations – UK

Customer satisfaction: Electricity
(out of 10)

7.9

(2017/18: 7.7)

Customer satisfaction: Gas
(out of 10)

7.8

(2017/18: 7.6)

Our UK performance

Link to strategy	Measure	2018/19	2017/18	2016/17
Optimise performance	Return on Equity (£m)	**12.4**	12.1	12.7
	Statutory operating profit (£m)	**1,045**	1,528	1,868
	Underlying operating profit (£m)	**1,433**	1,560	1,684
	RIIO-T1 customer savings (£m)	**101**	78	126*
Grow core business	Capital expenditure (£m)	**1,233**	1,309	1,241
	Asset growth (%)	**3.6**	4.5	4.3

* Includes UK Gas Distribution

Highlights

Our UK business performed well in 2018/19. We maintained our focus on safe, reliable, customer-led, innovative and efficient operations. We continued to optimise our operational performance. We are proud to have been named in the Times Top 50 Employers for Women, which demonstrates our commitment to creating a workplace which is inclusive, fair and equal for everyone. During the year, we also agreed new terms and conditions for our Electricity Transmission Operations field force. The new arrangements, effective from 1 April 2019, will give us more flexibility to deliver for our customers and give our employees the opportunity to do a greater variety of interesting and challenging work.

Optimise performance

We are developing a generative safety culture within our business. Our occupational safety strategy is to build a platform of proactive safety management by implementing a standard, simplified and risk-based approach. This strategy will enable us to transition to the highest level of safety culture maturity through leadership and workforce engagement.

As at 31 March 2019, our Lost Time Injury Frequency Rate (LTIFR) in the UK business was 0.07, which exceeds our target of <0.10, and is our best ever LTIFR performance. 55% of our lost time injuries (LTIs) are as a result of individual issues such as slips, trips and falls and soft tissue injuries from inappropriate lifting and carrying and non-fault road traffic collisions – we are treating these incidents with appropriate focus whilst acknowledging that they do not generally have the potential for more serious harm. Our analysis shows that in 2018/19 the number of incidents with higher potential for harm has been less than expected.

We delivered a year of good returns, with a Return on Equity of 12.4%. Statutory operating profit was lower because of exceptional charges. The decisions by Horizon and NuGen to cancel their customer connection requests on suspended nuclear projects resulted in a £137m exceptional cost. We have minimised costs by stopping work as soon as we became aware of the projects being suspended. Underlying operating profit was also lower reflecting reduced revenues, driven by allowance adjustments associated with the Avonmouth project. The regulatory arrangements we have in place will mitigate the economic impact of these cancellations.

We also measure our performance with non-financial KPIs. We were pleased to see continued improvement in our customer satisfaction scores in our Electricity Transmission and Gas Transmission businesses, achieving scores of 7.9 and 7.8 respectively against a target of 6.9.

Customer first

We work with our customers to meet their needs and deliver successful outcomes for all parties. This customer-first approach was exemplified within our Gas Business, with HS2 holding up our project as an exemplar following the successful diversion delivery. The project came in under budget with an excellent safety record and no LTIs. We have also successfully delivered a gas off-take for Centrica as part of its construction of new fast-response generating facilities at Peterborough and Brigg. The existing single gas supply was converted into a dual supply and was completed ahead of schedule through collaborative effort.

Electricity Transmission launched a new customer website designed to make it easier for people who want to connect to the network. The website provides tools and information to help our customers understand more about establishing connections with us. It generated a number of enquiries from new customers and received positive feedback from our customers and stakeholders.

Construction of the Hinkley-Seabank Connection Project got underway in summer 2018. We expect to connect our customer, EDF, to our network in 2024. Between now and then, we will add T-pylons to our network for the first time, as well as two new substations and a sealing-end compound. Keen to leave a positive legacy for the communities affected by the project, we are investing in STEM equipment in hundreds of schools, providing construction skills training among the local workforce and awarding contracts to businesses across the region.

In July 2018, Ofgem confirmed its decision to apply a new Competition Proxy Model (CPM) to the delivery of Hinkley-Seabank. This model seeks to impose on us the results of simulated competition without giving us the freedom to choose to decide to participate and allocate scarce capital to the project. We are committed to delivering EDF's connection in line with time and quality obligations. Nothing in Ofgem's decision to implement CPM, or our decision to appeal, will affect this commitment.

Grow core business

In 2018/19, we constructed a new 12.4 mile (20 kilometre) overhead line, made up of 60 new pylons, between an existing substation at Canterbury and a new substation at Richborough. This is the first new overhead line in England and Wales since 2003, and the first we have completed under Development Consent Order legislation, to enable the connection of the new Nemo Link interconnector between the UK and Belgium.

There is an increasing need to invest in our gas compressors to support the changing face of gas supply in the UK and ensure environmental sustainability. The evolution of the network has resulted in changes to compressor utilisation. Furthermore, we are committed to meeting the emission standards all European countries must comply with by 2023 under the Industrial Emissions Directive. We were disappointed not to receive full funding for the compressor works as part of the RIIO-T1 reopeners. Having reviewed our approach to meeting the required environmental obligations, we have developed an integrated plan to invest in our compressor fleet to deliver the most cost-effective network solution. This solution is designed to meet the current and future needs of our customers and support environmental sustainability.

Evolve for the future

The Humber Pipeline Replacement project is part of our programme of work to care for our National Transmission System and keep gas flowing for our customers, now and in the future. Our aim is to ensure gas runs safely, efficiently and reliably. The Feeder 9 pipeline typically carries around 20% of the country's gas supplies. In April 2018, a 160-metre-long, 510-tonne tunnel-boring machine started to excavate a 3.3-mile (5.4-kilometre) tunnel under the River Humber to house the Feeder 9 replacement pipeline; a project which will help to make us fit for the future. The Feeder 9 reopener was published in May 2018, in response to our request for funding. We issued this request after gaining planning consent for the project and after Ofgem changed its initial decision on the needs case, awarding us £111 million to continue this project.

We secured funding of £116 million for a Visual Impact Provision (VIP) scheme in Dorset; a project to underground 5.4 miles (8.8 kilometres) of overhead line and remove 22 pylons in the Dorset Area of Outstanding Natural Beauty. We also continued to progress our other VIP projects in Peak East National Park and Snowdonia National Park.

We commenced a multi-year programme covering a range of initiatives to drive further efficiency and lower costs for customers. These initiatives will continue our aim of becoming a more agile organisation that is positioned to be more responsive to customers. The range of initiatives includes a flatter, leaner organisation; further economies of scale; simplifying our processes and ways of workings; and making more efficient use of IT and back-office activities. To achieve the long-term benefits of these initiatives, we have provided for costs of £136 million for 2018/19. We expect these costs to help us generate opex savings of £50 million in 2019/20 and around £100 million annually from 2020/21.

We have focused on diversity and mental health and rolled out diversity leadership training to our employees. Employee enablement is important to us and we are focused on ensuring our people are adequately equipped to fulfil their roles and responsibilities. We have several enablement programmes and have implemented a modern, digital and future-proof HR solution.

Looking ahead

The UK political environment continues to present a number of challenges. Our dialogue around RIIO-T2 will be a priority leading up to the new price control commencing in April 2021. We remain committed to the importance of a regulatory framework that fairly reflects the risk return balance for both consumers and shareholders. We submitted our response to Ofgem on the sector-specific methodology consultation for RIIO-T2 in March 2019. The overall framework proposals set out by Ofgem are a step in the right direction but we are concerned that as currently set out, the proposals will not bring about the change consumers need. Our vision is of an energy future where bills are kept low for consumers, energy is decarbonised, innovation is encouraged and which together support the growth and prosperity of the UK economy. Our stakeholders' opinions are important to us and it is important that they are able to shape our future plans. We have created RIIO-T2 stakeholder groups to support the formulation of our business plans for the next price control period within Gas Transmission, Electricity Transmission and the System Operator.

As part of a joint venture with Scottish Power Transmission, we have constructed the Western Link – a HVDC cable which will play an important role in bringing renewable energy from Scotland to homes and businesses in England and Wales, helping the UK to meet its renewable energy targets. The Western Link had initially been available to operate in October 2018. However, testing continues following the detection of cable faults and trips during the commissioning phase and the Link is anticipated to be available to operate later in 2019, delivering up to 2.2 GW power transfer capability.

Next year, achieving greater, customer-led efficiency in our business will continue to be a key priority.

Electricity System Operator

In January 2017, alongside Ofgem and the Government, National Grid agreed to the creation of a legally separate Electricity System Operator (ESO), within the National Grid Group. In 2018/19 we successfully implemented the separation arrangements, establishing a new subsidiary company that holds the ESO licence. To ensure appropriate ring-fencing between itself and the rest of the National Grid Group, the company is governed by its own Board of Directors, including three independent Directors.

As the ESO, we continue to help facilitate the move to a lower-carbon economy, while simultaneously delivering safe, reliable and affordable energy to the end consumer. In April 2018, new records were set with the system operating without coal for 76 hours and with wind output peaking at over 15 GW. The underlying changes to the generation portfolio meant that on 27 August 2018, the carbon intensity of the system reached a new low of 71 gCO_2/kWh.

In October 2018, we published a thought piece to explore how the ESO could be funded in RIIO-T2, forming part of our wider stakeholder engagement programme on the new price control. This will inform both our own thinking and Ofgem's process for developing and deciding upon a funding model.

Following a European Court ruling, the UK's Capacity Market scheme was paused, leading to the ESO, in its capacity as EMR Delivery Body, postponing the T-1 auction originally scheduled to take place in January 2019, and to the Electricity Settlements Company suspending capacity payments to Capacity Market participants. We advised that there was no additional risk to the security of supply in the winter of 2018/19. During this period of uncertainty, we are working with Ofgem, BEIS, customers and stakeholders to deliver security of supply for the next winter period.

Further reading
Find out about our innovations in engineering at www.nationalgrid.com

Principal operations – US

US Residential – Customer Trust Advice

58.7%

(2017/18: 56.6%)

Further reading
Find out about our innovations in engineering at www.nationalgrid.com

Our US performance

Link to strategy	Measure	2018/19	2017/18	2016/17
Optimise performance	Return on Equity (%)	**8.8**	8.9	8.2
	Statutory operating profit (£m)	**1,425**	1,734	1,278
	Underlying operating profit (£m)	**1,594**	1,704	1,514
Grow core business	Capital expenditure (£m)	**2,650**	2,424	2,247
	Asset growth (%)	**9.2**	7.4	5.7
	Rate base* (£m)	**17,565**	14,762	14,571
Evolve for the future	Connections of renewable schemes to US electric distribution network (MW)	**281.45**	380.50	294.57

* US rate base is as previously reported at historical exchange rates

Highlights

In the US we worked hard during 2018/19 to find ways of operating more efficiently and embracing innovative technology. The work we carried out supports National Grid's three strategic priorities.

In June, we released our 'Northeast 80x50 Pathway', a blueprint for reducing greenhouse gas emissions by 80% below 1990 levels by 2050. 'The Pathway' is an integrated approach to taking action across the three main sectoral contributors to combustion-related CO_2 emissions: electricity generation, transportation and heat.

The US business saw a 6% increase in the number of injuries requiring medical attention beyond first aid and a 5% reduction in the number of preventable road traffic collisions during 2018/19. The US introduced new driving programmes including an annual requirement for all drivers to review our safe motor vehicle operations policy. We implemented safety, health and environment (SHE) Business Management Standards (BMS) to apply to all areas across our business, and also implemented SHE plans at local levels to address current risks and injury trends. We also launched our first annual Safety Culture Survey to assess and benchmark our Safety Culture and to establish programs and initiatives to promote safety. We continue to focus on key risk and hazard mitigation strategies in 2019/20.

In the spring, Influence Map, a UK-based non-profit climate change group, named National Grid one of the most influential companies pushing for an ambitious climate change agenda.

Optimise performance

During 2018/19, the US business focused on growth, customer value and the transition to clean energy. Overall, our net revenue increased by 3% and we grew our rate base by 9.2%. Our energy infrastructure spend across our footprint during the year was $3.5 billion. We also added 63,387 new customer accounts across gas, electric, and distributed generation combined.

The Buffalo River Bore project, located in Buffalo, New York is one example of how we are investing in energy infrastructure to accommodate the electric load growth associated with new and growing commercial space. In summer 2018 we used a 14-foot-long, 29-tonne boring machine to dig a 450-foot tunnel beneath the Buffalo River to house new electrical cables. These cables replaced older and outdated equipment, including some that dates to the 1890s.

Another example is solar. In 2018, we inter-connected 9,465 applications and 257 MW across Massachusetts, New York and Rhode Island.

At the end of June 2018, our contracts with two United Steelworkers Unions in Massachusetts, representing around 1,250 employees, expired. Following months of bargaining, union membership elected not to accept National Grid's final offer. Subsequently, the Company declined to extend the existing labour contracts, resulting in a labour dispute, and made the decision to mobilise its replacement workforce.

Our workforce contingency plan remained in place until a new five-year/five-month contract was agreed with the two Unions and ratified in January 2019. During this time, our contingency workforce responded to all potential and actual gas emergencies, ensuring the safety of our employees, customers and the public. While we were able to provide new connections to customers who had a hardship, we were not able to connect all potential customers who requested a new service since we had to prioritise emergency and compliance work. Our goal was to have a long-term agreement that assured benefits consistency across employee groups, addressed the need for cost-sharing in health insurance and provided a modern approach to retirement planning. The newly ratified contract achieves that goal, though it has been a difficult period for all our employees and the communities we serve.

In late January, a supply disruption natural gas incident affected all customers on Aquidneck Island, Rhode Island. Initially, approximately 400 customers in Middletown lost gas service.

Given the local system's low-pressure threat and putting safety first, National Grid made the decision to stop gas service to roughly 7,100 customers in the City of Newport, also on the Island.

We deployed a workforce of approximately 1,000 employees and contractors to restore gas service to impacted customers. We ensured they were kept safe, warm and fed during the days they were without heat, hot water and cooking appliances. Restoration was largely completed within eight days.

Customer first

In December 2018 we launched our US Residential Energy Efficiency Online Marketplace in our New York jurisdictions. This new service provides one-stop shopping for our residential customers, enabling them to save money and energy while making their homes more energy efficient.

The Marketplace offers a variety of energy efficient products and instant rebates on, lighting, Wi-Fi thermostats, advanced power strips and water saving. It is designed for both our gas and electric residential customers in New York.

In downstate New York, we offer instant rebates on Wi-Fi thermostats, water savings and other gas saving products for our residential natural gas customers. The Marketplace also provides numerous resources such as buyer guides, installation videos and customer reviews. These help customers make smart and informed choices when purchasing energy-efficient products for their homes.

In the coming year, our customers in Massachusetts and Rhode Island will have access to the same e-commerce opportunities and energy-efficiency solutions.

Community commitment

Serving our communities is a cornerstone of our business at National Grid — both today and tomorrow. It is why we are concerned that in our New York State service territory, there are about a half a million residences without access to a gas network. So we are taking action through a Reforming the Energy Vision (REV) demonstration project on Long Island. We have built a shared geothermal well system in one community to test the feasibility of using the Earth's own heating and cooling properties to provide a clean alternative energy source to off-the-grid customers.

Grow core business

In August, the Rhode Island Public Utilities Commission (RIPUC) approved our Rhode Island gas and electric rate case settlement. The three-year rate plan went into effect on 1 September 2018 and encourages initiatives for the state's Power Sector Transformation efforts. These include innovative proposals on electric transport, energy storage and the opportunity for advanced metering. It also re-designs our low-income rates to engage with income-eligible customers and increase participation in assistance programmes.

At the end of September, the Massachusetts Department of Public Utilities (MADPU) approved our Massachusetts gas rate settlement. New rates went into effect on 1 November 2018. The settlement includes funding to modernise our Gas Business via our Gas Business Enablement (GBE) programme, as well as IT infrastructure that supports our core gas distribution operating capabilities. In December 2017, MADPU commenced an independent audit to perform an assessment of gas pipeline safety in Massachusetts. We have provided all the information requested and a preliminary oral report is anticipated. We will continue to work with the MADPU when the report is issued.

In November, we filed a rate case with the MADPU to update our electric distribution rates for the first time in three years. This update to distribution rates, if approved, will take effect 1 October 2019. A new rate plan will enable us to continue providing safe and reliable electric service, invest in clean energy technologies, and help the state realise its goal of reducing greenhouse gas emissions.

In April, we filed a proposal for new natural gas delivery rates for our KEDNY and KEDLI operating companies with the New York State Public Service Commission (PSC) effective 1 April 2020. This proposal will allow us to continue investing to make our natural gas networks safer and more reliable, move toward a cleaner energy future, and improve service to our 1.8 million customers in New York City and Long Island.

Evolve for the future

- Aiming for better service and reduced costs for customers, we adjusted our operating model in mid-2018. That meant changing a number of leadership roles, accountabilities and delivery processes. At the same time, we are investing in new opportunities and solutions in order to drive our ongoing objective of leading the transition to a clean energy economy.
- Last spring we introduced 'Accelerate' – a programme aimed at reducing Opex and Capex spend by 20% by 2021. In 2018/19 we incurred $88 million which we have classified as an efficiency and restructuring exceptional charge. Accelerate is also focused on improving customer satisfaction scores and increasing revenue from new sources to reinvest into the future of the business.
- One of the initiatives underway is the eBill project, aimed at increasing adoption of eBills from 20% to 30% by the end of 2019/20. This project is expected to deliver approximately $4 million in operational savings and, more importantly, improve the customer experience. According to JD Power, National Grid customers enrolled in paperless billing scored 21 points higher in satisfaction than overall billing and payment satisfaction.
- We are also helping to speed up the transition to a clean energy future by making meaningful progress through:
- **Large-scale renewables (LSR):** Our new battery energy storage system (BESS) project on Nantucket Island in Massachusetts is a classic example of LSR. When BESS is fully installed in summer 2019, it will be the first large-scale battery installation in New England. When combined with a new upgraded onsite combustion turbine, also expected for completion this summer, the BESS should supply the island with all the electrical power it needs should one of the two existing submarine cables experience an outage, or on peak summer days when air conditioners put extra strain on the infrastructure;
- **Electrifying transportation:** We launched an electric vehicle (EV) adoption programme for employees, facilitating the sale of more than 250 EVs in 2018. We've included more than $200 million in regulatory filings for transport-related initiatives (includes approved and filed plans), such as charging infrastructure, customer outreach/education, and grid integration – all over the next five years in all three states; and
- **Future of gas:** We are committed to becoming a leader in renewable natural gas (RNG) generation and transmission. For example, we are partnering with the City of New York to convert their largest waste-water treatment plant into a clean energy source. We have also started a collaborative effort in New York State to develop revolutionary RNG interconnection guidelines.

Looking ahead

We will stay focused on becoming a great operating company and will work hard to transition to a clean energy company. We will continue to develop our employees in a safe workplace, provide our customers with clean, affordable energy and partner with our communities to enable viable economies.

We will address these goals by improving our capital and operational expenditure efficiency; improving our customer metrics; generating operating profit from new sources; and limiting customer bill increases.

We will also continually improve our performance by finding a better way and investing in our growth.

National Grid Ventures and Other activities

BritNed availability

98.2%

(2017/18: 97.8%)

IFA availability

93.9%

(2017/18: 92.6%)

Highlights

This section relates to NGV, non-regulated businesses and other commercial operations not included within the business segments.

NGV, which operates separately from our core regulated units, is focused on investment in a broad range of energy businesses that operate in competitive markets across the UK and US. Its portfolio includes electricity interconnectors, LNG storage and regasification, energy metering and most recently agreement to acquire large-scale renewable generation.

Our 'other' activities comprise National Grid Partners, the venture investment and innovation arm of National Grid plc, as well as UK Property and US non-regulated businesses, which include LNG operations and corporate costs.

In aggregate, the National Grid Ventures and Other segment delivered £400 million of statutory operating profit, £400 million underlying operating profit and accounted for £623 million of continuing investment in 2018/19.

Operational performance

Electricity interconnectors: NGV is the leading developer and operator of electricity interconnectors to and from the UK. NGV's operational portfolio currently comprises 4 GW of interconnector capacity.

BritNed is an independent joint venture between National Grid and TenneT, the Dutch transmission system operator. It owns and operates a 1 GW HVDC link between Great Britain and the Netherlands. In 2018/19 BritNed's availability was 98.2%.

The England-France interconnector (IFA) is a 2 GW HVDC link between the French and British transmission systems, with ownership shared between National Grid and Réseau de Transport d'Electricité (RTE). In 2018/19, IFA's availability was 93.9%.

Nemo Link, which started operating on 31 January 2019, is an independent joint venture between National Grid and Elia, the Belgian transmission system operator. It owns and operates a 1 GW HVDC link between Great Britain and Belgium. Nemo Link's availability was 99.9% in 2019.

LNG storage and regasification: Grain LNG is one of three LNG importation facilities in the UK. It operates under long-term contracts with customers and provides importation services of ship berthing, temporary storage, ship reloading and regasification into the NTS. Utilisation of terminal capacity was 18.8% in 2018/19, up from 5.2% in 2017/18.

Grain LNG's road tanker loading also offers the UK's transport and off-grid industrial sector a more environmentally friendly alternative to diesel or heavy fuel oil. The facility allows tanker operators to load and transport LNG in bulk across the UK via road or rail.

Metering: National Grid Metering (NGM) provides installation and maintenance services to energy suppliers in the UK's regulated market. It maintains an asset base of around 9.9 million domestic, industrial and commercial meters, down from 11.1 million in 2017/18.

National Grid Smart (NGS) supports energy suppliers in fulfilling their UK smart meter roll-out obligations. In 2019 National Grid made the decision to not invest any further in NGS growth, meaning NGS will not be installing any more smart meters once it has used up its current stock. NGS will continue to own assets already in place and is working with its customers to minimise any impact on household consumers.

Property: National Grid Property deals with the management and regeneration of our brownfield surplus estate in the UK. Our specialist team works with our communities to return these redundant sites back into beneficial use to provide new homes and employment opportunities across the UK.

In 2018/19, we disposed of 33 sites and exchanged contracts on a further three land sales, to facilitate the delivery of thousands of new homes across the UK. St William Homes, our joint venture with Berkeley Group, has entered its fifth year. Around 3,000 homes are already under construction, with planning permission secured for a further 2,000 homes. Our first St William residents moved in at our Rickmansworth development in April 2019.

One of the sites sold into St William this year was the Fulham gas works. This site will provide over 1,843 new homes in London, of which 646 will be affordable, as well as over 100,000 square feet of new commercial space. The development will include a new public park and square where the world's oldest surviving gasholder will be the centre piece.

Grow core business

Electricity interconnectors: NGV will grow its interconnector portfolio by 3.8 GW in the next five years, with new subsea power links to France, Norway and Denmark.

Interconnector capacity: in operation or under construction

7.8 GW
(2017/18: 6.4 GW)

Statutory operating profit

£400m
(2017/18: £231m)

Underlying operating profit

£400m
(2017/18: £231m)

Capital investment

£623m
(2017/18: £518m)

Construction continues on the 149-mile (240-kilometre) IFA2 interconnector. Developed with RTE, the 1 GW subsea cable will connect Great Britain and France. The link is expected to be operational in 2020.

North Sea Link (NSL) will connect Great Britain and Norway. Developed between National Grid and the Norwegian transmission system operator Statnett, NSL will be 447 miles (720 kilometres). The 1.4 GW link is expected to be operational in 2021/22.

In September 2018, National Grid's Board gave final financial approval to NGV to build the Viking Link interconnector. Developed together with Danish transmission system operator Energinet, Viking Link will be a 1.4 GW 472-mile (760-kilometre) long subsea link connecting Great Britain and Denmark.

NGV will have 7.8 GW of operational interconnector capacity when Viking Link becomes operational in 2023/24.

US competitive transmission: Orsted-owned renewables developer, Deepwater Wind, partnering together with NGV, has won competitive tenders to supply electricity from the Revolution Wind offshore wind farm to distribution utilities in Rhode Island and Connecticut. The proposed 700 MW wind farm will be located over 15 miles south of the Rhode Island and Massachusetts coasts in Deepwater Wind's federal lease area. Deepwater Wind expects Revolution Wind to be operational in late 2023, pending permits and final investment decisions. NGV has the option to acquire the transmission connection between Revolution Wind and the onshore electric transmission network.

Property: St William continues to grow and we now expect the joint venture to deliver over 20,000 new homes across London and the South East over the next 15 years. A further three sites have been sold into the joint venture during 2018/19 with further sites expected to be negotiated into the joint venture in the future. In the next 12 months, we expect our St William Homes JV to complete construction of the first 350 homes, including 75 affordable homes. This development will mark a major milestone for the JV and in our partnership with Berkeley Group.

In addition, Accord Housing Group, a Housing Association, and National Grid Property are to collaborate to develop new affordable housing on land currently owned by National Grid.

Evolve for the future

National Grid Partners: Previously known as the Technology & Innovation unit, National Grid Partners was established in 2018 as the venture investment and innovation group of National Grid plc. National Grid Partners makes and manages strategically and financially attractive investments and leads company-wide innovation efforts. In 2018/19, National Grid Partners made 12 new technology investments. It also manages National Grid's interests in Energy Impact Partners, a strategic energy venture investment fund that has invested in 26 companies to date. In 2018/19 National Grid Partners invested in two additional venture capital funds.

US large-scale renewables: In March 2019, NGV entered into an agreement to acquire Geronimo Energy for $100 million plus potential further payments subject to the development of Geronimo's project pipeline. The transaction is subject to customary closing conditions and regulatory approvals. Geronimo Energy is a Minnesota-based wind and solar developer. In addition, NGV is negotiating and advancing a joint venture arrangement with WSIB. Upon a capital contribution of approximately $125 million, NGV would own indirectly 51% of 378 MW of solar and wind generation projects in operation and construction. The joint venture will have the right of first offer for future projects developed by Geronimo Energy.

This investment is consistent with our long-term strategy of evolving the Group for the future.

Our commitment to being a responsible business

In today's world, business needs to be a positive force for good. This belief is critical to the way we work and why we do what we do.

Our purpose-led approach

Today more than ever, people are putting their faith in companies that stand for something and do the right thing. We believe the way our Company affects the economy, environment and society is just as important as our financial returns. We have made great strides to embed purpose into our organisation. We work hard every day to bring energy to life, to exceed the expectations of our customers, shareholders and communities today, while meeting the energy aspirations of future generations tomorrow.

Our approach to responsible business is focused on three areas: Environmental sustainability, People, and Communities.

Environmental sustainability

We are passionate about operating our business in an environmentally responsible way. It is the right thing to do – for society, the environment and our business.

We make sure sustainability shapes our thinking and decision-making. This focus helps us to optimise our operational performance, provide value for our customers and benefit the environment.

People

We are working hard to overcome some of the biggest energy challenges of the 21st century as generation moves from fossil fuels to renewable sources and transportation shifts to electrification.

We need to ensure we have a culture that enables and supports a highly motivated, diverse and multi-generational workforce, with the right skills to deliver the future needs of our customers.

Communities

For us, being a responsible business means being a good citizen and being involved in social progress, which covers every aspect of our work. What we do helps to underpin the prosperity and wellbeing of communities in the UK and US. For example, our work to develop interconnectors is making energy more secure, affordable and sustainable for consumers across the UK.

Meanwhile, our work on major infrastructure projects involves continually working with local communities, customers and stakeholders to ensure their views are fairly represented in our decisions and actions. Our work on Hinkley-Seabank Connection Project in Somerset, for example, will include 5.3 miles (8.5 kilometres) of underground cables across the Mendip Hills instead of installing overhead pylons. This will protect views in this Area of Outstanding Natural Beauty for the community, visitors and future generations.

You can read more about our approach to supporting communities on page 44.

Our approach to reporting

This section contains information relating to the three focus areas that are considered material to shareholders.

We have rigorous policies in place that support our approach to corporate responsibility and we report on a number of non-financial performance measures relating to these policies. We were recently awarded the 2018 Carbon Disclosure Project (CDP) A list for a third year running for our performance in reporting and mitigating the impact of climate change.

Over the next year, we aim to better understand the holistic impact our business has on society. This will help us identify opportunities to use our operations and capabilities to provide more meaningful value to society.

The EU Non-Financial Reporting Directive – Non-financial information statement

This section (pages 40 – 45) also provides information as required by regulation in relation to:

- environmental matters;
- our employees;
- social matters;
- human rights; and
- anti-corruption and anti-bribery.

In addition, other related information can be found as follows:

- Business model – pages 2 – 7;
- Our business environment – pages 12 – 13;
- Non-financial KPIs – pages 16 – 19;
- Principal risks – pages 20 – 22; and
- Safety, Environment and Health Committee report – page 64.

UN Global Compact and Sustainable Development Goals

In July 2018, we reconfirmed our support of the 10 principles of the United Nations Global Compact on human rights, labour, environment and anti-corruption.

We also continue to build on our support for the United Nations General Assembly 2030 agenda and its Sustainable Development Goals (SDGs). These 17 global goals are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

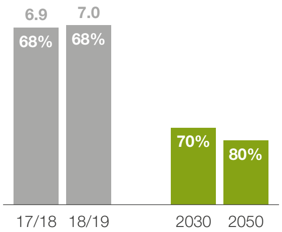
Eight of the SDGs (see following page) are particularly linked to our responsible business focus areas. We have highlighted these where relevant throughout this section.

Further reading
www.nationalgrid.com/group/responsibility-and-sustainability

Our environmental sustainability targets and progress

1. Reduce carbon footprint

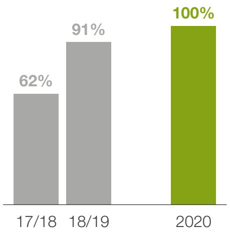
Greenhouse gas emissions (Scope 1 and 2 million tonnes of CO_2 equivalent)



(reduction from a 1990 baseline)

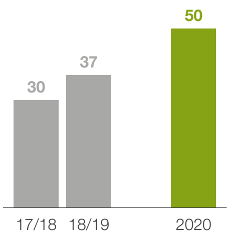
2. Maximise resources

% reduction in the volume of waste that is sent to landfill (UK offices)



3. Responsible land use

Number of sites enhanced



◆ Actual ◆ Target

Alignment to SDGs

7 AFFORDABLE AND CLEAN ENERGY — Ensure access to affordable, reliable, sustainable and modern energy for all

12 RESPONSIBLE CONSUMPTION AND PRODUCTION — Ensure sustainable consumption and production patterns

13 CLIMATE ACTION — Take urgent action to combat climate change and its impacts

15 LIFE ON LAND — Sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss

Further reading
KPIs, pages 16 – 19
TCFD, pages 210 – 211
Environmental performance, page 18

Environmental sustainability

The biggest impact we can have on the environment is in our role of enabling the transition to a low-carbon future. We also know we have the potential to affect the environment directly, both positively and negatively, through our operations.

Our approach to environmental sustainability is to manage our risks, whether short-term through our physical operations, such as air quality and pollution, or long-term through our greenhouse gas emissions and resource use. At the same time, we look for opportunities to have a positive impact. For example, we have committed to achieve a net gain in environmental value for all our major construction projects by 2020. We measure this with an evaluation approach based on a methodology set out by the UK Government.

As well as managing normal operating risk, we manage the risk of an environmental event arising from a catastrophic asset failure. You can find out more about this on page 21.

Our strategy and priorities

Our environmental strategy, Our Contribution, was originally developed in 2012 with a wide range of internal and external stakeholders. Over the years we have refined our strategy to reflect changing priorities. It focuses on three main areas: climate change, resources and caring for the natural environment.

Our strategy is delivered through our environmental policies. We focus on:

- reducing our carbon footprint;
- maximising the value of resources through re-use and recycling, so we can reduce our impact on the environment; and
- using our land holdings in ways that benefit our business, the environment and the communities in which we live and work.

These efforts are underpinned by maintaining high environmental management standards. In 2018 we developed an internal Environmental Sustainability Business Management Standard (BMS) that brings together the commitments from Our Contribution and our Environmental Policy, providing clarity to all our employees on the standards we expect. It also brings sustainability fully into our environmental management systems.

The Executive Committee will review and approve changes to the BMS periodically, including any strategies, plans and targets within the BMS, ensuring it fully reflects the risks and opportunities associated with environmental sustainability. The Safety, Environment and Health Committee tracks, challenges and seeks assurance of the delivery of the plans approved by the Executive Committee.

Sustainability of our offices

In 2018, as our strategy continued to evolve, we took steps to improve the sustainability of our offices. In the UK, we completed many energy and water efficiency projects and achieved energy reductions in our offices of 9%.

We are making progress on better ways of managing our office waste, including working with our supply chain to prevent waste being generated. For example, we have pledged to eliminate single-use plastic from sale in our offices by 2020, and have already taken steps to remove plastic cutlery, straws, stirrers and cups at our UK headquarters in Warwick. We have also developed an engagement campaign called 'Save Evie's Whale', to help us improve our approach to recycling.

Climate change

We support climate change science. Reducing greenhouse gas emissions is an important area of focus for us and is one of our KPIs.

As a result, we also support the Paris Agreement and have made our own commitment to reduce our greenhouse gas emissions by 70% by 2030 and 80% by 2050. This pledge aligns with the trajectory required to limit global warming to a 2˚C temperature rise. We are currently reviewing our targets against limiting this rise to 1.5˚C and will update investors in next year's Annual Report and Accounts.

Task Force on Climate-related Financial Disclosures (TCFD)

The TCFD's voluntary framework for disclosure of climate-related information in financial filings is structured around four themes: governance, strategy, risk management, and metrics and targets.

We have committed to implementing the TCFD's recommendations, demonstrating how climate change risk and opportunities form part of our business, with clear targets to measure progress.

Our disclosure is set out on pages 210 – 211, demonstrating how we are managing our climate impact and how our business is evolving in response to the risks and opportunities we see arising. We aim to publish a full disclosure in 2020 as our understanding and strategy evolves.

CDP A list

CDP is a not-for-profit charity that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. We are one of 126 companies globally, and one of only eight UK companies to achieve a position on the climate change A list (out of 7,000 submissions). We were delighted to achieve this accolade for the third consecutive year. It is clear recognition of our efforts to reduce our emissions and mitigate climate change during 2018/19.

Our commitment to being a responsible business continued

UK Social Mobility Employer Index

For the second year running, we took part in the UK Social Mobility Employer Index. We were ranked 31st out of 100 companies that participated during 2018. Following feedback, we have lowered our minimum grade requirements for our graduate programmes, changed the data we capture and the range of schools we target to help us better address social diversity.

Living Wage

In the UK, we are accredited by the Living Wage Foundation. Our commitment to our direct employees extends to our contractors and the work they do on behalf of National Grid. We believe that everyone should be appropriately rewarded for their time and effort. We also go above the Living Wage requirements and voluntarily pay our trainees the Living Wage.

We undertake a Living Wage review each year to ensure continued alignment. We also increase individual salaries as required.

Further reading
For more information about the UK gender pay gap, visit our website: www.nationalgrid.com/group/responsibility-and-sustainability/understanding-our-uk-gender-pay-gap

Alignment to SDGs

- Ensure healthy lives and promote well-being for all at all ages
- Ensure inclusive and quality education for all and promote lifelong learning
- Achieve gender equality and empower all women and girls
- Promote inclusive and sustainable economic growth, employment and decent work for all

People

We are working hard to overcome some of the biggest energy challenges of the 21st century as generation moves from fossil fuels to renewable sources and transportation shifts to electrification. We need to make sure we have highly motivated people, with the right skills, working for us and helping to equip us for the future.

Our focus on people covers our current and future employees. We aim to have an engaged and diverse workforce to stimulate innovation, reflect the communities where we work, and deliver great customer service.

The culture we strive for stems from embracing our values: every day we do the right thing and find a better way. You can read more about our values on pages 14 – 15.

We also know that building sufficient capability and leadership capacity (including effective succession planning) is an important factor in delivering our vision and strategy. You can read more about how we are mitigating the risks in this area on page 22.

Engaging our people

By developing our people and providing a wider programme of benefits, we aim to have an engaged and productive workforce. To attract and retain employees we make sure our remuneration package is both fair and competitive. Through a third-party company, we also carry out an annual employee survey to measure engagement levels and to help us address areas employees believe we need to improve. Employee engagement forms one of our KPIs – you can read more about this and our performance on page 18.

Developing employees

Through the hard work of our employees we will achieve our vision, live our values, respond to the needs of our stakeholders and create a competitive advantage. Encouraging engaged and talented teams that are in step with our strategic objectives is vital to our success.

In 2018, we also completed a mid-year pulse survey. The aim was to get a half-yearly update on progress in our focus areas and to encourage a quicker response to the survey results.

Safeguarding the future

We work to raise awareness of the career opportunities in the energy utility industry in both the UK and US. In the UK, there's a growing need for a skilled workforce to develop, deliver and use new technologies within the energy sector, according to the EU Skills Workforce Strategy. STEM skills are crucial within our business, so we promote STEM as an exciting career path for young people through education outreach such as the Big Bang Fair, work experience and hosting school visits to our sites.

In the US, we have fostered relationships with 33 colleges and universities. Leaders from our business have been involved in these initiatives. We have also continued to promote internship opportunities and permanent graduate development programmes with more than 110 schools in the US.

Award recognition

In 2018/19, we were second in the Top 100 Companies and were also regional winners (West Midlands) in the Rate My Apprenticeship Awards, which are assessed by apprentices themselves, rather than external assessors. The awards bring together employers, apprentices and career champions to celebrate success in the apprenticeship market.

We also received recognition for our engagement with the Procurement Skills Accord, which is coordinated by Energy & Utility Skills across the utility industry.

We were finalists in the Gas Industry Awards Apprentice of the Year and Apprentice of the Year for the UK IT awards.

In the US, we were one of five winners of the Age Smart Employer Award in New York. Awarded by Columbia University, the Age Smart Employer Award aims to highlight industries and businesses using strategic practices to hire and retain valuable workers over the age of 50.

We were recognised by MilitaryHire.com as a Top Veteran Employer. This is in recognition of our efforts to create an environment of opportunity for veterans to apply their existing skills and train on the job to develop further. It is primarily due to our work with the Center for Energy Workforce Development and other utilities to help create the Troops to Energy Jobs (T2E) initiative. We use the T2E website to help successfully match veterans' and service members' skillsets to positions within the industry, ranging from field operations, engineers and analysts to the executive boardroom.

Health and wellbeing

We take a proactive, risk-based approach to managing health and wellbeing at National Grid. We continue to focus our efforts on creating sustainable wellbeing behaviour change within our workforce. We do this mainly through education and training and by managing our key wellbeing risks.

Our wellbeing programme focuses on musculoskeletal injury prevention and mitigation, chronic disease prevention, support and mental wellbeing. We provide training to develop the knowledge and confidence to notice and respond to mental health issues. We also work to reduce the stigma and to create a culture in which employees feel able to talk openly about mental health.

Promoting an inclusive and diverse workforce

Our inclusion and diversity policies demonstrate our commitment to providing an inclusive, equal and fair working environment by:

- driving inclusion and promoting equal opportunities for all;
- ensuring our workforce, whether part-time, full-time or temporary, are treated fairly and with respect;
- eliminating discrimination; and
- ensuring that selection for employment, promotion, training, development, benefit and reward is based on merit and in line with relevant legislation.

A total of 18.1% of our total workforce have declared themselves to be of 'minority' racial or ethnic heritage. We recognise the value a diverse workforce and inclusive culture bring to our business. We have many initiatives to encourage and promote diversity and inclusion.

During 2018/19, in the US we attracted 64% female applicants and 42% ethnically and racially diverse applicants to our graduate development roles. We also took 51% female applicants and 49% ethnically and racially diverse applicants into our internship programmes. Our UK Graduate Programme attracted 20% female applicants and 58% ethnically and racially diverse applicants. Our UK Industrial Placement and Student Internship programmes attracted 30% female applicants and 55% ethnically and racially diverse applicants.

Our US business created a record number of opportunities for these students and graduates, with 63 graduate development opportunities and 206 interns starting in the summer of 2019.

Our policy is that people with disabilities should be given fair consideration for all vacancies against the requirements for the role. Where possible, we make reasonable adjustments in job design and provide appropriate training for existing employees who become disabled. We are committed to equal opportunity in recruitment, promotion and career development for all employees, including those with disabilities. Our policy recognises the right for all people to work in an environment that is free from discrimination.

Our leaders support a diverse workforce. For example, Dean Seavers was featured in the 2018 Black History Month Magazine giving his perspective on inclusion and diversity at National Grid. We actively support Black, Asian, and minority ethnic (BAME) initiatives, and Nicola Shaw is actively involved in the BAME/Diverse Leaders Programme. We are also part of the 6th cohort of Business in the Community's BAME Cross Organisational Mentoring Circles Programme. Gurvinder Badesha, our Head of Assurance, is one of the lead mentors on the programme, and our UK HR Director, Sarah Stanton, is the UK Executive Sponsor of the Accessibiility Group that helps disabled people overcome barriers and improve their lives.

The gender demographic table that follows shows the breakdown in numbers of employees by gender at different levels of the organisation. We have included information relating to subsidiary directors, as this is required by the Companies Act 2006 (Strategic Report and Directors' Reports) Regulations 2013.

We define 'senior management' as those managers who are at the same level, or one level below, our Group Executive Committee. Our definition also includes those who are directors of subsidiaries, or who have responsibility for planning, directing or controlling the activities of the Group, or a strategically significant part of the Group, and are employees of the Group.

Gender demographic as at 31 March 2019

	Our Board[1]	Senior management[2]	Whole Company[3]
Male	8	171	17,084
Female	4	81	5,492
Total[6]	**12**	**252**	**22,576**
Male (%)	66.7	67.9	75.7
Female (%)	33.3	32.1	24.3

1. 'Board' refers to members as defined on the Company website.
2. 'Senior management' refers to Band A/B employees as well as subsidiary directors.
3. This measure is also one of our Company KPIs. For more information, see page 18.

Total headcount[4]

The tables below show the breakdown of employees by work pattern and diversity.

Work pattern

	Full-time		Part-time[5]	
	#	%	#	%
UK	5,212	95.4	249	4.6
US	16,414	99.5	85	0.5
NGV	598	97.1	18	2.9
Total[6]	**22,224**	**98.4**	**352**	**1.6**

4. In scope are active, permanent employees. Out of scope are temporary employees.
5. Employees recorded in our system as part time, or have <1 full time equivalent.

Gender

	Male		Female	
	#	%	#	%
UK	4,023	73.7	1,438	26.3
US	12,625	76.5	3,874	23.5
NGV	436	70.8	180	29.2
Total[6]	**17,084**	**75.7**	**5,492**	**24.3**

Ethnicity demographic as at 31 March 2019

'Minority' refers to racial/ethnic heritage declarations as recorded in our system. Those who have not stated their ethnicity are excluded from the baseline.

White	17,634
Minority	3,910
Declined to state	1,032
White (%)	81.9
Minority (%)	18.1

Employee turnover

Turnover is defined as employees who have left in the last 12 months as a percentage of headcount last year. Voluntary turnover relates to employees who have left through either resignation or retirement. Non-voluntary attrition includes any other leave reasons – including dismissal, severance, etc.

	Voluntary	Non-voluntary	Total
	%	%	%
UK	6.4	5.9	12.3
US	6.6	4.5	11.1
NGV	8.3	12.8	21.1
Total[6]	**6.6**	**5.1**	**11.7**

6. Included in 'Total' are Non-executive Directors and Executive Directors.

Training days per employee

From 1 April 2018 to 31 March 2019, the total number of training days delivered per employee (as recorded in our HR systems), across the whole of National Grid is 5.3 days (6.5 in 2017/18). During 2018/19 there was a 1.2 days' reduction in training received by employees, primarily driven by the US workforce contingency plan for seven labour disputes and the introduction of innovative training design and scheduling processes.

Promotion rate

The table below shows the rate of promotion within the business. Promotion rate is defined as number of employees who were promoted to a higher grade as a percentage of headcount last year.

	Promotion rate %
UK	2.7
US	12.8
NGV	4.8
Total	**10.0**

Keeping our Board and Group Executive Committee updated

Our Board and Group Executive Committee receive regular updates on matters relating to our people. For the Board, this includes four key focus areas for our people and organisation: our culture, diversity, the people we need for the future and driving for efficiency. The Board also receives updates on our employee opinion survey results and action plans. Additionally, this year the Board discussed and considered the culture of the Company. You can read more about the Board's culture on page 53.

The Group Executive Committee also receives a bi-annual update on people-related matters. In addition to these reports, the Committee receives regular talent updates and considers the remuneration structure for senior management. It also monitors safety and operational performance and receives reports on matters of business conduct, as well as risk and compliance matters for review. This includes breaches of the 'Code of Ethical Business Conduct' and bi-annual reports from the Group Ethics and Compliance Committee.

Our commitment to being a responsible business continued

Our communities highlights in 2018/19

£54m
est. added value to communities

41k
STEM interactions with young people

£107m
allocated to address UK fuel poverty since 2017

Alignment to SDGs

3 GOOD HEALTH AND WELL-BEING — Ensure healthy lives and promote well-being for all at all ages

4 QUALITY EDUCATION — Ensure inclusive and quality education for all and promote lifelong learning

7 AFFORDABLE AND CLEAN ENERGY — Ensure access to affordable, reliable, sustainable and modern energy for all

Communities

An important part of what we do at National Grid is to exceed the expectations of our communities as we bring energy to life. We do this by providing a safe and reliable service, and by helping our communities to thrive through our responsible business activities. We realise that, from time-to-time, our work can have a negative impact on communities, so we work closely with them to reduce this impact and to help support their social or economic needs.

Safe and reliable energy

We pride ourselves on providing a safe, reliable energy service at an affordable price to our customers, and to work hard in exceeding their expectations.

The safety of all our employees, contractors and the general public is of prime importance to us. We measure the safety of our employees and contractors and this is reflected in our KPIs, shown on page 18. To ensure we maintain our high standards of safety performance, we have effective policies, procedures and training in place so we can continue to perform at the level we and our stakeholders expect.

Delivering energy every second of every day is critical to the functioning of the economies and communities we serve. The reliability of our energy networks is one of the highest priorities after safety. Our networks continue to provide reliability running at more than 99.9% availability in both the UK and US. You can read more about this on page 16, and find out how we manage our operational risks on pages 20 – 22.

We regularly seek feedback from our customers to find out what they think of us and the services we provide, and take the appropriate action to improve and exceed customer satisfaction. You can read more about our customer satisfaction performance on page 16.

Supporting communities to thrive

We believe all companies should act responsibly by playing an active role in the communities where they operate and where employees live. We work hard to help communities by supporting initiatives that are important to them and that will help deliver long-term benefits to society.

In the UK, improving social mobility is a challenge. The country has talent spread evenly across it, yet opportunities are still not readily available to everyone regardless of their background. As a business, we are keen to help improve social mobility so opportunities are available to all.

We continue to play a part in the Government's Inclusive Economy Partnership, whose membership is drawn from the business sector, Government and civil society. We are supporting two of the Partnership's flagship challenges: mental health and equipping people to transition successfully to the world of work. To date, we have helped to develop the Framework for Voluntary Employer Reporting on Disability, Mental Health and Wellbeing and agreed a two-year partnership with UK Youth, and the Careers & Enterprise Company. Through this partnership, we will engage with companies in the South West of the UK to promote our Employability internship model and the value of youth engagement for companies.

In March 2018, our 18-month employee-chosen charity partnership with the Alzheimer's Society ended in the UK. In February 2019, we announced our intention to further support youth and education social action charity City Year UK through a fundraising partnership. The aim is to raise £150,000 for social mobility initiatives that the charity will launch during 2019.

Many employees get involved with their communities through volunteering and fundraising, supporting the needs of charities and community organisations. We also provide grants to community groups to support projects that meet local community needs by delivering a range of social, economic and environmental benefits.

In May 2018, we launched our first Responsible Business Policy to help govern our responsible business activities. The policy sets out our approach to charitable giving, partnerships with civil society and employee volunteering. For each of these areas, we will measure the tangible benefits being delivered to our communities, customers and employees, and report on progress made in future Annual Reports and Accounts.

Also during 2018, our UK employees supported local schools and colleges through various STEM activities. These activities resulted in more than 2,285 quality interactions with young people across 41 schools.

In the UK, we continue to focus on addressing fuel poverty through our voluntary investment with Affordable Warmth Solutions CIC. During 2018/19 we allocated a further £49.3 million to our Warm Homes Fund bringing the total to £107 million since July 2017 and the installation of 32,000 first-time central heating systems to many vulnerable households across England, Scotland and Wales. In the US, we have energy efficiency programmes in place to help residential, commercial and industrial customers reduce their energy consumption, save money and contribute to a more sustainable planet. We have a long-standing relationship with United Way, where we provide financial support to 40 agencies through employee fundraising and corporate donations, averaging $3 million annually over the past three years.

In addition to financial support, members of our leadership team in the US and employees in different regions serve on local United Way boards, and working committees. These include the UW Loaned Executive, Young Leaders and Women United. Employee teams support volunteer events in partnership with their local agencies, bringing much needed time and energy to the communities we serve.

The overall additional value we bring to communities through our Responsible Business activities is estimated to be £54 million.

Grid for Good

In 2018/19, we launched Grid for Good, an initiative that connects people to the services they need by partnering with local charities, companies and volunteers. The aim is to help encourage, inspire and ultimately give hope to people for a better quality of life. During the year, we completed a pilot phase in Birmingham, UK, and in Syracuse, US. We now aim to use the findings to further develop and launch the programme by mid-2019.

Good business conduct

To provide an understanding of the Company's development, performance and position, we describe our approach to human rights and anti-corruption and anti-bribery matters below.

Human rights

Respect for human rights is incorporated into our employment practices and our values, which are integral to our Code of Ethical Business Conduct – the way in which we conduct ourselves allows us to build trust with the people we work with. We earn this trust by doing things in the right way, building our reputation as an ethical company that our stakeholders want to do business with, and that our employees want to work for. Although we do not have specific policies relating to human rights, slavery or human trafficking, our Global Supplier Code of Conduct (GSCoC) integrates human rights into the way we do business throughout our supply chain alongside other areas of sustainability so that we create value, preserve natural resources and respect the interests of the communities we serve and from which we procure goods and services. Through our GSCoC, we expect our suppliers to comply with all legislation relating to their business, as well as adhering to the principles of the United Nations Global Compact, the International Labour Organisation (ILO) minimum standards, the Ethical Trading Initiative (ETI) Base Code, the UK Modern Slavery Act 2015 and for our UK suppliers, the requirements of the Living Wage Foundation.

Anti-bribery and corruption

We have policies and governance in place that set and monitor our approach to preventing bribery and corruption, including our Code of Ethical Business Conduct (covering bribery and corruption). We have a Company-wide framework of controls designed to prevent and detect bribery.

We investigate all allegations of ethical misconduct thoroughly and, where appropriate, we take corrective action and share learnings. We also record trends and metrics relating to such allegations – only a small percentage of these relate to bribery or corrupt practices, so we do not consider them to be material for reporting purposes.

Governance and oversight

We review and update our framework regularly so we can make sure our procedures remain proportionate to the principal risks we have identified.

Our UK and US Ethics and Compliance Committees (ECC) oversee the Code of Ethical Business Conduct and associated awareness programmes. Any cases alleging bribery are required to be referred immediately to the relevant ECC so the members can satisfy themselves that cases are investigated promptly and, where appropriate, acted upon, including ensuring any lessons learnt are communicated across the business.

The Audit Committee receives an annual report on the procedures currently in place to prevent and detect fraud and bribery. You can read more about the Audit Committee's role on pages 58 – 62. None of our investigations over the last 12 months have identified cases of bribery.

Anti-bribery policy

Our Group Policy Statement – Anti-Fraud and Bribery – applies to all permanent employees, temporary agency staff and contractors. It sets out our zero-tolerance approach to bribery and other corrupt business practices.

To ensure compliance with the UK Bribery Act 2010, we carried out a risk assessment across the Company so we could highlight higher risk areas and make sure adequate procedures were in place to address them. In addition, a global methodology was established for conducting fraud and bribery risk assessments annually across the business. As part of our global training strategy, we introduced an e-learning course for all employees so they can adequately understand the Company's zero-tolerance approach to fraud, bribery or corruption of any kind.

Ethical business conduct

Our Code of Ethical Business Conduct sets out the standards and behaviours we expect from all employees to meet our values of Do the Right Thing and Find a Better Way. The document is issued to all employees and is supported by a global communication and training programme to promote a strong ethical culture. Additionally, we provide briefings for high-risk areas of the business, such as Procurement.

Compliance framework

Each of our business areas is required to consider its specific risks and maintain a compliance framework, setting out the controls it has in place to detect and prevent bribery. As part of our compliance procedure, the business is asked to self-assess the effectiveness of its controls and provide evidence that supports its compliance.

Each year, all function heads are asked to certify the compliance in their area, and to provide details of any exceptions. This culminates in presentation of a Certificate of Assurance from the Chief Executive to the Board (following consideration by the Audit Committee).

Working with our supply chain

We have a GSCoC, which is issued to our suppliers and sets out our requirements to have in place a programme with procedures to prevent and detect bribery and corruption and standards around how we expect our suppliers to operate, which should extend into their own supply chains. All our suppliers must comply with all laws relating to their business which includes human rights, business ethics, resilience, supplier diversity, skills development and environmental sustainability, as well as adhere to the principles of the United Nations Global Compact, in accordance with all applicable local, state, federal or national laws or regulations including the UK Bribery Act 2010 and the US Foreign Corrupt Practices Act 1977. Our Global Procurement team carries out regular supplier screening to identify any requirements for prosecutions or sanctions within our supplier base. We provide specific guidance and briefings for high-risk areas, so contractors, agents and others who are acting on behalf of National Grid do not engage in any illegal or improper conduct.

Whistleblowing

We have confidential external whistleblowing helplines available 24/7 in all the regions where we operate. We publicise the contact information to our employees and on our external website so concerns can be reported anonymously. Our policies make it clear that we will support and protect whistleblowers and any form of retaliation will not be tolerated.

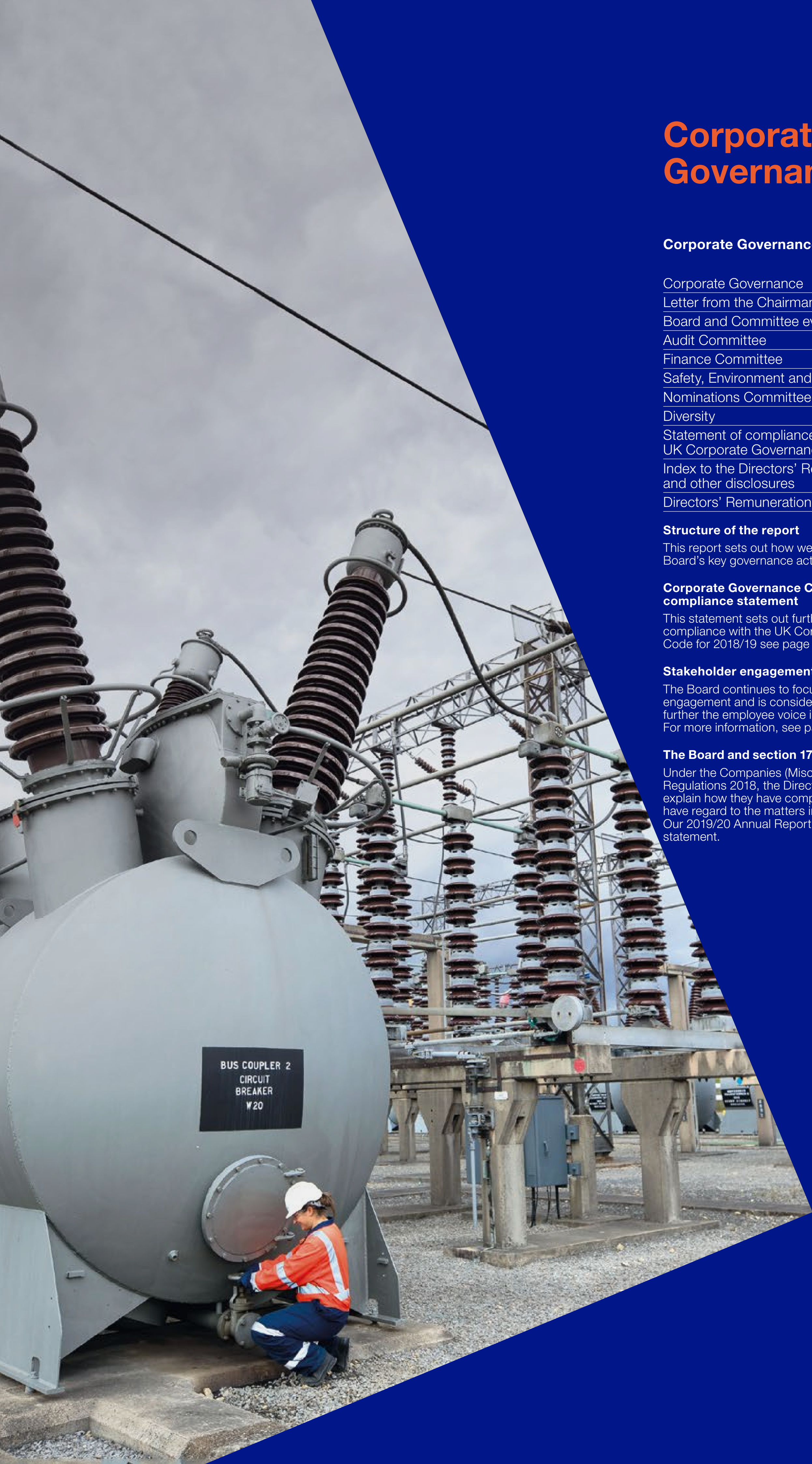
Preventing modern slavery

We strive to make sure that modern slavery is not taking place anywhere in our business or in our supply chain.

We expect all our suppliers to be compliant with the Modern Slavery Act and to publish a Modern Slavery Statement if required. Each year, we update our own Modern Slavery Statement and publish this on our Company website in line with the Act's requirements. Our Statement is independently reviewed by the Business & Human Rights Resource Centre alongside other FTSE 100 companies. In 2019, we were positioned 12th and recognised as one of a 'small cluster of leaders standing out' in this space.

We work closely with our suppliers and peers to build on our knowledge and promote best practice in the industry to combat modern slavery. During 2018, this included engaging with suppliers we had identified as being within potentially high-risk categories. Through this engagement, which included a workshop facilitated by the Supply Chain Sustainability School, we have encouraged our suppliers to conduct similar risk assessments with their own supply chain. We have also joined the Construction Protocol to better understand the approach to mitigating and resolving issues.

We are an active member of the United Nations Global Compact Working Group, focusing on Modern Slavery, and are working with Achilles to develop a community approach to address the issue. We are also revising our procurement process, so that modern slavery criteria and identifying risks form part of our sourcing process.



Corporate Governance

Corporate Governance contents

Structure of the report

This report sets out how we are governed and the Board's key governance activities during the year.

Corporate Governance Code 2016 compliance statement

This statement sets out further information on our compliance with the UK Corporate Governance Code for 2018/19 see page 67.

Stakeholder engagement

The Board continues to focus on stakeholder engagement and is considering how to increase further the employee voice in the boardroom. For more information, see pages 54 – 55.

The Board and section 172 Companies Act 2006

Under the Companies (Miscellaneous Reporting) Regulations 2018, the Directors will be required to explain how they have complied with their duty to have regard to the matters in section 172 (1) (a)-(f). Our 2019/20 Annual Report will include this statement.

Letter from the Chairman

> "It was important that the Company builds on the extensive existing range of engagement activities and continues to consider workforce views in decision-making."

Sir Peter Gershon
Chairman

Introduction and the new UK Corporate Governance Code 2018

This year has seen significant changes to the Corporate Governance landscape, which have remained high on the Board's agenda this year, reiterating the importance with which we treat Corporate Governance.

Following the introduction of the new UK Corporate Governance Code 2018 (the new Code), the Board took the opportunity to review stakeholder engagement (especially workforce engagement), succession planning, diversity and the role of the Remuneration Committee in more depth over the year. From the work we have completed in previous years, I am pleased to say that we are well placed to meet the new requirements. As you will see throughout this report, we are now doing more to ensure that the views of our stakeholders are being captured in the boardroom, and maintaining focus on creating the right culture for the Company. In next year's report, we will report in detail on our compliance against the new Code.

Other external influences on the Board agenda included the ongoing UK regulatory and political uncertainty and the legal separation of the Electricity System Operator, all of which will have a significant impact on the way we work and operate. The Board has also taken time to discuss topics such as our strategy, innovation, cyber security, RIIO-T2 and the Hinkley-Seabank Connection Project.

Stakeholder engagement and the Board's duty

The role and effectiveness of the Board are essential in a successfully run company. During the year, we discussed the Board's duty under section 172 of the Companies Act 2006, with a significant focus on reviewing and mapping out our key stakeholder groups and discussing the Board's current level of engagement and incorporation of its views into decision-making. Our discussions around RIIO-T2, the Massachusetts gas labour dispute and workforce contingency plan, the Hinkley-Seabank Connection Project and our Business Plan are examples of how the Board has had regard to its duty under section 172, including ensuring we had regard for the interests of key stakeholders and the likely consequences of any decisions in the long term. You can read more about who our key stakeholders are and how they have influenced key decision-making on pages 54 – 55.

Workforce engagement

In November 2018, the Board considered the provisions of the new Code and, in particular, reviewed the three FRC recommended methods of workforce engagement. Following a detailed review of the existing mechanisms for engagement by the Board, Executive Committee and senior management, the Board thought it was important that it builds on the extensive existing range of engagement activities that are already in place and continues to consider workforce views in relevant decision-making processes. The Board determined that the workforce was not limited to Company employees, but also included contractors and agency workers, in all locations. Current engagement mechanisms include reviewing and implementing actions from the employee survey results, site visits by myself and Non-executive Directors and separate Non-executive Director sessions with a cross section of the workforce. These mechanisms will be enhanced to include additional engagement sessions with the Non-executive Directors and our approach to leadership dinners will evolve to drive greater, more diverse, workforce representation and broader communications by inviting a representative from each employee resource group to a separate dinner. Focus will be on the Board's interactions with all employees, hearing their views on the outcome of the employee engagement survey and other topical issues, such as gender pay. We will continue to review and adapt our approach during the year.

External Board evaluation

This year, we appointed Dr Sabine Dembkowski of Better Boards Limited to undertake an independent, formal and rigorous evaluation of our Board and committees. During the evaluation process, Sabine provided the Board with insights about the different aspects of effective boards and how they can work together more effectively as a team. Each Board member received an individual evaluation and the Board had a combined action plan. The process and outcome can be found on page 56.

Culture

As Chairman, promoting a culture of openness and debate in the boardroom is one of my key responsibilities, and as a Board we play an important leadership role in promoting the desired culture throughout the organisation and ensuring that we establish good governance to underpin a healthy culture. You will see from our culture journey (on page 53) that the Company has spent a considerable amount of time over the last few years focusing on getting this right for the Company. In the year, the focus has been on the changes from the new Code and stakeholder engagement.

Board developments and diversity

There were a number of people changes on the Board during this year. All appointments were subject to a formal and transparent procedure. We welcomed two new Directors, as mentioned in the Nominations Committee Report on page 65. Andy Agg was appointed Interim CFO in July 2018 and was formally appointed to the Board as Chief Financial Officer with effect from 1 January 2019. Earl Shipp joined the Board as Non-executive Director and joined the Safety, Environment and Health Committee, Remuneration Committee and the Nominations Committee. On 16 May 2019, we will welcome Jonathan Silver to the Board as a Non-executive Director. The Nominations Committee oversaw the rigorous selection process for these new appointments, ensuring that relevant skills and diversity of thought were considered carefully as part of the appointment process. You can read more about this on page 65. We also said goodbye to Andrew Bonfield and Pierre Dufour in July 2018 and Nora Mead Brownell in April 2019.

We remain focused on maintaining an inclusive and diverse culture on the Board. We believe this improves effectiveness, encourages constructive debate, delivers superior performance and enhances the success of the Company. I was pleased to see National Grid was mentioned in the latest Hampton-Alexander Review and ranked 15th out of the FTSE 100 for women on boards and in leadership. Most recently, we were also placed in The Times Top 50 Employees for Women.

Following the changes to the Board during the year, we continued to meet our diversity target of having 33% of women on the Board, until April 2019 when Nora Mead Brownell left the Board and it fell to 27.3%. We currently exceed the Parker Review target for ethnic diversity on FTSE 100 Boards. You can read more on how we strive towards our objectives in our Board Diversity Policy on page 66.

Business in the Community (BITC) has recognised the Company for the work we do to support workplace equality and inclusion, a fact of which I am personally very proud. We were also named in the Top 70 Employers for Race, and we were also a finalist in BITC's Race Equality Awards. This acknowledged that we are taking a proactive approach to address racial inequalities in the Company. Our policies are also considered to be having a positive impact on our Black, Asian and Minority Ethnic (BAME) employees, and we will continue to progress our diversity aims through the year.

Sir Peter Gershon
Chairman

Our Board

Committee membership key

- A Audit Committee
- F Finance Committee
- N Nominations Committee
- R Remuneration Committee
- S Safety, Environment and Health Committee
- E Executive Committee
- Chair of the Committee

Tenure as at 31 March 2019

Committee membership as at 15 May 2019

Other Board members during the year were:

- Andrew Bonfield – stepped down from position of CFO on 30 July 2018;
- Pierre Dufour – stepped down on 30 July 2018; and
- Nora Mead Brownell – stepped down on 8 April 2019.

N

Sir Peter Gershon CBE FREng (72)
Chairman

Appointed: 1 August 2011 as Deputy Chairman and Chairman with effect from 1 January 2012

Tenure: 7 years

Skills and competencies: Sir Peter is an experienced leader, having held senior board-level positions spanning both public and private sectors in the computer, defence and telecommunications industries. He has served as Chief Executive and as a Managing Director in several high-profile organisations. Through his broad business experience and previous roles, Sir Peter brings external insight, understanding of diverse issues and the strong corporate governance expertise required to create and lead an effective Board.

External appointments:

- Non-executive Chairman of the Aircraft Carrier Alliance Management Board and Dreadnought Alliance;
- Trustee of The Sutton Trust;
- Trustee of the Education Endowment Foundation;
- Chairman of Join Dementia Research (JDR) Partnership Board;
- Board member of The Investor Forum.

E F

John Pettigrew FEI FIET (50)
Chief Executive

Appointed: 1 April 2014 and Chief Executive with effect from 1 April 2016

Tenure: 5 years

Skills and competencies: John joined the Group as a graduate in 1991 and has progressed through many senior management roles. Together with his extensive operational experience of the Group, John brings significant know-how and commerciality to his leadership of the executive team and management of the Group's business.

John continues to lead the implementation and development of the Group's strategy, meeting new opportunities for the continued future growth of our core businesses. He maintains a productive dialogue with institutional investors on Group strategy and performance.

External appointments:

- Member of the Government's Inclusive Economy Partnership;
- Member of the CBI's President's Committee;
- Non-executive Director and Senior Independent Director of Rentokil Initial plc.

E F

Andy Agg (49)
Chief Financial Officer (CFO)

Appointed: Interim Chief Financial Officer from 30 July 2018. Appointed as CFO on 1 January 2019

Tenure: Less than 1 year

Skills and competencies: Andy trained and qualified as a chartered accountant with PricewaterhouseCoopers and is a member of the ICAEW. He has significant financial experience, having previously held a number of senior finance leadership roles across the Group, including Group Financial Controller, UK CFO and, most recently, Group Tax and Treasury Director. Andy's in-depth knowledge of National Grid, both in the UK and US, and his broad experience in operational and corporate finance roles have ensured a smooth transition to his role as CFO.

External appointments: None.

E

Nicola Shaw CBE (49)
Executive Director, UK

Appointed: 1 July 2016

Tenure: 2 years

Skills and competencies: Nicola's career, in the UK and overseas, has included senior positions in several regulatory, commercial and operational roles. She has a strong leadership track record, including Chief Executive Officer of HS1 and Managing Director of the UK Business Division at FirstGroup plc.

Her broad range of experience working with the UK Government, the European Commission and Parliament, and industry regulators, as well as leading large regulated businesses, enables Nicola to lead our UK business with the requisite experience, knowledge and leadership expertise.

External appointments:

- Non-executive Director of International Consolidated Airlines Group, S.A.;
- Director of Major Projects Association;
- Director of Energy Networks Association Limited;
- Director of Energy UK.

E

Dean Seavers (58)
Executive Director, US

Appointed: 1 April 2015

Tenure: 4 years

Skills and competencies: Dean brings to the Board a broad range of financial and customer experience, along with significant general management experience with a particular focus on change and performance improvement programmes. He has a proven track record of building successful teams and improving operations. Dean's keen finance and business development skills continue to differentiate the Company as a leading US energy distributor and innovator.

External appointments:

- Advisor to the Board at City Light Capital;
- Non-executive Director of Albemarle Corporation.

E

Alison Kay (55)
Group General Counsel and Company Secretary

Appointed: 24 January 2013

Skills and competencies: Alison has responsibility for the legal, compliance and governance framework of the Group. She is an experienced commercial lawyer and brings a wealth of practical advice and guidance to her current role as Group General Counsel and Company Secretary.

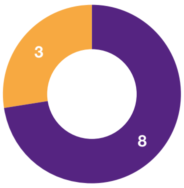
Alison provides support and advice to the Directors, the Board and its Committees. She brings rigour to corporate governance and ensures that Board procedures are fit for purpose and adhered to. She also has expertise in regulatory and contractual law and legal risk management from her previous experience at National Grid.

External appointments:

- Member and Vice-Chair of the Association of General Counsel and Company Secretaries working in FTSE 100 Companies;
- Member of the Marie Curie West Midlands Development Board.

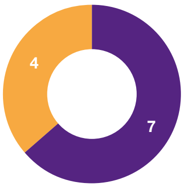
Our Board diversity

Board gender



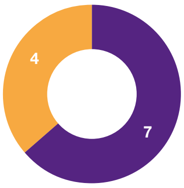
◆ Men
◆ Women

Executive and Non-executive Directors



◆ Executive
◆ Non-executive (inc. Chairman)

Board members by nationality



◆ British
◆ American

Charts as at 15 May 2019

Tenure as at 31 March 2019

◆ < 3 years
◆ 3-6 years
◆ > 6 years

R F N

Jonathan Dawson (67)
Non-executive Director; Independent

Appointed: 4 March 2013

Tenure: 6 years

Skills and competencies: Jonathan, through his broad range of expertise within the finance and pensions sector, brings significant in-depth understanding in remuneration and financial matters to his role as Chair of the Remuneration Committee. As a Non-executive Director, Jonathan brings scrutiny, additional challenge and independent oversight to the Board.

External appointments:

- Chairman of River and Mercantile Group PLC;
- Chairman and a founding partner of Penfida Ltd.

F A N

Therese Esperdy (58)
Non-executive Director; Independent

Appointed: 18 March 2014. Appointed to the Board of National Grid USA from 1 May 2015

Tenure: 5 years

Skills and competencies: Therese has significant international investment banking experience, having held a variety of leadership roles spanning 26 years. Her career began at Lehman Brothers and in 1997 she joined Chase Securities and subsequently JPMorgan Chase & Co., where she held a number of senior positions. With a distinguished career in the investment banking sector, Therese brings significant banking, strategic and international financial management expertise and knowledge of financial markets to the Board and to her role as Chair of the Finance Committee. Her sharp and incisive thinking enables her to contribute and constructively challenge on a wide range of Board debates.

External appointments:

- Non-executive Director and Senior Independent Director of Imperial Brands PLC;
- Non-executive Director of Moody's Corporation.

S A N

Dr Paul Golby CBE FREng, FIET, FIMechE, FEI, FCGI (68)
Non-executive Director; Independent

Appointed: 1 February 2012

Tenure: 7 years

Skills and competencies: Paul is a Chartered Engineer and has a lifelong passion for engineering and innovation, having spent his career in the energy and regulatory sectors. He brings a valuable engineering and industry perspective as well as the attributes of an experienced Chairman and Chief Executive to his role as a Non-executive Director. Paul's deep understanding and specific experience in safety and risk management is crucial to his role as Chair of the Safety, Environment and Health Committee.

External appointments:

- Chairman of Costain Group PLC;
- Chairman of the UK National Air Traffic Services;
- Member of the Prime Minister's Council for Science and Technology.

A N S

Amanda Mesler (55)
Non-executive Director; Independent

Appointed: 17 May 2018

Tenure: 1 year

Skills and competencies: Amanda brings to the Group extensive international leadership and general management experience from the technology and fintech sectors. She has over 25 years of experience at senior management and board level at large international companies. She led a $1 billion global practice at Electronic Data Services and has experience sitting on audit, risk and remuneration committees. Amanda provides a new entrepreneurial perspective to the Board.

External appointment:

- Chief Executive Officer of Earthport plc.

N R S

Earl Shipp (61)
Non-executive Director; Independent

Appointed: 1 January 2019

Tenure: Less than 1 year

Skills and competencies: With an extensive career in the chemicals industry and having held a senior leadership role in a safety-critical process environment and culture, Earl brings significant safety performance, project management, environmental, sustainability and strategic expertise to the Board and Committees. This enables Earl to contribute on a wide range of issues to Board and Committee debates.

External appointments:

- Non-executive Director of Olin Corporation;
- Non-executive Director of CHI St. Luke's Health System of Texas;
- Commissioner of Brazoria-Fort Bend Rail District (Texas).

A N R

Mark Williamson (61)
Non-executive Director and Senior Independent Director

Appointed: 3 September 2012

Tenure: 6 years

Skills and competencies: As a qualified chartered accountant, Mark brings considerable financial and general managerial experience to the Company. His previous roles as Chief Financial Officer of International Power plc and Non-executive Director and Senior Independent Director of Alent plc cement his extensive financial experience and provide a deep understanding of the utilities sector. This allows him to bring a financial and strategic outlook on diverse subjects in support of the Board and its Committees. In his role as Senior Independent Director, Mark brings an excellent understanding of investor expectations as well as having significant experience in managing relationships with investor and financial communities.

External appointments:

- Chairman of Imperial Brands PLC; on 11 February 2019, Imperial Brands PLC announced that Mark would step down as Chairman once a suitable successor had been found;
- Chairman of Spectris plc.

Corporate Governance overview

Your Board remains committed to the highest standards of Corporate Governance and in 2018/19 continued to embed best practice in line with the evolving UK governance landscape.

Board

Our Board is responsible collectively for the effective oversight of the Company and its businesses. It determines the Company's strategic direction and objectives, business plan, viability and governance structure to help achieve long-term success and deliver sustainable shareholder value. The Board also plays a major role in setting and leading the Company's culture and wider sustainability goals. It considers key stakeholders in its decision-making and, in doing so, ensures that Directors comply with their duty under section 172 of the Companies Act 2006.

To operate efficiently and give the right level of attention and consideration to relevant matters, the Board delegates authority to its Board Committees. Each Committee Chair reports to the Board on their Committee's activities after each meeting.

Key matters considered by the Board include:

- Company's strategy, long-term strategic objectives and business plan;
- Risk appetite and determining principal risks;
- Overall corporate governance arrangements, systems of internal control and risk management;
- Annual business plan and budget;
- Significant changes in capital structure;
- Succession planning for Board and senior management;
- Half-year and full-year results statements, Annual Report and Accounts and other statutory announcements;
- Determination of the framework or policy for the remuneration of the Chairman, Chief Executive, Executive Directors, Group General Counsel and Company Secretary, and direct reports to the Chief Executive, following recommendation from the Remuneration Committee.

Board Committees

Audit Committee:
- Financial reporting;
- Internal controls;
- Processes for risk management;
- Internal audit;
- External auditor.

Nominations Committee:
- Board and Committee composition;
- Succession planning;
- Board appointments.

Remuneration Committee:
- Policy;
- Implementation of policy;
- Incentive design and setting of targets.

Finance Committee:
- Financing policies and decisions;
- Credit exposure;
- Hedging;
- Foreign exchange transactions;
- Guarantees and indemnities.

Safety, Environment and Health Committee:
- SEH strategy and policies;
- Performance targets;
- Sustainability.

Executive Committee

Led by the Chief Executive, the Committee oversees the safety, operational and financial performance of the Company. It is responsible for making the day-to-day management and operational decisions it considers necessary to safeguard the interests of the Company and to further the strategy, business objectives and targets established by the Board. The Committee members have a broad range of skills and expertise that are updated through training and development. Some members also hold external non-executive directorships, giving them valuable board experience. Those members of the Committee who are not Directors regularly attend Board and Committee meetings for specific agenda items.

Other management committees

Disclosure Committee; Investment Committee; Share Schemes Sub-Committee.

Our Executive Committee

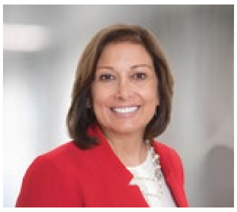
Four Executive Directors are members of the Executive Committee, as well as being on the Group Board. Our Group General Counsel and Company Secretary is also a member of the Executive Committee. See their biographies on page 48.

John Pettigrew – Chief Executive and Committee Chair
Andy Agg – Chief Financial Officer
Dean Seavers – Executive Director, US
Nicola Shaw – Executive Director, UK
Alison Kay – Group General Counsel and Company Secretary

Andy Doyle
Chief Human Resources Officer (from 1 April 2019)

Badar Khan
Group Director, Corporate Development and National Grid Ventures

Barney Wyld
Group Corporate Affairs Director



Adriana Karaboutis
Group Chief Information and Digital Officer

Governance structure

The schedule of matters reserved for the Board and terms of reference for each Board Committee are available at: www.nationalgrid.com

Reports from each of the Board Committees, together with details of their activities, are set out on pages 58 – 90.

Full biographies for the Executive Committee are available at: www.nationalgrid.com

Matters considered by the Board

Board and Committee membership and attendance

The table below sets out the Board and Committee attendance during the year to 31 March 2019. Attendance is shown as the number of meetings attended out of the total number of meetings possible for the individual Director during the year.

Director	Board	Audit	Finance	Nominations	Remuneration	Safety, Environment and Health
Sir Peter Gershon	◆ 8 of 8	–	–	◆ 7 of 7	–	–
John Pettigrew	8 of 8	–	4 of 4	–	–	–
Andy Agg – Appointed as CFO 1 January 2019[1]	2 of 2	–	1 of 1	–	–	–
Dean Seavers[2]	6 of 8	–	–	–	–	–
Nicola Shaw	8 of 8	–	–	–	–	–
Nora Mead Brownell – Stepped down on 8 April 2019	8 of 8	–	–	6 of 7	10 of 10	4 of 4
Jonathan Dawson	8 of 8	–	4 of 4	7 of 7	◆ 10 of 10	–
Therese Esperdy	8 of 8	4 of 4	◆ 4 of 4	7 of 7	–	–
Paul Golby	8 of 8	4 of 4	–	7 of 7	–	◆ 4 of 4
Amanda Mesler – Appointed on 17 May 2018	6 of 6	3 of 3	3 of 3	5 of 5	–	–
Earl Shipp – Appointed on 1 January 2019	2 of 2	–	–	2 of 2	2 of 2	1 of 1
Mark Williamson[3]	8 of 8	◆ 4 of 4	–	7 of 7	9 of 10	–
Former Directors who served for part of the year						
Andrew Bonfield – Stepped down from position of CFO on 30 July 2018	2 of 2	–	1 of 1	–	–	–
Pierre Dufour – Stepped down on 30 July 2018	2 of 2	–	–	2 of 3	3 of 4	1 of 1

1. Andy Agg became Interim CFO from 30 July 2018 and joined the Board from 1 January 2019.
2. Dean Seavers missed the November and December Board meetings due to personal circumstances.
3. A Remuneration Committee meeting was held at short notice and due to other commitments, Mark Williamson was unable to attend.

◆ Board/Committee chair

Examples of Board focus during the year include:

Key areas of activity	Matters considered	Outcome	Views of key stakeholder groups considered
Strategy	In addition to the time allocated during Board meetings to discuss business performance and key strategic objectives for the year, the Board participated in two strategy sessions. In the year, the Board focused on: • developing a Business Plan that meets the Group's requirements underpinned by a robust financial strategy; • growth strategies for NGV, including interconnectors and electrification of vehicles; • UK and US gas growth potential, in line with economy-wide decarbonisation goals and the UK's and Northeast US's attention on energy to provide heating; • the sale of our remaining 39% share in Quadgas; • building capabilities and experience in distributed energy resources in the US for our regulated and unregulated businesses; • a deep dive of our digital strategy, including cyber security; • innovation – see separate section below; and • UK and US commercial property portfolio.	• Board approval of the Company's Business Plan and strategy; • Input on the direction of travel for our digital strategy; • In April 2019, the Board endorsed the strategic priority areas for management focus for 2019/20; • Approval of the investment in the Viking Link interconnector; • Received updates on cyber security and the latest cyber scorecard. Noted that a number of cyber initiatives were underway; • Continued focus on mapping cyber security activities into the risk appetite framework, and the Board agreed it was acting in accordance with its risk appetite in this area; and • The Board reviewed the performance of the commercial property portfolio and discussed the success of the St William joint venture.	All: Investors Suppliers Customers Regulators Communities and governments Our people
Corporate Governance Code 2018	Following the introduction of the new Corporate Governance Code in July 2018 for accounting periods starting on or after 1 January 2019, the Board, with assistance from the Group General Counsel and Company Secretary, took the opportunity to review: stakeholder engagement; workforce engagement; succession planning; and diversity. The purpose was to identify where the existing strong engagement between leadership and employees across the business needed to be developed further to support effective Board decision-making.	• Noted the present measures in place to facilitate the communication with stakeholders and gave support to the wide engagement programme currently being undertaken; • Agreed on a number of further actions that should be implemented; • Annual consideration of whether all Directors had time to discharge duties effectively, which is established during the appointment process and is subject to ongoing monitoring; and • For more information on employee engagement, see pages 42, 43 and 53.	All: Investors Suppliers Customers Regulators Communities and governments Our people

Further reading
For more info about our key stakeholders, see pages 4 – 7 of the Strategic Report

Corporate Governance overview continued

Matters considered by the Board continued

Key areas of activity	Matters considered	Outcome	Views of key stakeholder groups considered
Business plan	Discussed the ongoing financial strategy and business plan for the year. Regular updates were received on key external challenges, and particular consideration was given to these and the current political environment.	• Approval of the initial five-year plan and the viability and going concern statements; • Confirmation that the Group had a financially sustainable business model for the foreseeable future, defined for this purpose only as the five years to March 2023.	Investors Customers Communities and governments Our people
Electricity system operator (ESO) separation	Considered at length the corporate governance arrangements required to prevent conflicts of interest with the legal separation of the ESO and to restrict engagement with other parts of National Grid. Discussed how management and staff across the Company would need to be clear which part of the business they represented externally.	• Updates provided regularly through the Chief Executive's Report and from the Executive Director, UK; • Approval of a new Group-level Board, with separate terms of reference and delegated authority; • A significant amount of work has taken place internally to ensure that all employees are clear on the separation boundaries, including online training.	Customers Our people Regulators
Political and regulatory environment	Significant focus on the changing political and regulatory environment, including Brexit. The Board continually reviewed possible outcomes of the Brexit deal and the impacts on the Company. Received regular updates on risks and opportunities posed by Brexit, including the potential for state ownership, and continued engagement activities with our stakeholders on the issue.	• Board input on, support for and monitoring of the UK and US regulatory strategy; • Political sub-group of the Executive Committee was established to take a more hands-on approach to the evolving political/regulatory landscape and its implications for the Company.	All: Investors Suppliers Customers Regulators Communities and governments Our people
RIIO-T2 price control	Ahead of our next UK regulatory price control, the Board considered the key elements of Ofgem's RIIO-T2 price control framework review consultation, published in March 2018, and the sector-specific consultation published in December 2018. The Board scrutinised and challenged the Company's UK regulatory strategy, providing feedback, guidance and support for its ongoing development.	• The Board reiterated the belief that RIIO-T2 must deliver a total financial package that can fund necessary investments as well as fairly remunerate shareholders for this investment; • Expectation that there would be an increasingly challenging UK regulatory environment resulted in the appropriate assumptions being made in the business plan.	Investors Customers Regulators
Massachusetts gas labour dispute and workforce contingency plan	The Board considered at length the employee terms and conditions for two gas unions in Massachusetts this year. As no agreement was reached before the existing contracts expired, the Board noted the decision by US management to implement contingency workforce plans from the end of June 2018. The Board was kept appraised of the contingency workforce plans, received updates throughout from the Chief Executive and Executive Director, US and was provided with an update on the lessons learned once an agreement was reached.	• Our objective was to reach a fair settlement that allowed the business to deliver vital services at a reasonable cost to customers, minimise any future cost increases and protect the agreements already in place with the other unions; • The implementation of the workforce contingency plan ensured that critical work continued safely and that any disruption to our current customers was kept to a minimum; unfortunately, those people who wanted, but could not get new connections, experienced disruption; • In January 2019, an agreement was reached with the two Massachusetts gas unions over employment terms and conditions and the reintegration of those employees back to work.	Our people Communities and governments
Technology and innovation	To support our response to the threats and opportunities presented by emerging technology, this year the Board reviewed the organisation and governance of our Group Technology and Innovation function and provided input on the strategy, including how we: • learn from and leverage innovation that is occurring externally; • enhance the effectiveness of internally generated innovation; and • measure the success of our efforts in this area.	• The Board reviewed and endorsed the organisation and governance of the Group Technology and Innovation function; • The Board reviewed and provided input on the Company's technology and innovation strategy; • Focus was on enabling an innovative culture with rapid decision-making and the acceleration of internally sourced ideas.	Our people

Looking forward, the Board's focus for next year is expected to include:

- continued regular reviews of safety activities;
- UK, US and NGV operational business overviews;
- continued detailed review of our strategy for growth and its financing;
- the implications of regulatory and political changes in our business environment on our activities, including the outcome and implications of Brexit and state ownership;
- our UK and US regulatory strategy and preparation for the RIIO-T2 price control submission;
- update on the Hinkley-Seabank Connection Project;
- technology and innovation;
- cyber security updates;
- climate change and total societal impact;
- risk; and
- our stakeholder engagement model.

Our culture

Our culture journey

The Board is responsible for the culture of the Company. Its role is to influence and monitor culture to ensure we are emulating desired beliefs and behaviours in and outside the boardroom and identifying areas where culture is embedded strongly and where there are gaps. Since 2016, the Board has been on a journey to help influence the right culture throughout the Company, as set out below.

2016/17 – Internal Board and Committee evaluation

Assessed how the Board could set the 'tone from the top' and gauged how effectively this was cascaded throughout the Company.

Results of the Board evaluation for 2016/17 included:

- the need to create a common definition of culture;
- confirmation that the Board's role was to influence and monitor culture to ensure desired beliefs and behaviours were reinforced formally in the boardroom, and to identify where the culture was strongly embedded or where there were gaps;
- the Executive Committee similarly committed to driving the desired beliefs and behaviours in its role in leading the organisation directly; and
- creating a scorecard to aid the Board's role in influencing and monitoring culture, alongside its engagement with the business.

September 2017 – Board meeting

Re-established a clear purpose, vision and values, and a common definition of culture was agreed as:

"our values, beliefs and behaviours that characterise our Company and guide our practices"

Agreed areas for increased Board focus were:

- shaping the right culture in the recruitment and appointment of Non-executive Directors, Executives and senior leadership. The Board would be mindful of this key responsibility as a driver of culture and would evaluate candidates on cultural alignment and their ability to drive the Company's vision, beliefs and behaviours; and
- visible leadership. The Board increasingly uses its existing engagement opportunities to get a good sense of the culture in action across the business and encourages conversation more broadly about all aspects of our culture. These insights would be brought back into the boardroom to inform decision-making.

January 2018

Discussion focused on evaluating and monitoring culture, including additional recommendations on recruiting for cultural alignment and approaches to engaging most effectively with employees.

Decisions/actions:

- consistent evaluation criteria aligned directly to the values and leadership qualities would be used when screening, evaluating and selecting Non-executive Directors and Executive Committee members. Recommendations to the Board and Nominations Committee would also include a justification of cultural fit alongside technical qualifications; and
- employee engagement sessions would be integrated into Board agendas.

March 2018

Approval of a culture scorecard to be used to help the Board in monitoring culture at Group level. The scorecard was largely based on data from the annual employee engagement survey.

The following principles for the scorecard were adopted:

- focus given to our values and how they were embedded in beliefs and behaviours (for example, leadership qualities);
- 360-degree view including our processes/operations, employees and vendors/customers;
- leveraging existing data, KPIs and expectations; and
- embracing external thinking and best practices.

The results of the scorecard will be reviewed by the Board at least annually.

April 2018

Evaluation of annual employee survey results.

Areas of improvement were identified, and, in addition to the regular employee communication, other areas that we augmented further into Board behaviours included additional on-site local engagement sessions in the UK and US (see case study).

November and December 2018, March and April 2019

Discussions around the impacts of the new UK Corporate Governance Code 2018.

Focus throughout the end of the year was largely on the implications of the new UK Corporate Governance Code 2018, mapping our key stakeholders and discussions around workforce engagement which included:

- an implementation plan for workforce engagement was presented and noted by the Board; and
- the Board considered the revised culture scorecard and overall status against each of the Company's values that now includes measures and trend data from teams including: safety, ethics, compliance, supply chain and customers. In all areas it was noted that activity and initiatives were taking place within functions and business units to move the culture forward in line with delivering on our purpose, vision and values and plans in place to ensure our leaders have the capability to embed and deliver the change required.

Case study – UK and US employee engagement sessions

During the year, the Non-executive Directors held three employee engagement sessions, in New York (April 2018), Boston (September 2018) and Warwick (January 2019). The employee engagement sessions provided an opportunity for employees and Non-executive Directors to discuss topical subjects, including how successful employees felt the Company had been in embedding its values, beliefs and behaviours throughout the organisation. The two-way conversations were strongly encouraged and provided a great opportunity for the Directors and employees to engage more widely in a more informal environment.

April 2018, New York, US. Topics: New England storm response and the accelerated development programme.

The Board praised the efforts and successes in the storm response programme and conversation centred on the progress of our customer focus strategy. Discussions around the accelerated development programme focused on the range of projects centred on the initiative and the use of valuable feedback to deliver against project and leadership expectations.

September 2018, Boston, US. Topics: Transforming our corporate culture.

Employees took the opportunity to discuss our corporate culture and desired capabilities set against the backdrop of two transformational projects designed to meet the rapidly evolving needs of our customers and communities. The discussions centred on 'finding a better way' and 'doing the right thing' to develop a safe, reliable and affordable transmission network, while enabling the decarbonised energy future.

January 2019, Warwick, UK. Topics: Legal separation of the Electricity System Operator and recruitment schemes.

Employees discussed elements of their role and their thoughts on National Grid as an employer. They also took the opportunity to raise any concerns they had, including where they felt the key challenges within the organisation were, and suggested how empowerment and innovation could be used to unlock some of these challenges. The recruitment schemes discussion emphasised the significance of culture in the recruitment process, and the need for the Company to review continually where and how we advertise to get the best talent and broadest diversity.

Corporate Governance overview continued

How we create value for our stakeholders

The long-term success of our business is critically dependent on the way we work with a large number of important stakeholders. We aim to create value for our stakeholders every day – and to continue doing so as the energy landscape changes. The table below sets out our focus on the key relationships and shows how the relevant stakeholder engagement is reported up to the Board or Board Committees to help inform our strategy delivery. Not all information is reported directly to the Board. However, the information will inform business-level decisions, with an overview of developments being reported on a regular basis to the Board or a Committee. In some cases, this will be through an annual or more frequent round-up for the business area interfacing with the relevant stakeholder (this is generally the case for customers and suppliers). In other instances, one or more members of the Board may be involved directly in the engagement (such as shareholder or other investor networking). In each case, it is important for all members of the Board to gain sufficient understanding of the issues relating to every stakeholder so their views are taken into account in Board discussions.

In December 2018 and March 2019, the Board received an update on the stakeholder voice in the boardroom and noted an implementation plan to further the current programme of engagement.

In 2019, a robust framework will be established to ensure that stakeholder considerations are suitably captured and enhancements made to strengthen the views of our stakeholders in the boardroom. Several actions will also be considered by the Board to ensure that the impact on stakeholders is reflected adequately in boardroom considerations and decision-making processes.

The Board also discussed how stakeholder groups viewed the Company and its Board and management and whether their perception matched the Company's view. In 2017, we carried out an initial survey to gain some insight, and these surveys will now be undertaken regularly.

Stakeholder group	Form of engagement	How this stakeholder group influenced the Committee/Board agenda and decision-making
Communities and governments We help national and regional governments formulate and deliver their energy policies and commitments. The taxes we pay help fund essential public services. We have a role to play in sustainability, enabling the transition to a low-carbon future.	Engagement with local communities in the form of consultations during construction phases of projects and work with environmental education centres. Liaison with land owners and wider communities where the Company has assets and dedicated teams to manage relationships. Regular discussions and satisfaction surveys to journalists and government. Policy and public affairs and US government relations in-house teams to develop, grow and leverage the Company's relationships with key politicians, officials, wider stakeholders and influencers pertaining to legislation and government policy.	The Board agenda has been strongly focused on governmental issues this year. In the UK, discussions have influenced key business issues such as the RIIO-T2 price control, the implications of Brexit including scenario planning, and the potential for state ownership. In the US, the impact on communities following the gas safety incident was considered in depth by the Safety, Environment and Health Committee and by the Board. Governments and communities are strongly focused on a cleaner energy agenda. In the US, at the state level, we have strong alignment with policymakers and regulators who, like us, are committed to a cleaner energy agenda. In the UK, we continue to work to maintain access for customers to European energy that is affordable and renewable. The Executive Committee approved the creation of National Grid Partners during the year, allowing us to increase our capability in the new and disruptive energy technologies to meet the changing energy needs of our customers and communities.
Our customers The users of our products and services. In the UK, our key customers are electricity and gas distributors and generators. In the US, we have more than seven million retail bill payers. By delivering the energy they need and dealing with them in a transparent and responsive manner, our customers trust us to deliver services of value to them.	**UK customer programme** – the UK Customer Experience Board is chaired by the Executive Director, UK, and attended by the entity and functional directors. Each member attends regular customer meetings to listen to what matters most to our customers and build strategic relationships. Customers are invited to attend the Customer Experience Board and group immersion events are held where Executive Directors hear from customers about their concerns in the industry. An annual survey to senior customer contacts provides useful feedback on the level of satisfaction and customer advocacy. Proxy co-creation stakeholder user group – created to represent a wide range of stakeholders including large and small customers and consumers. The group has challenged the Company's approach to engagement and are currently analysing the Company's Business Plan. **US customer team** – collects and communicates 'voice of customer' throughout the business. Each jurisdiction facilitates a range of listening surveys for brand perception and customer satisfaction during transactions. A new online panel has been created of over 6,000 residential customers to contribute ideas and feedback continuously.	In the year, the Executive Committee and Board received updates on both the UK and US customer strategies. Biannual reports are also submitted to the Board from UK, US and NGV. **UK** – feedback received influences decision-making at customer and entity team level. It was used to help shape the Company's five customer principles (care, agility, trust, transparency and value), and the UK customer ambition. **US** – the Executive Committee and Board received updates on, and approved the recent US rate case filings.
Our investors – individual shareholders Represent more than 95% of the total number of shareholders on our share register.	Shareholder networking programme – includes visits to UK operational sites, presentations by senior managers and employees over two days and an opportunity to engage with Board members. Annual General Meeting (AGM) – shareholders are provided with the opportunity to ask questions and to engage with the Board and areas of the business through the business showcase.	During the shareholder networking programme and AGM, the Board members will listen and respond to views and will feed back to the businesses as necessary.

Stakeholder group	Form of engagement	How this stakeholder group influenced the Committee/Board agenda and decision-making
Our investors – institutional **Equity investors:** we earn financial returns as per our regulatory contracts in the UK and US. These contracts incentivise us to invest in long-term sustainable infrastructure in an efficient and cost-conscious way. **Debt investors:** our debt investors provide capital in the form of loans and bonds, allowing us to optimise how we finance our investments.	We carry out a comprehensive engagement programme for institutional investors and research analysts, providing the opportunity for our current and potential investors to meet with Executives and operational management. This includes: meetings; presentations and webinars; attendance at investor conferences across the world; holding roadshows in major cities in the UK, Europe, Australia, Asia and North America; and hosting site visits and stewardship meetings. Our engagement programme focuses on updating investors on our regulatory progress in our UK and US businesses, as well as the growth opportunities available to the Group through investment in UK and US regulated assets and interconnector and renewable generation investments through our NGV business. In September 2018, we hosted a teach-in event on our UK business focused on the business' preparation for RIIO-T2. Over the year, we held 438 investor meetings across 12 countries and 43 cities: met with over 340 institutions, representing 58% of our share register; and hosted five site visits; offering investors the opportunity to meet divisional management and view our assets. Meetings between senior group treasury representatives and debt investors in the UK, Continental Europe and the US to discuss various topics, such as our full-year results and upcoming US rate case filings. We also met with debt investors at various conferences over the course of the year.	The Board receives regular feedback on investor perceptions and opinions about the Company. Specialist advisors and the Director of Investor Relations provide updates on market sentiment. Additionally, each year, the Board receives the results of an independent audit of investor perceptions. Interviews are carried out with investors to establish their views on the performance of the business and management. The findings and recommendations of the audit are then reviewed by the Board. The Chair of the Remuneration Committee, Jonathan Dawson, the Chair of the Nominations Committee, Sir Peter Gershon, and the Senior Independent Director, Mark Williamson, engaged with a number of our investors during the year. Meetings were around the Company's new remuneration policy, which will be put to shareholders for approval at the 2019 Annual General Meeting (see pages 74 – 78) and succession planning for Board members approaching their nine year tenure before the finalisation of the RIIO-T2 price control.
Our people We create an environment in which our people can make a positive contribution, develop their careers and reach their potential. At 31 March 2019, we had more than 22,000 employees.	Engagement with our people takes many forms, including engagement and pulse surveys, union and town hall meetings and other Board engagement. The outcome of these mechanisms is reported to the Board and affects decision-making.	The annual employee survey provides the Executive Committee and Board with an insight into how our employees are feeling. You can read more about the Board and Committee's engagement with our people on pages 42-43 and 53. In the US, the Committees and Board were kept informed of the Massachusetts Gas workforce contingency plan.
Our regulators In the UK, Ofgem regulates our electricity and gas transmission businesses. In the US, state utility commissions regulate our retail activities. The Federal Energy Regulatory Commission regulates our wholesale activities (including energy generation and interstate transmission).	**UK** – regular interactions with Ofgem and the Health and Safety Executive. The Company also organises stakeholder fora and consultations with stakeholders, including members of the public, our suppliers and customers around specific projects such as RIIO-T2 and the Hinkley-Seabank Connection Project. The outcomes are reported to the appropriate forum and ultimately to the Executive Committee and Board. We work with other networks and organisations outside of the energy industry to identify good practice. **US** – regular interface with both federal and state regulators and customers on an ongoing basis, as well as the pre-filing stakeholder engagement programme in the build-up to and during any rate case process. Any rate case engagement is reported up to the Executive Committee and the Rate Case Steering Committees as appropriate. Specific engagement was undertaken regarding the Northeast 80x50 Pathway and the Niagara Mohawk advanced metering infrastructure.	**UK –** any large-scale investments at compressor sites (for example, new turbines) require approval from the regulators for them to issue a permit. Early engagement around plans and decisions made, help to ensure the relationship is maintained. Regular discussions at the Executive Committee and the Board with Ofgem around the RIIO-T2 consultation, including the response to Ofgem on the RIIO-T2 price control. On invitation, members of the RIIO-T2 stakeholder panel will meet with the Board later in 2019. **US –** influence the Company's regulatory strategy and business planning for rate cases and other US regulatory priorities. The Company's rate case pre-filing stakeholder engagement programme has become a major contributor to the Company's successful rate case outcomes.
Our suppliers Provide us with the goods and services we rely on to deliver for our customers. They range from substantial multinational companies to small-scale local businesses providing bespoke services when they are needed.	Strategic relationship meetings conducted regularly between suppliers and procurement. Tendering and sourcing events are undertaken to select new suppliers. On anti-corruption and anti-bribery matters, we expect all our suppliers to be compliant with the Modern Slavery Act and we work closely with our suppliers and peers to build on our knowledge and promote best practice. In 2018, this included engaging with suppliers we had identified as being within potentially high-risk categories. Review of the Company's 2018 submission on Prompt Payment Practices and the Company's performance.	Bi-annual reports submitted to the Executive Committee and annual reports to the Board. Elaborate on our global supplier code objectives and outcomes. The Board annually approves the Modern Slavery statement. The Board requested that further updates on the duty to report on prompt payment, practices and performance form part of the annual update on procurement.

Corporate Governance overview continued

Performance evaluation

2018/19 external Board evaluation

This year, we were required to undertake an externally facilitated Board and Committee evaluation. We appointed Dr Sabine Dembkowski of Better Boards Limited to work with the Board on a Board development programme. Neither Dr Sabine Dembkowski nor Better Boards Limited has any other connection to the Company.

The evaluation focused on Board development and was designed to provide the Board with insights about themselves and how the Board was working as a whole. This type of evaluation provided a foundation upon which individuals could increase their personal impact, which in turn could increase the overall effectiveness of the Board. The purpose was to gain:

- Insights into the hallmarks of effective boards;
- Insights into how Directors view themselves versus how they are perceived by their fellow Directors; and
- An understanding of the levers that individual Directors could pull to increase their impact in the boardroom to make the Board more effective.

The effectiveness of each of the Board Committees was taken into account in the evaluation. All Board members (including those who did not sit on all Committees) were asked their opinion of each Committee, if it was effective and whether it focused on the right matters. The results confirmed that the Board was satisfied with the structure of the Committees and there was no immediate need to make any changes.

Dr Sabine Dembkowski concluded the areas for further development, as noted below. The evaluation also identified two actions for the Nominations Committee.

> "This type of evaluation provided a foundation upon which individuals could increase their personal impact, which in turn could increase the overall effectiveness of the Board."

Stages of the external evaluation process

January

1. Meetings between Sabine and the Group General Counsel and Company Secretary to agree on objectives and the online questionnaire structure.
2. Presentation to the January Board meeting, including objectives, stages of the process and time commitment required from the Directors.

February

3. Interviews between Sabine and Board members, face-to-face or via video conference, to gain personal insights, including any challenges and issues.
4. Individual completion of an online questionnaire, with a focus on key competency areas for the Board's role behaviours and know-how areas.

March

5. Data combined from individual meetings and the questionnaire to create an aggregated report and individual Director reports.
6. Better Boards held confidential feedback and coaching sessions with each Board member to discuss the findings in their individual reports, and an action plan for each Board member was created as a result.

April/May

7. Feedback to the Chairman and Company Secretariat team, which resulted in an aggregated report for the Board that was presented to the Board meeting.
8. An action plan was agreed for the Board and two additional actions were agreed for the Nominations Committee.

Actions to enhance the Board's effectiveness for 2019/20

Action	Responsibility
Invite our customers into the boardroom to understand and directly hear their perspectives.	Chief Executive/Chairman
Continue to invite external speakers to Board meetings/dinners on topical issues.	Chief Executive/Chairman
Use market research agencies to bring the voice of the customer and other stakeholders into the boardroom.	Chief Executive/Chairman
Facilitated session to be held to consider how to enhance the collective strengths of the Board in light of the individual strengths evidenced as part of the evaluation.	Chairman/Chief Human Resources Officer
Sponsor of each paper to consider why the Board is being asked to consider a particular paper. On strategic papers, the Chairman to ask the sponsor at the beginning of the meeting what they are hoping to achieve in the meeting.	Chairman/sponsor of the paper submitted
Add a Corporate Social Responsibility session annually to the Board agenda.	Chairman and Group General Counsel and Company Secretary
Show clearer mapping of agenda items to the Company's risk register.	Chairman and Group General Counsel and Company Secretary

Progress against actions for the Board agreed in 2017/18 internal evaluation

Action	Progress made
Increase the opportunities for the Board to engage with external experts on key strategic topics	External attendees included: Barclays (April and November 2018), Herbert Smith Freehills (May 2018) and the Massachusetts Governor Baker (March 2019). Discussion topics included political uncertainty, the macro-economic climate in the US and the Massachsetts gas workforce contingency plan.
Consider Board agendas and, in particular, whether more time can be devoted to strategic issues	During the year, Board discussions have strongly focused on our key strategic priorities, including two strategy sessions in the year and additional meetings to discuss strategy. The agendas were also reviewed and appropriate items removed to allow time for these items.
Review whether enhancements could be made to how risk appetite is incorporated into Board papers where a decision is required	Risk appetite disclosures have been added into the relevant papers. A review was undertaken by the Group General Counsel and Company Secretary to ensure the main risks were being covered at Board and Committee meetings throughout the year.
Improve the efficiency and speed of Board decision-making by assessing the quality of Board papers continuously	The papers are continually reviewed before they are sent to the Board to ensure they are of a high standard. All Board and Committee papers are presented to the Executive Committee first and appropriate changes made for the subsequent Board meeting. The Chairman and Chief Executive also feed back on papers at, or after, the end of the Board meeting.

Directors' induction and training

Directors' induction programme

Following new appointments to the Board, the Chairman, Chief Executive and Group General Counsel and Company Secretary arrange a comprehensive induction programme. It is tailored based on experience and background and the requirements of the role. Consideration is given to committee appointments, and where relevant, tailored training is undertaken.

Following the appointment of Jonathan Silver on 16 May 2019, we will be tailoring his induction plan and will report back on this next year.

Director development and training

As our internal and external business environment changes, it is important to make sure that Directors' skills and knowledge are refreshed and updated regularly. The Chairman is responsible for the ongoing development of all Directors and agrees any individual training and development needs with each Director.

Updates on corporate governance and regulatory matters are also provided at Board meetings, together with details of training and development opportunities available to our Directors. Additionally, the Non-executive Directors are expected to visit at least one operational site annually.

Amanda Mesler – Non-executive Director induction

Amanda, appointed in May 2018, received a tailored induction programme covering a range of areas of the business, including governance, remuneration and stakeholder matters. Amanda met senior management from key business areas and functions as well as employees across the UK, US and National Grid Ventures businesses during site visits. Focus was given to matters pertinent to her role on the Audit and Finance Committees (some of Amanda's induction programme is included below).

Finance meetings

- Chief Financial Officer – provided a summary of the financing strategy and an overview of the current financial risks faced by the Group, including the current risk appetite and management framework in relation to those risks. Discussions also included: treasury controls; processes and systems; National Grid's tax strategy; the impact of US tax reform; and an overview of pension schemes and pension strategy.
- US Chief Financial Officer – provided an informative overview of the Group's organisation structure and priorities, including the recent change to the US Business Services leadership. Amanda also heard how, following the alignment to deliver value globally, the finance team is now integrally involved in the high-growth work within the US business functions, and they discussed the major successes.
- Met with the Group Financial Controller and discussed financial accounting and control issues, the statutory audit, and the annual business planning process.

Additionally, met Mark Williamson, Chair of the Audit Committee; Therese Esperdy, Chair of the Finance Committee; and Andi Karaboutis, Group Chief Information and Digital Officer.

Site visits

Amanda visited National Grid Ventures in Solihull and California in January 2019 for a thorough and engaging induction to technology and innovation. During her visit, Amanda met with the Chief Technology and Innovation Officer, along with key Board members of three of National Grid Partners' portfolio companies.

Audit Committee

"This year, we continued our focus on internal controls relating to financial reporting and received several updates from management and Deloitte at each meeting."

Mark Williamson
Committee Chair

Changes to Committee composition:

- Amanda Mesler joined May 2018.

Key focus areas in 2018/19:

- Internal controls relating to financial reporting, specifically IT related;
- Application of the Group's exceptional items framework; and
- Impact of new accounting standards.

Key focus areas in 2019/20:

- Internal controls relating to financial reporting;
- Cyber security;
- Task Force on Climate-related Financial Disclosure (TCFD); and
- New UK financial record system.

Composition of the Audit Committee

In accordance with the Code and DTR 7.1, the Board is satisfied that all members of the Committee have recent and relevant financial experience and that Mark Williamson, as a chartered accountant, having been Chief Financial Officer at International Power plc, and chairman of the audit committee at Alent plc, is suitably qualified. The Board is also satisfied that when considered as a whole, the Committee has competence relevant to the sector in which the Company operates (including utilities, finance and engineering) to ensure the right balance of skills, experience, professional qualifications and knowledge.

The Committee members' biographies are on pages 48 – 49.

Further reading
You can view the Committee's Terms of Reference here:
www.nationalgrid.com

The Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014 – statement of compliance:

The Company confirms that it complied with the provisions of the Competition and Markets Authority's Order for the financial year under review.

Review of the year

The Committee met four times during the year to undertake its role in the governance of the Group's financial reporting, internal risk management, control and assurance processes, and the external audit.

Continued focus on internal control over financial reporting

This year, we continued our focus on internal controls relating to financial reporting and received several updates from management and Deloitte at each meeting. These updates focused on the IT control weaknesses highlighted last year, and I am pleased to see progress continues to be made in implementing and executing new controls, including a significantly strengthened IT infrastructure environment. We have considered the impact of these on the year-end attestation relating to the effectiveness of internal controls in respect of financial reporting required under the Sarbanes-Oxley Act 2002 (SOX). You can read more about these significant issues on the following pages.

In September 2018 and March 2019, the Group Chief Information and Digital Officer attended to discuss IT controls in more detail. In March 2019, cyber risk governance was discussed in more detail, including a more in-depth analysis of the cyber risk audit plan and additional insight from a newly commissioned independent external review. I was pleased to hear that the plan had been substantially delivered, in line with the Committee's expectations, and that the external assessment of our cyber risk coverage concluded it was comprehensive, and did not identify any significant gaps in our internal IT assurance activity conducted by Internal Audit.

New accounting standards

The Committee received periodic updates on the impact of adoption of IFRS 16 (leases) which is effective next year. Reviews of the impact of IFRS 15 (revenue from contracts with customers) and IFRS 9 (financial instruments) were undertaken in 2017/18. This year, the Committee considered the effectiveness of the changes to processes, controls and systems implemented in the period.

Climate-related financial disclosures

We have continued to make good progress with the recommendations set out by the Task Force on Climate-related Financial Disclosure (TCFD). In the year, the Committee was presented with a roadmap to progress towards full compliance of TCFD and discussed the current gap analysis. We noted that focus in the next 12 months would be on performing scenario analysis as regards the continuing viability of our various businesses under various future environmental and regulatory scenarios, the link to our risk registers, and ensuring the right metrics and targets were developed.

Looking forward

Internal controls relating to financial reporting

The Committee will remain focused on ensuring that management delivers the planned internal control improvements in respect of IT controls.

Cyber security and scorecard

Cyber security risk will remain at the top of the agenda for the Committee.

New UK financial system

The Committee plans to receive updates in September and November in respect of the implementation of a new system of financial record in the UK business (scheduled to become progressively operational through 2019/20).

Mark Williamson
Committee Chair

Significant issues relating to the financial statements

In considering the financial results announcements and the financial results contained in the Annual Report and Accounts, the Committee reviewed the significant issues and judgements made by management in determining those results. The Committee reviewed papers prepared by management setting out the key areas of risk, the actions undertaken to quantify the effects of the relevant issues and the judgements made by management on the appropriate accounting required to address those issues in the financial statements. The significant issues considered relating to the financial statements for the year ended 31 March 2019 are set out in the following table, together with a summary of the financial outcomes where appropriate.

In addition, the Committee and the external auditors have discussed the significant issues addressed by the Committee during the year. You can read more about the Independent Auditor's Report on pages 93 – 102.

Significant issues considered by the Committee	How the Committee addressed the issues
Internal control over financial reporting	We have continued to focus on financial controls and received specific updates from management at our September, March and May meetings. These updates focused on the IT control weaknesses reported last year, where we made good progress in implementing and executing new controls. We challenged management and were satisfied with the plans in place to close the remaining items. Concerning the broader financial control environment, a three-year Group controls roadmap has been established, setting out initiatives to strengthen and improve controls significantly and KPIs to assess progress. After careful consideration, the Committee concurred with management's overall assessment that the Group's internal control over financial reporting is effective.
Application of the Group's exceptional items framework to certain events in the period	The Committee considered papers from management at each of the meetings in the year, which set out key considerations to the application of the exceptional items framework in relation to a number of specific transactions in the year including, but not limited to, the Massachusetts gas labour dispute and workforce contingency plan, the UK and US cost efficiency programme, certain legal settlements, and the impairments of UK nuclear connection assets. In each case, the Committee assessed the appropriateness of the judgements reached (which are set out further in Note 5 to the financial statements), individually in relation to the specific events and circumstances, and also in aggregate, considering the overall composition of the adjusted profit and the associated disclosures in Note 5. The Committee also paid close consideration to the classification of two items that were not treated as exceptional. Firstly, the Committee considered the classification of £95 million of income from two legal settlements. In concluding that it remained appropriate to classify these within adjusted profit, the Committee specifically noted the precedent set by the previous classification of costs to which the settlements related. Secondly, the Committee considered the treatment of sales by the UK Property business to the St William JV and noted that such transactions are part of the Group's ordinary course of business.
Classification of the Group's retained interests in UK Gas Distribution	At the September meeting, the Committee specifically considered a proposal from management to classify the retained interests in UK Gas Distribution (all of which are subject to the Further Acquisition Agreement and Remaining Acquisition Agreement) as a discontinued operation. The Committee concurred with management that it was appropriate to consider the ultimate exit of these interests as part of a single co-ordinated plan to exit the UK Gas Distribution business, which began in 2015.

2018/19 other key areas of focus

Area of focus	Matters considered
Financial reporting and financial results of the business – including through the use of non-IFRS measures	• Specific consideration of the financial review and the degree to which this appropriately reflects statutory versus non-IFRS performance measures, with supporting definitions, explanations as to the relevance and importance of these measures, and reconciliations to IFRS metrics as necessary; • Updates on the impact of the adoption of IFRS 16 (leases) and consideration of the effectiveness of changes to processes and controls following the implementation of IFRS 15 (revenue from contracts with customers) and IFRS 9 (financial instruments); • Monitored and reviewed the integrity of the Group's financial information and other formal documents relating to its financial performance, including the appropriateness of accounting policies and going concern; • Approved the key accounting judgements made by management; • Considered the approval process for confirming and recommending to the Board that the 2018/19 Annual Report is fair, balanced and understandable; • Reviewed and recommended to the Board the approval of the 2018/19 Annual Report and Accounts and other reports filed with the SEC containing financial statements; • Reviewed any significant issues and recommended approval of the preliminary results announcements; and • In addition, although there were no significant changes or developments in the year, the Committee also concurred with management's assessment that the valuation of the Group's defined benefit scheme pension liabilities and cash flows forecasts associated with environmental provisions continue to be considered significant estimates in the context of the Group's financial statements.
Task Force on Climate-related Financial Disclosure (TCFD)	• Reviewed management's paper commenting on the continued progress to date, the roadmap for the next 12 months and key priorities as described on pages 210 – 211; • Review of disclosures; and • The Committee discussed the linkage between the work being undertaken on understanding the full effects of the Company's Total Societal Impact and how this related to other internal scenario planning and external reporting.

Audit Committee continued

Area of focus	Matters considered
Risk and viability statement	• Discussed the recent corporate failures in the UK, including Carillion, and any lessons learned that could be taken away from the events. The discussion included the issues involved, the role of the Audit Committee and the auditor's ability to challenge; • Monitored and assessed the effectiveness of our risk management processes; • Received regular updates on the risk management processes and any changes as well as updates on other risk management activities; • Reviewed and challenged the draft viability statement in March and May 2019 for review in advance of the Board's consideration of the statement in May; • Received an update on the process and a summary of the outcome of the annual testing of our principal risks; and • Reviewed internal control processes.
External auditors	• The approach, scope and risk assessments of external audit and the effectiveness and independence of the external auditor; • Ongoing consideration of the external audit plan; • Considered the auditor's report on the 2018/19 half and full-year results; • Reviewed and monitored the appropriateness of the provision of non-audit services by the external auditor in the context of reviewing the auditor's independence; • Reviewed and approved audit/non-audit expenditure incurred during the year; and • Recommended to the Board the reappointment of the external auditors and for the Committee to agree auditor's remuneration.
Compliance, governance and disclosure matters	• Received two reports on compliance with external legal obligations and regulatory commitments; • Received updates on the SOX control findings and undertook an annual assessment of the effectiveness of internal control over financial reporting; • Received two ethics and business conduct reports, including whistleblowing, to help monitor the management and mitigation of business conduct issues as part of the wider controls framework; • Received an annual report on the Company's anti-bribery procedures and reviewed their adequacy; • Received a report from the Disclosure Committee on matters relevant to the half and full-year announcements in November and May; and • Received results of the Disclosure Committee's evaluation of the effectiveness of the Company's disclosure controls to the Audit Committee.
Cyber security	• Received two reports on cyber risk control environment; • The Committee received additional analysis of the cyber audit plan to help evaluate the assurance coverage over cyber risk and its key controls; • PwC had been engaged to undertake a review of our audit plan cycle to ensure it is fit for purpose and in line with best practice. This arrangement was extended to include a deep dive on the cyber audit plan; no significant assurance gaps had been identified and PwC considered coverage was appropriate; however, some minor recommendations were made; • The Committee noted progress made by management on our cyber security strategy and that Corporate Audit continued to deliver a balanced programme of audits across cyber security; and • Management would continue to receive regular external input into its risk management in this area.
Corporate audit	• The Committee received regular controls updates from the Corporate Audit team, including approval of, and updates on, progress with the corporate audit plan. These reports present information on specific audits, as appropriate; summarise common control themes arising from the work of the team; and update on progress with implementing management actions; • Following best practice, we reviewed the Corporate Audit Charter against the Institute of Internal Auditors (IIA) international standards and the IIA model charter. This review ensured that the purpose, authority and responsibility, as defined in the Charter, are sufficient to enable the Corporate Audit function to complete its objectives; and • The Committee confirmed that it was satisfied that the Corporate Audit function had the quality, experience and expertise appropriate for the business.

Risk management and internal control

Our internal control processes

The Board has delegated responsibility to the Committee for monitoring and assessing the effectiveness of our risk management processes. In support of this responsibility, the Committee received regular updates on the risk management processes and any changes as well as updates on other risk management activities within the business.

Several processes support our internal control environment. Dedicated specialist teams manage these processes, which include risk management; ethics and compliance management; corporate audit and internal controls; and safety, environment and health. Oversight of these activities is provided through regular review and reporting to the appropriate Board Committees.

The Committee is responsible for keeping under review and reporting to the Board the effectiveness of reporting, internal control policies, compliance with the SOX, UK Bribery Act legislation, appropriateness of financial disclosures and procedures for risk and compliance management, business conduct, and internal audit. Throughout the year, we conduct 'deep dive' sessions on significant risk issues.

Reviewing the effectiveness of our internal control and risk management

The effectiveness of internal controls and risk management processes are monitored continually and assessed to make sure they remain robust. The Committee (which includes financial, operational and compliance controls) undertakes this review. The Certificate of Assurance (CoA) process operates via a cascade system and takes place annually in support of the Company's full-year results.

Following a thorough review, the Committee confirmed that the processes provided sufficient assurance and that the sources of assurance had sufficient authority, independence and expertise. The Committee Chair reported to the Board in May and confirmed that management's process for monitoring and reviewing internal control and risk management processes is functioning effectively. It noted that no material weaknesses had been identified by the review and confirmed that it was satisfied the systems and processes were functioning effectively.

We have conducted a review of the effectiveness of the Group's risk management and internal control systems, including those relating to the financial reporting process, in accordance with the Code. We consider that our review of the risk management and internal control systems, in place throughout the year, meets the requirements of the Code and the Disclosure and Transparency Rules.

National Grid's values – "do the right thing" and "find a better way" – continue to provide a framework for reporting business conduct issues, educating employees and promoting a culture of integrity at all levels of the business. These, along with the suite of policies and procedures, communicate the behaviour expected from employees and third parties to prevent and investigate fraud and bribery and other business conduct issues. The Committee monitors and is kept informed of any business conduct issues and monitors and addresses any compliance issues.

Internal control over financial reporting

The Board receives, in advance of the full-year results, a periodic SOX report on management's opinion on the effectiveness of internal control over financial reporting. This report concerns the Group-wide programme to comply with the requirements of the Act and is received directly from the Group SOX and Controls Team and through the Audit Committee.

The Company has specific internal mechanisms that govern the financial reporting process and the preparation of the Annual Report and Accounts. Our financial controls guidance sets out the fundamentals of internal control over financial reporting. Our financial processes include a range of system, transactional and management oversight controls. Also, our businesses prepare detailed monthly management reports that include analysis of their results, along with comparisons to relevant budgets, forecasts and the previous year's results. Quarterly performance reviews, attended by the Chief Executive Officer and Chief Financial Officer, supplement these reviews. They consider historical results and expected future performance and involve senior management from both operational and financial areas of the business. Each month, the Chief Financial Officer presents a consolidated financial report to the Board.

Fair, balanced and understandable

The Committee reviewed the content of the 2018/19 Annual Report, together with a well-established and documented process. The Committee has reported to the Board that, taken as a whole, the Committee consider the Annual Report to be fair, balanced and understandable. The Committee further believes the Annual Report provides the necessary information for shareholders to adequately assess the Company's position and performance, business model and strategy.

External audit

In November 2018 and May 2019, as part of the reporting of the interim and final results statements, Deloitte reported to the Committee on its assessment of the Company's judgements and estimates. This report included considering the appropriate accounting under IFRS and highlighted that improved controls were in place.

Mark Williamson meets with Deloitte prior to each meeting and outside the meeting cycle on a regular basis.

Auditor independence and objectivity

Mindset, integrity and objectivity enable auditors to undertake their role with professional scepticism while maintaining effective working relationships with those subject to audit, i.e. management and other employees.

In assessing the mindset, professional scepticism and degree of challenge to management, the Committee took into account the observations, recommendations and conclusions drawn by Deloitte.

The independence of the external auditors is essential to the provision of an objective opinion on the true and fair view presented in the financial statements. Auditor independence and objectivity are safeguarded by a number of control measures, including limiting the nature and value of non-audit services performed by the external auditors. These checks ensure that employees of the external auditors, who have worked on the audit in the past one year (two years for a partner of the audit team), are not appointed to roles with financial reporting oversight within the Company in line with our internal code; consideration of Deloitte's annual independence letters; and an annual review by Corporate Audit of the independence of the external auditors.

Audit Committee continued

Audit quality

To maintain audit quality, the Committee reviews and challenges the proposed external audit plan, including its scope and materiality, before approval, to make sure that Deloitte has identified all key risks and developed robust audit procedures and communication plans.

The Committee noted that Deloitte would engage specialists to assist in its audit of the Group IT systems, derivative financial instruments, pension obligations, discount rates and tax balances, as well as utilising employees within the core audit team who have significant experience of regulated utilities in the UK and US.

Regularly throughout the year, the Committee looks at the quality of the auditor's reports and considers their response to accounting, financial control and audit issues as they arise.

The Committee also meets with Deloitte regularly without management present, providing the external auditors with the opportunity to raise any matters in confidence and have an opportunity for open dialogue. This meeting also gives the Committee the chance to monitor the performance of the lead engagement partner both inside and outside Committee meetings.

The Committee specifically considered the findings of the Audit Quality Review Team (AQR) review of Deloitte's 2017/18 audit. The Committee noted the observations raised and challenged Deloitte as to remedies being introduced. Overall, the Committee noted the findings did not raise any significant concerns in respect of audit quality.

Auditor performance

In assessing auditor performance this year, the Committee considered: the quality of planning, delivery and execution of the audit; the quality and knowledge of the audit team; the effectiveness of communications between management and the audit team; the robustness of the audit, including the audit team's ability to challenge management as well as to demonstrate professional scepticism and independence; the quality of the reports received; and the views of management to gauge the quality of the audit team and their knowledge and understanding of the business.

In forming its conclusions, the Committee solicited views from the senior finance team members most directly involved in the year-end audit.

Auditor appointment

Deloitte was appointed by shareholders as the Group's statutory auditors at the 2017 AGM. Douglas King, the current lead audit partner, will be required to rotate off in 2022.

Following consideration of the auditor's independence and objectivity, the audit quality, and the auditor's performance, the Committee was satisfied with the effectiveness, independence and objectivity of Deloitte and recommended to the Board its reappointment for the year ended 31 March 2020. A resolution to reappoint Deloitte and giving authority to the Directors to determine their remuneration will be submitted to shareholders at the 2019 AGM.

Non-audit services provided by the external auditors

During the year, the Committee approved amendments to the non-audit service policy.

The Committee continues to be responsible for all non-audit service approvals, but it now allows pre-approval for certain specified services, including where services that have fees of less than £50,000 and are on a defined list are considered to fall within the "clearly trivial" concept used by the Financial Reporting Council. For any services that do not meet these criteria, no threshold is applied, and approval will be sought from the Committee in advance of the work being performed.

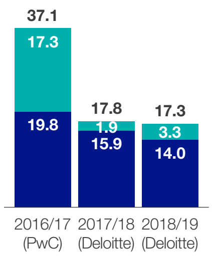
The services for which management may seek pre-approval relate to:

- Audit, review or attest services, which generally only the external auditors can provide in connection with statutory and regulatory filings. They include comfort letters, statutory audits, attest services, consents and assistance with review of filing documents;
- Ongoing work with the UK Property team on the review of its commercial property portfolio, which was approved and continues to evolve. Our history with Deloitte means that it is the clear choice for relevant expertise. Such work does not include valuation work, or any other prohibited services; and
- Other areas, such as training or provision of access to technical publications.

Our policy requires management to present a list of all approved non-audit work requests to the Committee at each meeting (other than ad hoc meetings), as well as annually in aggregate to ensure the Committee is aware of all non-audit services provided.

Management approves the provision of non-audit services on the basis that the service will not compromise independence and is a natural extension of the audit, or if overriding business or efficiency reasons are making the external auditors most suited to provide the service. We prohibit the external auditors from performing certain services.

Audit and non-audit services (£m)



◆ Audit services
◆ Non-audit services

Total billed non-audit services provided by Deloitte during the year ended 31 March 2019 were £3.3 million, representing 23% of total audit and audit-related fees (excluding expenses). In 2017/18, Deloitte billed £1.9 million for non-audit services (14% of total audit and audit-related fees). In 2016/17, fees paid to PwC included a substantial proportion related to work associated with the disposal of the UK Gas Distribution business.

Total audit and audit-related fees include the statutory fee and fees paid to Deloitte for other services that the external auditors are required to perform, such as regulatory audits and SOX attestation. Non-audit fees represent all other services provided by Deloitte not included in the above.

Finance Committee

"The external regulatory and political environments remained a key area of focus…including the developments and proceedings of Brexit and the ongoing debate around state ownership."

Therese Esperdy
Committee Chair

Changes to Committee composition:

- Andrew Bonfield left July 2018;
- Amanda Mesler joined May 2018 and left May 2019; and
- Andy Agg joined January 2019.

Key focus areas in 2018/19:

- US pension and investment strategy;
- Financial risk appetite;
- Financial implications of RIIO-T2; and
- Review of external regulatory and political environments and potential impact on credit ratings and financial risk.

Key focus areas in 2019/20:

- The potential financing implications of RIIO-T2;
- Review of impact of the proposed move of asset indexation from RPI to CPIH within UK regulated businesses;
- The potential implications of the upcoming Libor reform;
- Review of management of financial risk against financial risk appetite; and
- Continued oversight around Brexit-related financial risks and market reaction.

Review of the year

The Committee met four times during the year to undertake its responsibility of monitoring the financial risk of the Group, focusing on key areas such as treasury, tax, pensions, insurance, investments and commodities. Andrew Bonfield stepped down as a member of the Committee following his resignation as Finance Director at the 2018 AGM. The Committee welcomed Amanda Mesler, Non-executive Director, on 17 May 2018 and Andy Agg, CFO, on 1 January 2019, as members of the Committee.

Treasury

The Committee provided continued assurance throughout the year over management decision-making and execution of financial risk. A review of the Group's financial risk appetite was undertaken, resulting in policy changes to interest rate risk and foreign exchange translation risk.

The Committee received regular updates on management's progress with formulating financial strategy for the future, including the business's investment requirements, the dividend policy, credit ratings, RIIO-T2 and potential implications of US tax reform. The Committee also approved the new financial strategy of the Group at its November meeting.

The Committee recognises the need to remain informed about global market conditions and invites external advisors to present to the Committee on specific topics and issues. The Committee received a presentation from external advisors at its January meeting, which analysed the Company's financial position benchmarked against peers and proposed areas for consideration in 2019, such as the expectations for markets and Libor reform.

The external regulatory and political environments remained a key area of focus for the Committee, including the developments and proceedings of Brexit and the ongoing debate around state ownership. Focus was particularly on the impact on credit ratings and financial risk.

The Committee considered extensively the potential financial implications of RIIO-T2, including discussion around how Ofgem's consultation may impact the Company's credit rating and funding plans and the proposed move of asset indexation from RPI to CPIH for the UK regulated businesses. This remains a key area of focus for the Committee.

Insurance

The Committee received regular insurance updates and considered the investment strategy for National Grid Insurance Company (Isle of Man) Limited, approving a new strategy allowing for further diversification, lower risk and expected higher returns.

The Committee also received an update on the outcome of the insurance broker tender and the approach to operational insurance for the 2019 renewals and in the longer-term.

Tax

In November, external advisors presented to the Committee on the Company's approach to tax and the changing pace of the tax landscape, including US tax reform and the role of the Board and corporate culture surrounding tax.

Following last year's US tax reform, the Committee continued to receive updates on the implications of this, especially concerning the regulated utility business exception for the limitation of business interest expense.

Pensions

The Committee received regular updates on pensions both in the UK and US and approved the US pension and investment management strategy. This focused on reducing risk and liabilities, along with increasing engagement with regulators, to facilitate investment de-risking and full recovery of settlement losses.

The Committee also agreed to proposals to offer members greater information and advice around how they should receive their pension benefits from the UK pension plans, utilising the provisions of 'Freedom and Choice', and on further steps to de-risk the UK plans, to more closely match the assets and liabilities.

The Committee received updates on topical pension issues, including on the UK Government's White Paper on Pensions, 'Protecting Defined Benefit Pension Schemes' and on Guaranteed Minimum Pensions following the UK High Court ruling.

Thérèse Esperdy

Therese Esperdy
Committee Chair

Safety, Environment and Health Committee

"Throughout the year, the Committee continued to prioritise safety, in particular process safety and safety culture."

Paul Golby
Committee Chair

Changes to Committee composition:

- Pierre Dufour left July 2018;
- Earl Shipp joined January 2019;
- Nora Mead Brownell left April 2019; and
- Amanda Mesler joined May 2019.

Key focus areas in 2018/19:

- Monitoring safety during the Massachusetts labour dispute;
- Implementation of key safety, environment and health Business Management Systems (BMS) Standards;
- SEH risk management; and
- Chief Engineers engineering Assurance Updates.

Key focus areas in 2019/20:

- Post Massachusetts labour dispute and workforce integration;
- US regulatory safety changes;
- Monitoring the action plan to achieve long-term carbon reduction targets;
- Deep dive into employee mental wellbeing; and
- Road traffic collision reduction strategy.

Review of the year

The Committee met four times in the year to undertake its oversight responsibilities in respect of reviewing the strategies, policies, initiatives, risk exposure, targets and performance of the Company in relation to safety, environment and health. The Committee welcomed Earl Shipp as a member in January 2019 following Pierre Dufour's resignation at the 2018 AGM and Amanda Mesler joined as a member in May 2019. Earl's strong background in leading safety initiatives across a global chemical business and Amanda's strong background in technology has strengthened the depth and variety of experience on the Committee.

Safety

Throughout the year, the Committee continued to prioritise safety, in particular process safety and safety culture. Members of the Committee made regular site visits and time was taken to discuss these at each meeting, where consideration was given to the culture and behaviours on work sites as well as the safety processes being followed. The Committee monitored the results and proposed actions of an employee safety survey completed during the year. It will continue to monitor the implementation of these actions.

Massachusetts labour dispute

The Committee spent a significant amount of time throughout the year monitoring the Massachusetts labour dispute. It received regular updates from key management involved in the work continuation plan, focusing on the risks together with the physical and mental wellbeing of employees during this difficult period. It received regular reports on the Company's compliance with regulatory and employee safety standards to ensure that all safety standards were being met. This included oversight of the investigation of alleged safety violations made by the trade unions, together with regular site visits. The Committee also considered the changing regulatory landscape in Massachusetts and the wider US following the Columbia Gas explosion in September 2018. It will continue to monitor the effects of these changes over the coming year.

Understanding external perspectives

Following the Committee's annual review of its performance last year, it recognised the importance of ensuring that its perspective was both inward and outward looking and took action to introduce relevant external industry input to the Committee's agenda. The Committee received a presentation from the UK Health and Safety Executive (HSE) in July 2018 where the key issues faced by the HSE and wider issues within the UK were discussed. The presentation emphasised the challenges within the sector and the priorities for the HSE and gave some specific thoughts on National Grid's performance. At the January 2019 meeting, the Committee received a presentation from Natural England where the work of Natural England was considered, alongside areas for potential improvement that National Grid could consider over the next few years.
The Committee will continue to introduce external presentations to its forward agenda and will be receiving a presentation from a US agency later in the year to ensure that the Committee's perspective is both UK and US focused.

Oversight of safety risk

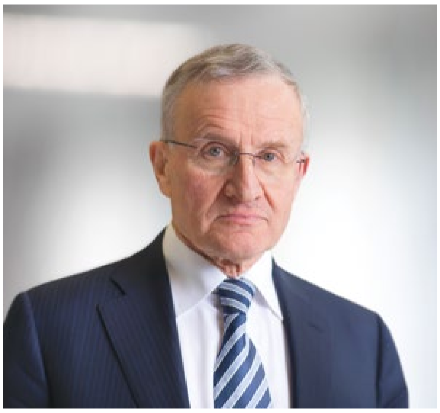
The Committee received updates on the gas pipeline maintenance programme and safety management system strategy. It was pleased to note that the business has moved towards a more proactive philosophy in understanding the risks in this area to ensure compliance with safety obligations at both local and federal levels in the US. The Committee also reviewed the global LNG risk throughout the year with consideration given to the policies and procedures in place to mitigate the remote likelihood of a catastrophic event at an LNG site. These sites continue to remain key areas of focus and oversight for the Committee. The Committee also undertook a deep dive into the progress relating to switching errors, which has shown improvement this year. However, the Company recognises that there is continuing work to be done in this area, in particular the behavioural factors surrounding switching errors. The Committee will continue to monitor the progress being made in this area.

Mental health and wellbeing

At the January 2019 meeting, the Committee received an update on the Company's mental health and wellbeing strategy. The Company had adopted good practices regionally and the Committee has been pleased to note that conversations concerning health and wellbeing are moving in a positive direction. Good progress has been made against the 2018/19 strategic priorities and the Committee endorsed a proposal to simplify these focus areas in 2019/20. Leading indicators are being developed to help show progress in this area and the Committee will continue to monitor this.

Paul Golby
Committee Chair

Nominations Committee



"The Committee recognises the importance for the Board to ensure that the skills, experience and knowledge of individuals reflect the changing demands of the business."

Sir Peter Gershon
Chairman and Committee Chair

Changes to Committee composition:

- Amanda Mesler joined May 2018;
- Pierre Dufour left July 2018;
- Earl Shipp joined January 2019; and
- Nora Mead Brownell left April 2019.

Key focus areas in 2018/19:

- Senior leadership succession planning;
- Review of Chairman's performance and tenure; and
- Non-executive Director search and appointment.

Key areas of focus in 2019/20:

- Board and Committee Composition; and
- Senior leadership succession.

Chairman's performance and tenure

Mark Williamson
Senior Independent Director

During the course of the year I have led the Nominations Committee, without Sir Peter Gershon present, to discuss the Chairman's tenure. Due to the need to maintain continuity of knowledge and experience during the conclusion of the RIIO-T2 process, the Committee has determined that it would be in the Company's best interests for Sir Peter to stay beyond the nine-year term identified in the new Code. It is proposed that he remain as Chairman for an additional one year to 2021 and thus go over the nine-year recommendation for a Chairman of a Company. As part of the consultation meetings with investors that myself and Sir Peter have attended, there had been unanimous support amongst investors that this was the right decision for the Company.

Review of the year

The Committee met seven times over the year to review the structure, size and composition of the Board and its Committees, review and oversee the succession planning for Directors and members of the Executive Committee and to make appropriate appointment recommendations to the Board.

Succession planning and appointment process

The Board said goodbye to Andrew Bonfield and Pierre Dufour following the 2018 AGM and as a result a primary focus of the Committee this year has been the selection and appointment of a new Chief Financial Officer and a new Non-executive Director to the Board. Nora Mead Brownell stepped down in April 2019 and, as our working assumption had been that Nora would step down from the Board during 2019/20, a formal appointment process for a second new Non-executive Director to join the Board had already begun. As a result, we will welcome Jonathan Silver to the Board with effect from 16 May. The Committee recognises the importance for the Board to anticipate and prepare for the future and to ensure that the skills, experience and knowledge of individuals reflect the changing demands of the business, whilst ensuring that the culture and values of the Group remain paramount. This was taken into consideration throughout the search and appointment processes outlined below.

When considering the recruitment of new Directors, the Committee adopts a formal and transparent procedure with due regard to the skills, knowledge and level of experience required as well as to diversity.

Chief Financial Officer – Andy Agg

The Committee appointed Russell Reynolds as search consultants and at the May and August 2018 meetings, the Committee considered the role of the Chief Financial Officer (CFO) in order to formulate a more detailed role and person specification. This considered the experience, technical knowledge and leadership characteristics required for the position. A long list of potential candidates from diverse backgrounds was produced and the Committee agreed that Andy Agg as Interim CFO would be included and considered for the role on a permanent basis, but would be benchmarked against the candidates from the external search. By the December 2018 meeting, the list of candidates had been narrowed down to three. All had been interviewed by Sir Peter Gershon, John Pettigrew, Therese Esperdy and Mark Williamson with the two external candidates also interviewed by Mike Westcott and Nicola Shaw. Following an in-depth critique and further testing of the candidates' credentials, the Committee made a recommendation to the Board in December 2018. The Board approved the recommendation to appoint Andy Agg as the strongest candidate to the Board with effect from 1 January 2019, subject to shareholder approval at the 2019 AGM.

Non-executive Director – Earl Shipp

The Committee keeps the composition of Directors on the Board under regular review and so when notice of the resignation of Pierre Dufour was received, the Committee focused its external search on candidates that had the relevant skills to enhance the Board in areas such as safety, environment and health.

Korn Ferry was appointed as search consultants and at the August 2018 Committee meeting the Committee agreed that the Chairman would review the long list of candidates to select those suitable for a first-stage interview. It was also agreed that a sub-group of the Committee members and attendees made up of Sir Peter Gershon, John Pettigrew, Paul Golby, Mark Williamson and Therese Esperdy would interview the final candidates. At the September 2018 meeting, the Chairman gave feedback on first-stage interviews and recommended two candidates to take forward in the process. The Committee agreed the two proposed candidates and following further testing of the candidates' credentials and development areas, the Committee agreed the preferred candidate and made a recommendation to the Board in December 2018. The Board approved the recommendation and Earl Shipp was appointed to the Board with effect from 1 January 2019, subject to shareholder approval at the 2019 AGM.

Board composition and director tenure

The success of the Company begins with a high-quality Board and senior management team. With the changes made during the year, the current composition of the Board and its Committees remains appropriate. This is kept under regular review, however, the range of skills and capabilities at Board level are assessed for their relevance to the execution of the Company strategy. The Committee will continue to monitor the balance of the Board to ensure that broad and relevant expertise is evident in the existing members, and will recommend further appointments if desirable. The effectiveness of the Board is also reviewed through the annual Board evaluation; see page 56 for further information.

The Committee believes that Non-executive Directors should generally stay in role no longer than nine years, in line with the UK Corporate Governance Code; however, the Committee may determine that it is in the Company's best interests for a Director with particular skills, knowledge and experience to stay beyond the nine-year term.

Nominations Committee continued

Talent pipeline – senior leadership succession

The succession pipeline to the Executive Committee and health of the high potential talent pool further down the organisation is discussed at quarterly Executive Global Talent Pool meetings, as part of the ongoing focus on our talent strategy. An example of the internal talent pipeline in practice can be seen through the appointment of Andy Agg as Chief Financial Officer; details of the appointment process are noted overleaf. This year the annual review of members of the Executive Committee also led to the development of bespoke talent and succession targets. The Board has also met with high-potential employees both in the UK and the US on several occasions during the year.

We have a strong talent pipeline with many high performing individuals and where possible we aim to develop talent within the organisation, such as with the appointment of Andy Agg. However, we also recognise the need to ensure we have the correct balance of skills, knowledge and experience on our Executive Committee and as such we continue to benchmark with potential external candidates to ensure that the senior leadership within the business is diverse with an appropriate range of external experience. As a result, during the year two external candidates, Andy Doyle and Barney Wyld, were appointed to the Executive Committee.

The Committee continues to take an active interest in the development of the talent pipeline below board level, ensuring that appropriate opportunities are in place to develop high-performing individuals and to build diversity across senior roles in the business.

Diversity and Board Diversity Policy

National Grid is fully committed to supporting diversity and inclusion in the Boardroom which we believe supports the attraction and retention of talented people, improves effectiveness, delivers superior performance and enhances the success of the Company.

Our Board diversity policy continues to promote an inclusive and diverse culture and we value diversity of thought, skills, experience, knowledge and expertise including of educational and professional backgrounds, alongside diversity criteria such as gender, age and ethnicity.

The policy applies to the Board, Executive Committee and direct reports to the Executive Committee. It does not apply directly to diversity in relation to the remaining employees of National Grid as this is covered by other policies and the National Grid Inclusion Charter.

As set out in our Board diversity policy:

- All Board appointments and succession plans are made on merit and objective criteria, in the context of the skills and experience that are needed for the Board to be effective and to guard against "group think";
- We will only engage executive search firms who have signed up to the UK Voluntary Code of Conduct on Gender Diversity; and
- We will continue to make key diversity data, both about the Board and our wider employee population, available in the Annual Report and Accounts.

We will continue to review our progress against the Board diversity policy annually and report on our progress against the policy and our objectives (set out below) in the Annual Report and Accounts. We will also include details of initiatives to promote gender and other forms of diversity in our Board, Executive Committee and other senior management.

Examples of the initiatives to promote and support inclusion and diversity throughout our Company are set out below and on page 43.

Sir Peter Gershon
Chairman

Skills and experience

Each bar shows the number of members on the Board with strong or very strong skills or experience in this area.

This bar chart, together with the biographies (on pages 48 – 49) shows some of the key sector experience and skills the Board has identified for the effective running of the Company and the delivery of its long-term strategy. They also demonstrate how each Board member contributes to this blend of skills and experience.

Objectives	Progress
The Board aspires to meet the target of 33% of Board and Executive Committee positions, and direct reports to the Executive Committee, to be held by women by 2020.	**Objective ongoing:** there are currently 27.3% women on the Board. In our Executive and Non-executive Director searches we take this into consideration; however, all appointments are made on merit. We currently have 33.3% women on our Executive Committee and 26.6% women direct reports to the Executive Committee. These figures have been taken as at the date of this report. We are undertaking the following actions to help achieve our target: • All senior external recruitment requires a diverse list of candidates to be considered as part of the selection process; • All talent meetings have inclusion and diversity moments at the start to ensure an inclusive mindset when discussing talent moves and promotions; and • All Executive Directors have diversity targets.
The Board aspires to meet the Parker Review target for FTSE 100 boards to have at least one director from a non-white ethnic minority by 2021.	**Objective met:** we currently have two Directors from a non-white ethnic minority on the Board. Additionally, our mandatory requirement for a diverse candidate pool should ensure that we continue to have the opportunity to recruit further from non-white ethnic minorities.

Statement of application of and compliance with the UK Corporate Governance Code 2016

The statement below, together with the rest of the Corporate Governance report, explains the main aspects of the Company's governance structure to give a greater understanding of how the Company has applied the principles in the UK Corporate Governance Code 2016 (the Code). For the year ended 31 March 2019, the Board considers that it has complied in full with the provisions of the Code, available at www.frc.org.uk. The Corporate Governance report also explains compliance with the Disclosure Guidance and Transparency Sourcebook. The index on page 68 sets out where to find each of the disclosures required in the Directors' Report in respect of Listing Rule 9.8.4 R.

A. Leadership

Our Board is responsible collectively for the effective oversight and long-term success of the Company. It also determines the strategic direction, business plan, objectives, principal risks and viability of the Company and sets the governance structure that will help achieve the long-term success of the Company and deliver sustainable shareholder and stakeholder value.

There is a clear schedule of matters reserved for the Board and a schedule of delegation, which were both reviewed and updated in January 2019. The schedule of matters reserved for the Board is available on our website, together with other governance documentation.

The Board supports the separation of the roles of the Chairman and Chief Executive. The key responsibilities are clearly documented and reviewed when appropriate. See our website for more details.

B. Effectiveness

Composition

The Board believes it operates effectively with an appropriate balance of independent Non-executive and Executive Directors who have the right balance of skills, experience, independence and knowledge of the Company. Details of our Board, their biographies and committee membership are set out on pages 48 – 49 and fuller biographies are available on our website. Board and Committee attendance during the year to 31 March 2019 is set out on page 51. The size and composition of the Board and its committees is kept under review by the Nominations Committee to ensure the appropriate balance of skills, experience, independence and knowledge. The independence of the Non-executive Directors is considered at least annually along with their character, judgement, commitment and performance on the Board and Board committees. The Board took into consideration the Code and indicators of potential non-independence, including length of service. Following due consideration, the Board determined that all Non-executive Directors were independent in character and judgement.

Appointments to the Board

The Nominations Committee leads the process for Board appointments and makes recommendations to the Board. The Nominations Committee also considers Board succession planning and the leadership needs of the Company.

Russell Reynolds and Korn Ferry provided external search consultancy services in relation to the appointments of the Chief Financial Officer and new Non-executive Director respectively. Both Russell Reynolds and Korn Ferry do not have any other connection with the Company.

Each Director is subject to election at the first AGM following their appointment, and re-election at each subsequent AGM. Following recommendations from the Nominations Committee, the Board considers whether all Directors continue to be effective, committed to their roles and have sufficient time available to perform their duties. Therefore, in accordance with the Code, all Directors will seek election and re-election at the 2019 AGM.

Time commitment

Non-executive Directors are advised of the time commitment and travel expected from them on appointment. External commitments, which may impact existing time commitments, must be agreed with the Chairman. Details of external appointments are set out in the biographies on pages 48 – 49 and on our website. As part of the evaluation of the Chairman, the Non-executive Directors, with input from the Executive Directors, assessed the Chairman's ability to fulfil his role, taking into account other significant appointments.

Individual performance

The Chairman held performance meetings with each Board member to discuss their contribution and performance over the year and their training and development needs. Following these meetings, the Chairman confirmed to the Nominations Committee that he considered each Director to have demonstrated a commitment to the role and that their performance continued to be effective.

Chairman's performance

As part of our annual evaluation process, Mark Williamson, as Senior Independent Director, led a review of the Chairman's performance. At a private meeting, the Non-executive Directors, with input from the Executive Directors, assessed his ability to fulfil his role as Chairman and considered the arrangements he has in place to fulfil his role. They concluded that the Chairman showed effective leadership of the Board and his actions continued to influence the Board and wider organisation positively.

See page 77 for further details about the Directors' service contracts and letters of appointment.

Information and support

The Group General Counsel and Company Secretary makes sure that appropriate and timely information is provided to the Board and its committees and is responsible for advising and supporting the Chairman and the Board on all governance matters. All Directors have access to the Group General Counsel and Company Secretary and may take independent professional advice at the Company's expense in conducting their duties.

C. Accountability

It remains a key consideration in the drafting and review process for Directors to state that they consider that the Annual Report and Accounts, taken as a whole, is fair, balanced and understandable. The coordination and review of the Annual Report and Accounts are conducted in parallel with the formal audit process undertaken by the external auditors and the review by the Board and its committees (of relevant sections).

The drafting and assurance process supports the Audit Committee's and Board's assessment of the overall fairness, balance and clarity of the Annual Report and Accounts and the statement of Directors' responsibilities as set out on page 92.

The Board has carried out a robust assessment of the nature and extent of the principal risks facing the Company in achieving its objectives, including those that would threaten the business model, future performance, solvency or liquidity. Further details can be found on pages 20 – 22.

Details on the Company's risk management and internal control systems are set out on pages 20 – 22.

The activities of the Audit Committee, which assists the Board with its responsibilities relating to risk and assurance, are set out on pages 58 – 62.

Further reading
www.nationalgrid.com

Statement of application of and compliance with the UK Corporate Governance Code continued

Under the Disclosure and Transparency Rules and the Code, the composition and competence of the Audit Committee was considered by the Nominations Committee at its April meeting. The Board confirmed the recommendations of the Nominations Committee: that all members of the Committee are independent (including the Chair of the Committee), that Mark Williamson as a chartered accountant is considered to have competence in accounting, and that the Committee, as a whole, has competence relevant to the sector in which it operates.

D. Remuneration

The Directors' Remuneration Report on pages 69 – 90, sets out the work of the Remuneration Committee and its activities during the year; Directors' remuneration and the new policy to be approved at the 2019 AGM.

E. Relations with shareholders

The Board as a whole is responsible for making sure that satisfactory dialogue with shareholders takes place, and members take an active role in engaging with shareholders. More information about our approach to relations with shareholders can be found on pages 54 – 55.

The AGM provides a key opportunity for the Board to communicate with and meet shareholders.

Our AGM will be held on Monday 29 July 2019, at The International Convention Centre in Birmingham, and broadcast via our website. The Notice of Meeting for the 2019 AGM, available on our website, sets out in full the resolutions for consideration by shareholders, together with explanatory notes and further information on the Directors standing for election and re-election.

Index to Directors' Report and other disclosures

Directors' Remuneration Report

Annual statement from the Remuneration Committee Chair

"This year, in addition to the annual advisory vote concerning the implementation of our current remuneration policy, we are also seeking shareholder approval for a new remuneration policy."

Jonathan Dawson
Committee Chair

Changes to Committee composition:

- Pierre Dufour left July 2018;
- Earl Shipp joined January 2019; and
- Nora Mead Brownell left April 2019.

Key focus areas for 2018/19:

- Proposed 2019 Remuneration Policy;
- Items relating to the appointment of new CFO and other Executive Committee appointments; and
- LTPP design.

Key focus areas for 2019/20:

- Review impact of evolving corporate governance standards; and
- RIIO-T2 impact on anticipated 2021 LTPP design and new policy.

Dear Shareholders,

Last year, our shareholders approved the annual Directors' Remuneration Report with 96.94% of votes in favour. This year, in addition to the annual advisory vote concerning the implementation of our current remuneration policy, we are also seeking shareholder approval for a new remuneration policy. I wrote last year that we would be doing this a year earlier than required in order to modify our remuneration policy to take account of the impact of the transition to the next UK Regulatory Framework, RIIO-T2. We are also taking the opportunity of the policy vote to propose some other changes in response to the provisions in the new UK Corporate Governance Code as well as other developments in the corporate governance environment.

The main policy proposals for 2019 are:

- changes to the performance measures (but not quantum) for the Long Term Performance Plan (LTPP);
- a reduction in the maximum company pension contribution for newly appointed Executive Directors;
- the introduction of a post-employment shareholding requirement for existing Executive Directors, together with appropriate compliance monitoring arrangements; and
- further detail on when and how malus and/or clawback would apply to incentive awards.

We engaged widely with institutional shareholders and proxy advisory service organisations on all of the proposed policy changes. Through the consultation period we refined our approach on the changes to our maximum pensions contributions. Additionally, John Pettigrew and Nicola Shaw have agreed a progressive reduction in their pension contributions to the same rate as newly appointed Executive Committee members.

The development and refinement of this policy, as well as the implementation of the current policy, occurred across ten meetings during the year.

What is our remuneration policy seeking to achieve?

Much of the remuneration policy remains the same as before as we feel most aspects continue to be appropriate for the business, and achieve our aims of:

- attracting, motivating and retaining senior executives while not overpaying;
- ensuring we pay our senior executives in a way that incentivises stretching performance;
- being fully aligned to the way National Grid earns its returns for shareholders; and
- actively supporting our strategy and values.

The key components of our approach are:

1. Significant weighting towards long-term value creation and alignment with shareholder interests

Nearly three quarters of John Pettigrew's variable pay opportunity is represented by the LTPP. We emphasise this over the Annual Performance Plan (APP) because National Grid is a long-term business. We want to make sure investment decisions are made, and operating efficiencies achieved, against this background. For Executive Directors, some 85% of their variable pay opportunity is delivered in National Grid's shares. Consistent with our approach for aligning executive interests to the long term, LTPP awards are determined after a three-year performance period with any shares that are then allocated to Executive Directors having to be held for at least a further two years. Our proposed LTPP measures for 2019 and 2020 will continue to be fully aligned with long-term value creation and shareholder interests.

2. We require senior executives to maintain very high shareholdings in National Grid

As CEO, John Pettigrew has to hold at least five times his pre-tax salary in National Grid's shares, which is equivalent to around nine times his post-tax salary. Other UK-based Executive Directors must hold at least four times their pre-tax salary in National Grid's shares (equivalent to around seven times their post-tax salary). For the US-based Executive Director, the minimum shareholding requirement is also four times his pre-tax salary (equivalent to around six times his post-tax salary). This requirement ensures that executives have a longer-term view in their decision-making, are rewarded for achieving success progressively over the long term, and have interests aligned to our private and institutional shareholders – gaining if the share price increases, and sharing in the consequences of share price falls. An important characteristic of our high shareholding requirement is that a newly appointed Executive Director who owns no National Grid shares should expect to take some six to seven years (assuming target payout levels) to have earned the minimum shareholding requirement and will be unable to sell shares prior to that point. Our new post-employment shareholding requirement further enhances the alignment of interests between executives and shareholders.

Directors' Remuneration Report continued

Annual statement from the Remuneration Committee Chair continued

How our variable pay is determined and linked to performance

	Financial measures +	Individual objectives +	Committee discretion +	Malus/clawback
APP 1-year performance period (up to 125% of salary)	Group/Business Return on Equity Business Value Added Business Operating Profit Earnings per Share	Objectives are set on an individual basis, dependent on role remit and requirements. Includes wider business measures as appropriate	Committee considers wider financial and business performance as well as individual demonstration of leadership qualities and values, and will adjust as appropriate	Committee has discretion to apply malus/clawback in exceptional circumstances
LTPP 3-year performance period (up to 350% of salary for CEO, 300% for other EDs)	Group Return on Equity Group Value Growth	n/a		

3. Achievement of short-term (APP) and long-term (LTPP) incentive opportunities is linked to National Grid's performance

A key principle of our remuneration policy, and how it operates, is that reward should be aligned to the financial and operational performance of the Company and to shareholder interests. As set out in the strategic report, a number of our financial KPIs directly align to our APP and LTPP rewards. In addition, non-financial KPIs and wider business performance (for example, safety) are also taken into account, and discretion applied if appropriate, when determining an executive's performance against their individual objectives and in confirming the overall final payouts (APP) and/or vesting outcomes (LTPP). Our approach, illustrating how variable pay is linked to performance, is illustrated above.

4. Discretion and independent judgement is applied

As I stated last year, as a committee we consider whether to apply discretion when assessing remuneration outcomes for Executive Directors. Before making any APP payouts we reflect on both the underlying financial and wider business performance of the Company as well as the performance of Executive Directors against their individual objectives and their demonstration of leadership qualities and our values. We also take account of the underlying financial performance of the Company before deciding the performance outturns for LTPP vesting. This year, as set out in our new policy, we have identified for the benefit of shareholders the sort of exceptional circumstances which would trigger a review as to whether malus and/or clawback should be applied.

Proposed changes to Remuneration Policy – 2019

1. Changes to LTPP measures

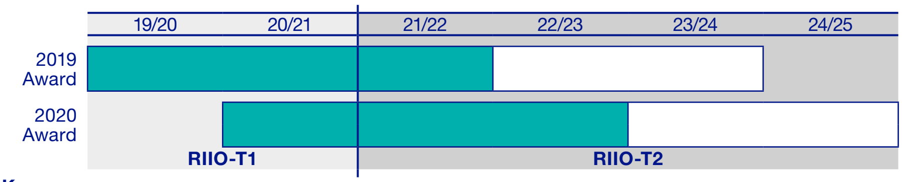
As I covered in some detail last year, National Grid's eight-year RIIO-T1 regulatory period in the UK will end on 31 March 2021. RIIO-T2 will start on 1 April 2021 and will have a five-year duration. Given that the bulk of senior executive remuneration is by design derived from the LTPP, we have considered what arrangements should be made for the LTPP awards whose performance periods straddle the two regulatory periods. The first such LTPP will be granted in June 2019, the outturn of which will be based on two years of RIIO-T1 performance and one year of RIIO-T2 performance. The second will be granted in June 2020, the outturn of which will be based on one year of RIIO-T1 performance and two years of RIIO-T2 performance. This is illustrated in figure 1.

The outcome of the RIIO-T2 framework will not be known until at least late 2020 but we need to determine now the performance measures that will apply to the 2019 and 2020 awards. Our current LTPP financial measures are weighted equally between Group RoE and Group Value Growth. Given the present uncertainty of the regulatory arrangements commencing in April 2021, we cannot be sure that Group RoE will continue to be among the two most important performance indicators for our business under RIIO-T2 and, even if Group RoE remains appropriate, we will not be able to set realistic targets for this measure with sufficient confidence. We may therefore be at risk of losing alignment with shareholder interests or risk focusing senior executives on the wrong measures by continuing to use Group RoE in the RIIO-T2 overlap period. We are confident that Group Value Growth will continue to be an important indicator of performance during RIIO-T2. It is designed to capture the Total Shareholder Return for our Company which senior management can impact, representing the uplift in value of our regulated and non-regulated assets through investment, delivery of the dividend, and strong cash generation (the detailed definition can be found on page 242). It has been applied each year since 2014 and reported in our Annual Report. It continues to be a key element of our financial proposition as presented to investors by senior executives.

As part of our review, the Committee considered carefully whether alternative long-term incentive designs, for example, restricted stock, could be appropriate. We also reviewed whether other performance measures such as Total Shareholder Return relative to an index such as the FTSE 100 might be applied. We concluded that introducing restricted stock was not consistent with the emphasis on motivating improved performance across the Group. We also concluded that introducing an incentive measure where the value was largely determined by Company share price performance against unrepresentative comparators (where, by definition, management could have little influence) would not provide a direct link between individual and collective performance and ultimate reward. We were also concerned that this might lead to significant swings in outturns that potentially were unjustified one way or the other compared with management's performance in running the Company.

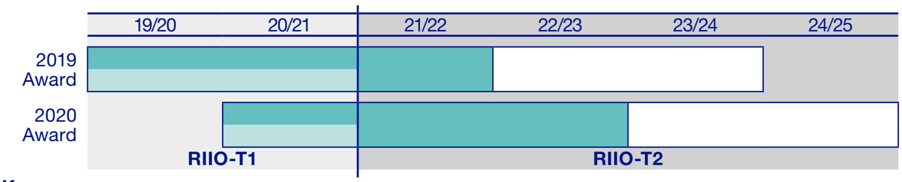
Impact of RIIO-T2 on our Long Term Performance Plan

Figure 1: LTPP timings



Key:
◆ Performance period ◇ Holding period

Figure 2: LTPP measures



Key:
◆ Group Value Growth ◇ Group RoE ◇ Holding period

The Committee believes that the strongest alignment with external shareholder interests derives from the very high shareholding requirements imposed on senior executives. The Committee also focused on the fact that LTPP awards are made not just to Executive Directors but to some 400 senior managers below Executive Committee level across National Grid in the UK and the US, who are critical to the effective operation and performance of the Company.

The Committee has therefore concluded that LTPP vesting for the 2019 and 2020 LTPP awards should be calculated according to the performance of:

a) Group Value Growth measured over the entire three-year performance period (determining 2/3rds and 5/6ths of the total vesting outcome for the 2019 and 2020 LTPP awards, respectively); and

b) Group RoE measured only over the RIIO-T1 performance period (determining 1/3rd and 1/6th of the total vesting outcome for the 2019 and 2020 LTPP awards, respectively).

This proposal is illustrated in figure 2.

We intend to supplement Group Value Growth with a second performance measure once we have clarity on the RIIO-T2 regulatory framework. We will consult with investors and propose a new remuneration policy at that time which we anticipate to be at the 2021 AGM and which will enable us to make awards in 2021 under the new policy.

2. Maximum company pensions contributions

Included in the policy is a reduction in the defined contribution rate (or cash in lieu) from a maximum of 30% to a maximum of 20% of salary for new UK-based Executive Directors (whether external recruits or internal promotions). We had already transitioned to this arrangement when appointing Andy Agg as CFO and also for other UK-based appointments to our Executive Committee made in October 2018 and March 2019. This is in response to evolving shareholder views as well as the new UK Corporate Governance Code.

Additionally, being mindful of evolving views, John Pettigrew (an active member of a DB plan until 2016) and Nicola Shaw have agreed a progressive reduction in their pension contributions in three equal steps from 30% of salary to 20% of salary without compensation. This will be implemented from the start of the next financial year following their decisions (April 2020).

We recognise the direction of travel on aligning pension contributions with those available to the wider workforce. However, it is not an issue that the Committee believes can easily be resolved in a single move as National Grid has a number of different pension structures (defined benefit (DB), defined contribution (DC) and cash in lieu) and tiering of value in both the UK and the US. As employees advance through the Company, progressive increases in the rates of pension contribution will normally apply, as is the case with other benefits such as company car allowance. In the UK our DB pension plans, all of which were closed to new members by April 2006, continue to accrue for active members. Current maximum employer contributions in our DC schemes are tiered by managerial band, ranging from 12% to 30% of salary. Our assessment of the current average annual value to our entire UK workforce excluding Executive Directors across both our DC and DB schemes is around 18%. We selected 20% as an appropriate rate for future Executive Director appointments noting in particular that this is the cash contribution rate currently earned by other UK-based senior executives. We will continue to review contribution rates in the coming years, acknowledging contractual obligations, evolving views of investors and wider market movements.

3. Post-employment shareholding requirements

The Committee also wishes to align with the new UK Corporate Governance Code, shareholder views and emerging market practice in the area of post-employment shareholding requirements. We implemented a post-employment shareholding requirement when Andrew Bonfield, CFO, left in July 2018. We have now set our policy that Executive Directors will be required to hold a minimum of 200% of salary in shares for two years after leaving employment, calculated at their leave date. If any Executive Director has not yet reached the 200% level for whatever reason at the time of their departure, we will not require additional shares to be purchased but we will require them to maintain their holdings for two years. The calculation excludes the value of any outstanding awards (not yet vested) for 'good leavers' that will vest according to the normal schedule and which in any event must be held for a two-year period (as per LTPP portion of the remuneration policy).

We have adopted a similar approach for other Executive Committee members at a level of 100% of base salary with the same holding period for two years after leaving employment.

Executive Committee members will be required to provide evidence of their shareholding at the first and second anniversaries after leaving. We will report annually in the Directors' Remuneration Report whether or not the requirement has been met by Executive Directors. Failure to comply could result in a financial penalty up to the value of the shareholding requirement, and the withdrawal/reduction of any future vesting of shares. I can confirm Andrew Bonfield has continued to meet his post-employment shareholding requirement.

4. More detail related to malus/ clawback provisions

In line with best practice we have included more detail on our approach to malus and clawback, and have also provided examples of those types of events that would be expected to trigger a review under our new process. These examples include, but are not limited to, material misstatement, misconduct of the participant, a significant environmental, health and safety or customer issue and failure of risk management, whether these events occur before or only emerge after cessation of employment. I emphasise, as I did last year, that the Committee has discretion to determine whether circumstances exist which justify whether any or all of an award should be forfeited, even if it has already been paid. In each Directors' remuneration report we will disclose any application of malus and/or clawback for our Executive Directors.

The full remuneration policy for shareholder approval is set out on pages 74 – 78.

Overview of financial performance

National Grid has had a good year, delivering £4.5 billion of investment in critical infrastructure leading to strong asset growth of 7.2%. Additionally, a dividend increase of 3.07% has been recommended for 2018/19. Our new efficiency programmes were launched in both the US and UK. In the US, we continued to make good regulatory progress, and we reached agreement on new employment terms with the unions in Massachusetts. In the UK, we delivered another year of good returns within 200 to 300 basis points of outperformance.

Review of decisions made during the year

APP

APP payouts for Executive Directors are 70% based on the achievement of the Group's financial measures and 30% based on the achievement of individual objectives. As in previous years, technical adjustments are made to financial measures, where relevant, to account for: the impact of timing, major storm costs, the net effect of currency adjustments, certain actuarial assumptions on pensions, scrip dividend uptake, and to ensure consistency of accounting treatment.

The performance of the respective financial measures has resulted in outturns ranging from 33.3% to 90.3% of the maximum for the financial portion. The performance against individual objectives has resulted in outturns ranging from 70.0% to 81.0% of the maximum for the individual portion. Taking both financial and individual performance together, the overall APP awards to Executive Directors on the Board at 31 March 2019 range from 44.3% to 85.6% of the maximum award, which amounts to awards of 55.4% to 106.4% of salary. Details of the APP payouts are presented on pages 80 – 83, including the full range of performance levels for each of the financial measures and also commentary on each Executive Director's performance against individual objectives.

Having reflected on wider financial and business performance, the Committee concluded there was no reason to exercise discretion on APP outcomes.

The full **remuneration policy for shareholder approval** is set out on pages 74 – 78.

Directors' Remuneration Report continued

Annual statement from the Remuneration Committee Chair continued

LTPP

The 2016 LTPP awards vest in July 2019. The three-year performance period ended on 31 March 2019 and vesting outcomes ranged from 73.8% to 84.2%. Details of the LTPP vesting are provided on pages 83 – 84. As I mentioned last year, the LTPP vesting also benefited from a portion of the value arising from the sale of a majority interest in the UK Gas Distribution business.

We note that the increase in the vested value of John Pettigrew's 2016 LTPP is attributable to this being the vesting of the first award made to him as CEO (and therefore at a higher base salary and award level than in prior years).

Having reflected on wider financial and business performance, the Committee concluded there was no reason to exercise discretion on LTPP outcomes.

Annual salary review

As I have stated in each remuneration report since John Pettigrew and Nicola Shaw were appointed, the Committee decided not to award them initial salaries at our assessment of the appropriate levels for their roles. Instead, we decided that we would make progressive increases in excess of the managerial salary increase budget, subject to their individual performance.

In implementing this approach, we increased both John Pettigrew's and Nicola Shaw's salaries by 9% in 2017 and 6% in 2018. I indicated that this year we would follow the same approach, again subject to performance, so both of their salaries would be appropriately aligned to our assessment of salaries for their roles.

The Committee concluded that John Pettigrew has continued to deliver strong performance in his third year in the role. This has been achieved through delivery of value to investors together with taking necessary steps to create future value for shareholders, strengthening external stakeholder relationships, as well as driving our corporate social responsibility and people agendas.

The Committee also considered that Nicola Shaw has continued to deliver strong performance. In particular, Nicola delivered enhancements in the areas of customer delivery, operational performance, and engagement with Ofgem and other key stakeholders. Highlights include a significant change programme in the UK this year and the legal separation of our Electricity System Operator business. During this period, project delivery, safety, reliability and environmental performance have been strong.

Given the strong performance of both John and Nicola over the last year, the Committee has awarded each of them a salary increase of 8% (comprising the UK budget of 2.9% and a further 5.1%). The Committee feels that their resulting salaries are appropriate given their performance and our assessment of market salaries for their roles. Our intention for the future is to make salary increases that are in line with the average salary increase budget for our UK employees subject to performance.

We have increased Dean Seavers' salary by 3.1%, which is aligned to the average salary increase budget for our US employees.

Consistent with our approach for appointing John Pettigrew and Nicola Shaw to the Board, Andy Agg was appointed at a salary level below our assessment of the appropriate level for his role. As with John and Nicola, the Committee may award future increases in excess of the managerial salary increase budget, subject to his performance. This year, however, Andy is not eligible for a June salary increase. This is consistent with our policy for the rest of the managerial population whereby employees externally hired or internally promoted on or after 1 January are not eligible for a salary increase until the following year's annual cycle.

Remuneration for new Executive Committee members

In addition to setting the remuneration of Andy Agg on his appointment as Chief Financial Officer (CFO) on 1 January 2019, the Committee reviewed and agreed the remuneration terms concerning the appointment of Barney Wyld, Group Corporate Affairs Director, in October 2018 and the appointment of Andy Doyle, Chief Human Resources Officer, in March 2019. The Committee also approved the exit arrangements of the outgoing Executive Committee members in accordance with our policy.

Fair and appropriate

The key purpose of the Committee is to set pay for Executive Directors and other Executive Committee members at a level necessary to attract, incentivise and retain high-calibre individuals, while not overpaying. To guide the Committee in making appropriate remuneration decisions we take account of the policies and practices for the wider workforce. For example, we consider: gender and ethnicity pay gaps, annual salary increases for the wider workforce, CEO pay ratios, and alignment with managerial pay principles such as mid-market approach to total reward. We employ an individual objective setting approach consistent with our managerial workforce and consider the wider business performance and resulting variable pay outcomes impacting the remuneration of our wider workforce when deciding variable pay outcomes for senior executives. All our employees are eligible for a performance-based annual payment.

In addition, we have taken steps to review pensions arrangements for Executive Directors. We have already implemented the reduction in the maximum contribution rate for the newly appointed Executive Committee members. As set out above, the pension contributions for John Pettigrew and Nicola Shaw are being reduced progressively to the 20% rate now applicable to other UK-based Executive Committee members.

We have decided to report voluntarily on CEO pay ratios one year early, and will continue to be informed by the ratios when making pay decisions for senior executives. Our CEO pay ratio is 76:1 at the median for UK-based employees. The position is somewhat different, however, when comparing CEO pay against the median level for the Group. On a Group basis the median pay ratio is 48:1. This reflects the higher general level of wages in the US compared with the UK, and especially in the regions of the US where the Company operates. It is also important to recognise that around three quarters of our employees are in the US.

A further point to note is that half of John Pettigrew's total pay is derived from this year's vested long-term incentives. These long-term incentives align John Pettigrew's interests with those of our shareholders and specifically incentivise appropriate long-term decision-making. Removing the impact of long-term incentives from our calculations (but including the APP) results in a UK employee pay ratio at the median of 38:1 and a Group-wide median ratio of 24:1. Further details of our pay ratios can be found on page 88.

The Chairman has described in his letter on page 47 the mechanisms for engagement with our employees on a wide range of topics, including pay and benefits throughout the organisation. The Committee will take all relevant feedback into account.

Changes to Committee membership

Pierre Dufour did not seek re-election last year and left the Board on 30 July 2018. The Board appointed Earl Shipp who joined the Committee on 1 January 2019. Nora Mead Brownell resigned from the Board on 8 April 2019.

Focus for 2019/20

In 2019/20, the Committee will continue to monitor and reflect on the evolving corporate governance environment and progress in the UK on RIIO-T2 arrangements which will inform our next policy review planned for 2021.

Conclusion

There are two separate remuneration votes this year. First, to approve a new binding three-year policy and second, to approve the remuneration report for 2018/19. I believe that the Committee has applied the current policy correctly and that the outcomes for senior executives properly reflect both the performance of National Grid and their personal contributions. I also believe that the policy proposals we are submitting to you will allow us to make appropriately incentivising LTPP awards in 2019 and 2020, as well as to reflect evolving best practice in remuneration governance. Accordingly, on behalf of the Committee, I commend this report to you and ask for your support for both resolutions at the AGM.

Jonathan Dawson

Jonathan Dawson
Committee Chair

At a glance – 2018/19

Our 'At a glance' highlights the performance and remuneration outcomes for our Executive Directors for the year ended 31 March 2019. Further detail is provided in the Statement of implementation of remuneration policy in 2018/19.

Performance in 2018/19

A comparison of the 2018/19 single total figure of remuneration with the maximum remuneration if variable pay had vested in full is set out below for the Executive Directors. John Pettigrew, Dean Seavers and Nicola Shaw were each in office for the full year. Andy Agg and Andrew Bonfield were each in office for part of the year.

Total remuneration

Executive Director	Maximum if variable pay vested in full £'000	2018/19 total single figure of remuneration £'000	Split by component (%)			
			Fixed	APP	2016 LTPP – face value	2016 LTPP – share appreciation/depreciation and dividend equivalent values
Andy Agg	392	360	50.7%	43.9%	5.8%	-0.4%
Andrew Bonfield	355	355	100%			
John Pettigrew	5,170	4,562	29.0%	21.8%	53.3%	-4.1%
Dean Seavers	4,044	3,001	33.1%	15.2%	57.9%	-6.2%
Nicola Shaw	2,482	2,196	31.2%	25.1%	51.1%	-7.4%

Key: ◆ Fixed ◆ APP ◆ 2016 LTPP – face value ◆ 2016 LTPP – share appreciation/depreciation and dividend equivalent values

Notes:
1. Andy Agg was appointed CFO on 1 January 2019 and his remuneration from 1 January 2019 to 31 March 2019 is disclosed above.
2. Andrew Bonfield stood down from the Board at the AGM on 30 July 2018 and left the Company on 31 July 2018. His remuneration for the period 1 April 2018 to 31 July 2018 is disclosed above. This excludes variable pay (APP, LTPP) due to his leave reason being 'resignation' and therefore he was not eligible for any APP or LTPP awards.
3. For each Executive Director the share/ADS price has decreased between grant date and the estimated three months average preceding 31 March 2019. Comparing the share price at grant of 1,021.00p for Andy Agg and John Pettigrew and 1,105.07p for Nicola Shaw, and $69.1825 for Dean Seavers, versus the average share/ADS price for the period 1 January 2019 to 31 March 2019 (837.34p and $54.73), there is a reduction of 183.66p (18%) per share, 267.73p per share (24%) and $14.4525 per ADS (21%) respectively. This results in an estimated reduction in value (net of dividend equivalents) of £4,267 for Andy Agg (prorated), £492,852 for John Pettigrew, $534,390 for Dean Seavers and £306,658 for Nicola Shaw.

	Key features of remuneration policy (adopted 2017)	Implementation of policy in 2018/19
Salary	• Target broadly mid-market against FTSE 11-40 for UK-based Executive Directors and general industry and energy services companies with similar revenue for US-based Executive Directors.	• Salary increases of 6.0% for each of John Pettigrew and Nicola Shaw (June 2018). These increases were awarded to help reduce the gap and bring their pay closer to appropriate levels for their roles and given strong individual performance; • Salary increase of 3.0% for Dean Seavers (June 2018). This increase was in line with the budget for US managerial employees; and • Andrew Bonfield was not eligible for a June 2018 salary increase because he was leaving the business.
Annual Performance Plan (APP)	• Maximum opportunity is 125% of salary; • 50% paid in cash, 50% paid in shares which must be retained until the later of two years and meeting the shareholding requirement; and • Subject to both clawback and malus.	• 70% based on financial measures and 30% based on individual objectives; • Financial measures for CEO and CFO comprise 35% adjusted EPS and 35% Group RoE; • Financial measures for Executive Director, US and Executive Director, UK comprise 23.3% US/UK Value Added respectively, 23.3% US/UK RoE respectively and 23.3% US/UK Operating Profit respectively; and • Individual objectives cover delivering value for investors, stakeholder engagement, people, corporate social responsibility, customer and driving efficiency.
Long Term Performance Plan (LTPP)	• Maximum award level is 350% of salary for CEO and 300% for other Executive Directors; • Vesting is subject to long-term performance conditions over a three-year performance period; • Shares must be retained until the later of two years from vesting and meeting the shareholding requirement; and • Subject to both clawback and malus.	• 2018 LTPP award: 50% Group RoE and 50% Group Value Growth; and • 2016 LTPP vesting in 2019: 50% Group RoE and 50% Group Value Growth for CEO and CFO; 25% Group RoE and 25% US/UK RoE for Executive Director, US and Executive Director, UK respectively and 50% Group Value Growth.
Pension and other benefits	• Eligible to participate in a defined contribution plan (or defined benefit if already a member); • Pensionable pay is salary only in UK and salary and APP in US in alignment with market; and • Other benefits as appropriate.	• UK cash allowance for John Pettigrew and Nicola Shaw, 30% of pensionable pay and for Andy Agg, 20% of pensionable pay; • US defined contribution for Dean Seavers, 9% of pensionable pay with additional match of up to 4%; and • Other benefits include private medical insurance, life assurance, and for UK-based Executive Directors either a fully expensed car or a cash alternative, and a car and driver when required.
Shareholding requirement	• 500% of salary for CEO; and • 400% of salary for other Executive Directors.	• Shareholdings for Andy Agg, John Pettigrew, Dean Seavers and Nicola Shaw are 136%, 428%, 275% and 35% respectively; and • Andy Agg, John Pettigrew, Dean Seavers and Nicola Shaw have not yet met their shareholding requirement due to a relatively short time in role and therefore their LTPP award levels are based on prior roles (Andy Agg, John Pettigrew) or relatively short time with the Company (Dean Seavers, Nicola Shaw).

Directors' Remuneration Report continued

Directors' remuneration policy – for approval by shareholders in 2019

The following tables provide details of the policy we intend to apply, subject to shareholder approval, for three years from the date of the 2019 AGM. Following approval, it will continue to be available within the 2018/19 Annual Report and Accounts on the Company's investor website (investors.nationalgrid.com). From time to time, the Committee may consider it appropriate to apply some judgement and discretion in respect of the approved policy. This is highlighted where relevant in the policy, and the use of discretion will always be in the spirit of the approved policy.

Shareholders' views

We have engaged widely with shareholders and proxy advisory service organisations on our policy proposals, enabling us to refine the policy to reflect evolving external stakeholder views. The proposed changes concern: the weighting of performance measures for LTPP, pension contributions, a post-employment shareholding requirement and further detail on the application of malus and/or clawback. Through the consultation period we have refined our approach on the changes to maximum pension contributions.

Our peer group

The Committee reviews its remuneration policy against appropriate peer groups annually to make sure we remain competitive in the relevant markets. The primary focus for reward market comparisons is the FTSE 11-40 for UK-based Executive Directors and general industry and energy services companies with similar levels of revenue for US-based Executive Directors. These peer groups are considered appropriate for a large, complex, international and predominantly regulated business.

Notwithstanding anything in this policy, any commitment made to a person before that person became an Executive Director or before this policy came into effect will be honoured by the Company.

The Committee reviews annually the overall appropriateness and relevance of the remuneration policy and whether any changes should be put to shareholders. Decisions on the levels of measures and targets for performance related pay (APP and LTPP) and payouts are made taking account of overall financial and business performance. A member of the Audit Committee is required to be a member of the Committee and this ensures the Committee receives knowledgeable input on setting financial measures and assessing outturns including any adjustments and judgements considered by the Audit Committee. The Committee also works closely with the Nominations Committee in respect of pay and conditions of newly appointed executives to ensure their remuneration is within policy. The Committee will interface with the Share Schemes Sub-Committee as required. Consistent with the UK Corporate Governance Code, members of the Remuneration Committee are independent Non-executive Directors who do not receive any variable remuneration and do not participate in decisions about their own remuneration.

Future policy tables – Executive Directors

Salary

Purpose and link to business strategy: to attract, motivate and retain high-calibre individuals, while not overpaying.

Operation	Maximum levels	Performance metrics, weighting and time period applicable
Salaries are generally reviewed annually and are targeted broadly at mid-market of our peer group. However a number of other factors are also taken into account: • business performance and individual contribution; • the individual's skills and experience; • scope of the role, including any changes in responsibility; and • market data, including base pay and total remuneration opportunity in the relevant comparator group.	No prescribed maximum annual increase although increases are generally aligned to salary increases received by other Company employees and to market movement. Increases in excess of this may be made at the Committee's discretion in circumstances such as a significant change in responsibility, progression if more recently appointed in the role and broad alignment to mid-market.	Not applicable.

Benefits

Purpose and link to business strategy: to provide competitive and cost-effective benefits to attract and retain high-calibre individuals.

Operation	Maximum levels	Performance metrics, weighting and time period applicable
Benefits provided include: • company car or a cash alternative (UK only); • use of a car and driver when required; • private medical insurance; • life assurance; • personal accident insurance (UK only); • opportunity to purchase additional benefits (including personal accident insurance for US) under flexible benefits schemes available to all employees; and • opportunity to participate in HMRC (UK) or Internal Revenue Service (US) tax-advantaged all-employee share plans, currently: Sharesave: UK employees may make monthly contributions from net salary for a period of three or five years. The savings can be used to purchase shares at a discounted price, set at the launch of each plan period. Share Incentive Plan (SIP): UK employees may use gross salary to purchase shares. These shares are placed in trust. Employee Stock Purchase Plan (ESPP) (423(b) plan): eligible US employees may purchase ADSs on a monthly basis at a discounted price. Other benefits may be offered at the discretion of the Committee.	The cost of providing benefits will vary from year to year in line with market. Participation in tax-approved all-employee share plans is subject to limits set by the relevant tax authorities from time to time.	Not applicable.

Pension

Purpose and link to business strategy: to reward sustained contribution and assist attraction and retention.

Operation	Maximum levels	Performance metrics, weighting and time period applicable
Externally hired Executive Directors will participate in a Defined Contribution (DC) arrangement. UK-based Executive Directors may alternatively choose to receive cash in lieu. In cases of internal promotion to the Board, the Company will recognise legacy DB pension arrangements of existing employees in both the UK and US where these have been provided under an existing arrangement. In line with market practice, pensionable pay for UK-based Executive Directors includes basic salary only and for US-based Executive Directors it includes basic salary and APP award.	UK DC: annual contributions for new appointments of up to 20% of basic salary. Existing Executive Directors may receive annual contributions of up to 30% of basic salary. Executive Directors may take a full or partial cash supplement in lieu. Life assurance of four times basic salary and a dependant's pension of one third of basic salary is provided. Executives with HMRC pension protection may be offered lump sum life assurance only, equal to four times basic salary. UK DB: a pension generally payable from age 60 or 63. DB benefits are subject to capped increases in pensionable salary. No enhancement is provided on promotion to the Board. Funded DB benefits are subject to HMRC maximum allowances and limits. On death in service, a lump sum of four times pensionable salary and dependant's pension of two-thirds of the Executive Directors' pension is provided. DB pension plans were closed to new members by April 2006. US DC: annual contributions of up to 9% of basic salary plus APP award with additional 401(k) plan match of up to 4%. US DB: an Executive Supplemental Retirement Plan provides for an unreduced pension benefit at age 62 (this plan is closed to new participants from 1 January 2015). For retirements at age 62 with 35 years of service, the pension benefit would be approximately two thirds of pensionable salary. DB final average pay plan is subject to capped increases in pensionable pay. Upon death in service, the spouse would receive 50% of the pension benefit (100% if the participant died while an active employee after the age of 55).	Not applicable. None of the current Executive Directors are active members of a defined benefit plan.

Annual Performance Plan (APP)

Purpose and link to business strategy: to incentivise and reward the achievement of annual financial measures and strategic non-financial measures including the delivery of annual individual objectives and demonstration of our Company leadership qualities and values.

Operation	Maximum levels	Performance metrics, weighting and time period applicable
The APP comprises reward for achievement against financial measures and achievement against individual objectives. Financial performance measures and targets are normally agreed at the start of each financial year and are aligned with strategic business priorities. Targets are set with reference to the budget. Individual objectives and associated targets are normally agreed also at the start of the year. APP awards are paid in June. 50% of the APP award is paid in shares, which (after any sales to pay associated income tax) must be retained until the shareholding requirement is met, and in any event for two years after receipt. Awards are subject to malus and clawback provisions as set out in the paragraph overleaf.	The maximum award is 125% of basic salary in respect of a financial year.	At least 50% of the APP is based on performance against financial measures. The Committee may use its discretion to set financial measures that it considers appropriate in each financial year and has the flexibility to modify the amount payable, to reflect wider financial and business performance, demonstration of leadership qualities and our values, or to take account of a significant event. The payout levels at threshold, target and stretch performance levels are 0%, 50% and 100%, respectively.

Directors' Remuneration Report continued

Directors' remuneration policy – for approval by shareholders in 2019 continued

Long Term Performance Plan

Purpose and link to business strategy: to drive long-term business performance, aligning Executive Director incentives to key strategic objectives and shareholder interests over the longer term.

Operation	Maximum levels	Performance metrics, weighting and time period applicable
Awards of shares may be granted each year, with vesting subject to long-term performance conditions. The performance measures have been chosen as the Committee believes they reflect the Executive Directors' creation of long-term value within the business. Targets are set for each award with reference to the business plan. Participants may receive ordinary dividend equivalent shares on vested shares, from the time the award was made, at the discretion of the Committee. Participants must retain vested shares (after any sales to pay tax) until the shareholding requirement is met, and in any event for a further two years after vesting. Awards are subject to malus and clawback provisions as set out in the paragraph below.	The maximum award for the CEO is 350% of salary and it is 300% of salary for the other Executive Directors based on salary at the time of the award.	The performance measures are Group Value Growth and Group RoE for all Executive Directors. For awards made in financial year 2019/20: Group Value Growth measured over three years (2019/20, 2020/21 and 2021/22) and Group RoE measured over two years (2019/20 and 2020/21) such that Group Value Growth represents 2/3rds and Group RoE represents 1/3rd of the total vesting outcome. For awards made in financial year 2020/21: Group Value Growth measured over three years (2020/21, 2021/22 and 2022/23) and Group RoE measured over one year (2020/21) such that Group Value Growth represents 5/6ths and Group RoE represents 1/6th of the total vesting outcome. For awards made in 2016 which will vest in 2019, the performance measures and percentage weightings are: Group Value Growth (50%) and Group RoE (50%) for the CEO and CFO; Group Value Growth (50%), Group RoE (25%) and UK or US RoE (25%) for the UK and US Executive Directors respectively. For awards made in 2017 and 2018 which will vest in 2020 and 2021 respectively, the performance measures were Group Value Growth and Group RoE, equally weighted, for all Executive Directors. All awards have a three-year performance period. For each performance measure, threshold performance will trigger only 20% of the award to vest; 100% will vest if maximum performance is attained. Notwithstanding the level of award achieved against the performance conditions, the Committee may use its discretion to modify the amount vesting to reflect wider financial and business performance and take account of a significant event and/or compliance with the dividend policy.

Malus and clawback

The Committee has discretion to determine whether exceptional circumstances exist which justify whether any or all of an award should be forfeited, even if already paid. Examples of exceptional circumstances include, but are not limited to, material misstatement, misconduct of the participant, a significant environmental, health and safety or customer issue, failure of risk management, and if certain other facts emerge after termination of employment. The Committee also has a prescribed process to follow when determining whether and how to apply this discretion.

Future policy table – Non-executive Directors (NEDs)

Fees for NEDs

Purpose and link to business strategy: to attract NEDs who have a broad range of experience and skills to oversee the implementation of our strategy.

Operation	Maximum levels	Performance metrics, weighting and time period applicable
NED fees (excluding those of the Chairman) are set by the Executive Committee in conjunction with the Chairman. The Chairman's fees are set by the Committee. Fee structure: • Chairman fee (all inclusive); • basic fee, which differs for UK- and US-based NEDs; • committee chair fee; • committee membership fee; and • Senior Independent Director fee. No additional fees are paid for membership/chair of the Nominations Committee. Fees are reviewed every year taking into account those in companies of similar scale and complexity. The Chairman is covered by the Company's private medical and personal accident insurance plans, and has the use of a car and driver, when required. NEDs do not participate in incentives, pension or any other benefits. However, they are eligible for reimbursement for all Company-related travel expenses. In instances where these costs are treated by HMRC as taxable benefits, the Company also meets the associated tax cost to the Non-executive Directors through a PAYE settlement agreement with HMRC. NEDs who also sit on National Grid subsidiary boards may receive additional fees related to service on those boards.	There are no prescribed maximum fee levels although fees are generally aligned to salary increases received by other Company employees and market movement for NEDs of companies of similar scale and complexity. The cost of benefits provided to the Chairman is not subject to a predetermined maximum since the purchase cost will vary from year to year.	Not applicable.

Shareholding requirement – in employment

The requirement of Executive Directors to build up and hold a significant value of National Grid shares ensures they share a significant level of risk with shareholders and aims to align their interests.

Executive Directors are required to build up and retain shares in the Company. The level of holding required is 500% of salary for the CEO and 400% of salary for the other Executive Directors.

Unless the shareholding requirement is met, Executive Directors will not be permitted to sell shares, other than to pay income tax liabilities on shares just vested or in exceptional circumstances approved by the Remuneration Committee.

Shareholding requirement – post employment

The requirement of Executive Directors to continue to hold National Grid shares after leaving ensures they continue to share a risk with shareholders and maintain alignment with shareholders' interests. Executive Directors will be required to hold 200% of base salary calculated at their leave date, or maintain their actual holding percentage if lower, expressed as a number of shares and held for a period of two years. This calculation excludes the value of any awards not yet vested for 'good leavers' that will vest according to the normal schedule and which in any event must be held for a two-year period. The calculation will include recently vested LTPP awards or APP awards paid as shares which are subject to respective two-year holding periods, even after employment.

Unless the post-employment shareholding requirement is met, Executive Directors will not be permitted to sell shares, other than to pay income tax liabilities on shares just vested or in exceptional circumstances approved by the Remuneration Committee.

Consideration of remuneration policy elsewhere in the Company

Our remuneration policy is generally aligned to the policies for our non-unionised workforce. All employees are entitled to base salary, benefits and pension contributions. In setting the remuneration policy the Committee considers the remuneration packages offered to employees across the Company. As a point of principle, salaries, benefits, pensions and other elements of remuneration are assessed regularly to ensure they remain competitive in the markets in which we operate. In undertaking such assessment our aim is to be at mid-market for all job bands, including those subject to union negotiation.

As would be expected, we have differences in pay and benefits across the business which reflect specific accountabilities and labour markets. There are elements of remuneration policy which apply to all, for example, flexible benefits and share plans.

When considering annual salary increases, the Committee reviews the proposals for salary increases for the employee population generally, as it does for any other changes to remuneration being considered.

All employees are eligible for an annual performance-based award. Eligibility and the maximum opportunity available is based on market practice for incentives for the employee's job band. In addition, around 400 senior management employees are awarded LTPPs annually, which include the same performance measures as those for Executive Directors.

The Company has a number of all-employee share plans that provide employees with the opportunity to become, and to think like, a shareholder. These plans include Sharesave and the Share Incentive Plan (SIP) in the UK and the 401(k) and 423(b) plans in the US. Further information is provided on page 74.

The Company issues an employee engagement survey each year, which includes remuneration as a topic. It does not specifically invite employees to comment on the Directors' remuneration policy but any comments made by employees are noted. The Board also regularly engages with employees on a variety of topics, including remuneration.

Policy on recruitment remuneration

Salaries for new Executive Directors appointed to the Board will be set in accordance with the terms of the approved remuneration policy in force at the time of appointment, and in particular will take account of the appointee's skills and assessment of the experience as well as the scope and our assessment of the market rate for the role.

Where appropriate, salaries may be set below market level initially, with the Committee retaining discretion to award increases in salary in excess of those of the wider workforce and inflation to bring the salary to the market level over time, where this is justified by individual and Company performance.

Benefits consistent with those offered to other Executive Directors under the approved remuneration policy in force at the time of appointment will be offered, taking account of local market practice. The Committee may also agree that the Company will meet certain costs associated with the recruitment, for example legal fees, and the Committee may agree to meet certain relocation expenses or provide tax equalisation as appropriate.

Pension contributions for new Executive Directors appointed to the Board will be set in accordance with the terms of the approved remuneration policy in force at the time of appointment.

Ongoing incentive pay (APP and LTPP) for new Executive Directors will be in accordance with the approved remuneration policy in force at the time of appointment. This means the maximum APP award in any year would be 125% of salary and the maximum LTPP award would be 300% of salary (350% of salary for the CEO).

For an externally appointed Executive Director, the Company may offer additional cash or share-based payments that it considers necessary to buy out current entitlements from the former employer that will be lost on recruitment to National Grid. Any such arrangements would reflect the delivery mechanisms, time horizons and levels of conditionality of the remuneration lost.

In order to facilitate buy-out arrangements as described above, existing incentive arrangements will be used to the extent possible, although awards may also be granted outside of these shareholder-approved schemes if necessary and as permitted under the Listing Rules.

For an internally appointed Executive Director, any outstanding APP awards will be determined according to the original terms but paid at the end of the year. Any outstanding LTPP awards will be paid according to the original terms.

Fees for a new Chairman or Non-executive Director will be set in line with the approved policy in force at the time of appointment.

Service contracts/letters of appointment

In line with our policy, all Executive Directors have service contracts which are terminable by either party with 12 months' notice. Non-executive Directors are subject to letters of appointment. The Chairman's appointment is subject to six months' notice by either party; for other Non-executive Directors, notice is one month. Both Executive Directors and Non-executive Directors are required to be re-elected at each AGM.

Policy on payment for loss of office

The contracts contain provisions for payment in lieu of notice, at the sole and absolute discretion of the Company. Such contractual payments are limited to payment of salary only for the remainder of the notice period. In the UK such payments would be phased on a monthly basis, over a period not greater than 12 months, and the Executive Director would be expected to mitigate any losses where employment is taken up during the notice period. In the US, for tax compliance purposes, the policy is to make any payment in lieu of notice as soon as reasonably practicable, and in any event within two and a half months of the later of 31 December and 31 March immediately following the notice date.

In the event of a UK Director's role becoming redundant, statutory compensation would apply and the relevant pension plan rules may result in the early payment of an unreduced pension.

Directors' Remuneration Report continued

Directors' remuneration policy – for approval by shareholders in 2019 continued

On termination of employment, no APP award would generally be payable. However, the Committee has the discretion to deem an individual to be a 'good leaver', in which case a pro-rata discretionary payment could be paid, based on financial performance (as measured at the end of the financial year) and the achievement of individual objectives during the financial year up to termination. In the UK the discretionary payment would generally be paid at the normal time. In the US the payment would be made earlier if required for tax compliance purposes, in which case the Committee would apply discretion to determine an appropriate level of financial performance. Examples of circumstances, whilst not exhaustive, which could trigger 'good leaver' treatment include redundancy, retirement, illness, injury, disability and death. The Committee will apply discretion to determine if the pro-rata discretionary payment should be made sooner than it would normally be paid, for example, in the case of death.

On termination of employment, outstanding awards under the share plans will be treated in accordance with the relevant plan rules approved by shareholders. Unvested share awards would normally lapse. 'Good leaver' provisions apply at the Committee's discretion and in specified circumstances. Examples of circumstances, whilst not exhaustive, which could trigger 'good leaver', include: redundancy, retirement, illness, injury, disability and death, where awards will be released to the departing Executive Director or, in the case of death, to their estate. Long-term share plan awards held by 'good leavers' will normally vest subject to performance measured at the normal vesting date and will be reduced pro-rata for each completed month starting on the date of grant. Such awards would vest at the same time as for other participants, apart from circumstances in which the award recipient has died, in which case the awards vest as soon as practicable (based on a forecast of performance).

At the Committee's discretion, the Company may also agree other payments such as an agreed amount for legal fees associated with the departure of the Executive Director and outplacement support.

No compensation would be paid for loss of office of Directors on a change of control of the Company. Further details are provided at page 221.

No compensation is payable to the Chairman or Non-executive Directors if they are required to stand down or are not re-elected at the AGM.

Copies of Directors' service contracts and letters of appointment are available for inspection at the Company's registered office.

External appointments

The Executive Directors may, with the approval of the Board, accept one external appointment as a Non-executive Director of another company and retain any fees received for the appointment. Experience as a board member of another company is considered to be valuable personal development, which in turn is of benefit to the Company.

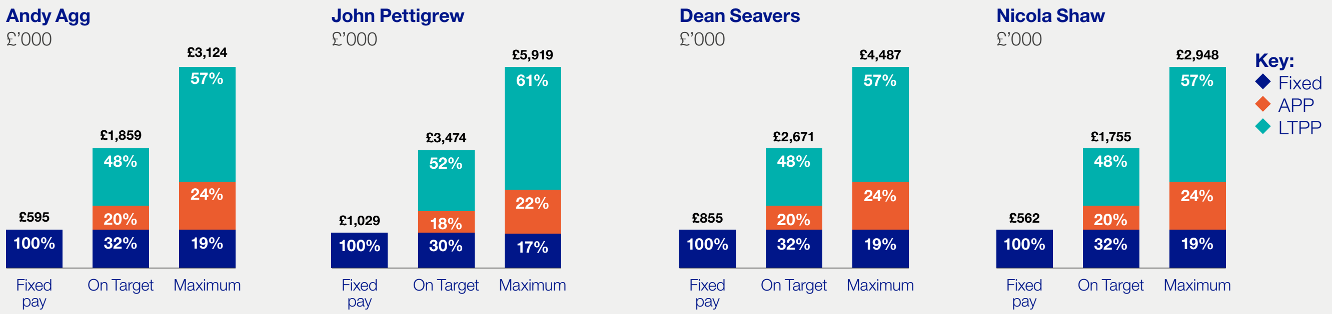
Total remuneration opportunity

The total remuneration for each of the Executive Directors that could result from the remuneration policy in 2019 under three different performance levels (below threshold, when only fixed pay is receivable, on target and maximum) is shown below. The maximum receivable assuming 50% share price growth (or a reduction) in LTPP awards over a three-year performance period, and the basis for this calculation, is set out in note 6 below.

Corporate and share capital events

The Group's employee share plans (including the LTPP) contain standard provisions that allow awards (and where relevant their exercise prices) to be adjusted, or in some cases vest or be exchanged, on the occurrence of a corporate or share capital event such as a capitalisation or rights issue, sub-division, consolidation or reduction of share capital, demerger, special dividend or distribution, listing or change of control, normally at the discretion of the Committee.

Total remuneration opportunity, by Executive Director



Notes:
1. Fixed pay consists of salary, pension and benefits in kind as provided under the remuneration policy.
2. Salary is that to be paid in 2019/20, taking account of the increases that will be effective from 1 June 2019 as shown on page 89.
3. Benefits in kind and pension are as shown in the Single Total Figure of Remuneration table for 2018/19 on page 79.
4. APP calculations are based on 125% of salary for the period 1 April 2019 to 31 March 2020. APP payout is 50% for on-target performance and the maximum of 100% is for achieving stretch.
5. LTPP calculations are based on awards with a face value of 350% of 1 June 2019 salary for John Pettigrew and 300% of 1 June 2019 salary for all other Executive Directors. Share price value used 837.34p / ADS price used $54.73 / exchange rate used $1.3054:£1. LTPP payout is 50% for on-target performance and the maximum of 100% is for achieving stretch. Excludes changes in share price and dividend equivalents.
6. For LTPP calculations, assuming either a 50% share/ADS price growth (or reduction) over the three-year performance period, the increase (or decrease) in LTPP value and maximum total compensation for each of the Executive Directors would be (all amounts expressed as £'000):
   Andy Agg: LTI value would increase (or decrease) from £1,785 to £2,677 (or £892) and maximum total compensation would rise (or reduce) from £3,124 to £4,016 (or £2,231) respectively
   John Pettigrew: LTI value would increase (or decrease) from £3,603 to £5,405 (or £1,802) and maximum total compensation would rise (or reduce) from £5,919 to £7,721 (or £4,118) respectively
   Dean Seavers: LTI value would increase (or decrease) from £2,564 to £3,846 (or £1,282) and maximum total compensation would rise (or reduce) from £4,487 to £5,769 (or £3,205) respectively
   Nicola Shaw: LTI value would increase (or decrease) from £1,685 to £2,527 (or £842) and maximum total compensation would rise (or reduce) from £2,948 to £3,790 (or £2,106) respectively.

Statement of implementation of remuneration policy in 2018/19

Role of Remuneration Committee

The Committee is responsible for recommending to the Board the remuneration policy for Executive Directors, the other members of the Executive Committee and the Chairman, and for implementing this policy. The aim is to align the remuneration policy to Company strategy and key business objectives, and ensure it reflects our shareholders', customers' and regulators' interests. The members of the Remuneration Committee in 2018/19 were Nora Mead Brownell (until April 2019), Jonathan Dawson (chair), Pierre Dufour (until July 2018 AGM), Earl Shipp (from January 2019) and Mark Williamson.

The Committee's activities during the year

Meeting	Main areas of discussion
April	2017/18 individual objectives scoring for Executive Committee Approval of 2018/19 objectives for Executive Committee Discussion on 2017/18 expected incentive plan outturns Discussion on 2019 remuneration policy
May (three meetings)	2017/18 APP financial outturns and confirmation of awards for Executive Committee Discussion on expected 2015 LTPP outturns Annual salary review and LTPP proposals for Executive Committee Review and approval of Chairman's fees Items related to outgoing CFO and interim CFO appointment
September	Discussion on 2019 remuneration policy including the impact of the new UK Corporate Governance Code
October	Discussion on 2019 remuneration policy
November	Discussion on expected outturns for outstanding LTPP awards Review of gender and ethnicity pay gaps
December	Items related to CFO appointment and new Executive Committee appointment
January	Approval of refinements to remuneration policy following investor consultation Items related to new Executive Committee appointment
March	Market data review for Executive Committee remuneration and initial proposals for base salary increases First review of 2019/20 individual objectives of Executive Committee

Single Total Figure of Remuneration – Executive Directors

The following table shows a single total figure in respect of qualifying service for 2018/19, together with comparative figures for 2017/18:

	Salary £'000		Benefits in kind £'000		APP £'000		LTPP £'000		Pension £'000		Total £'000	
	18/19	17/18	18/19	17/18	18/19	17/18	18/19	17/18	18/19	17/18	18/19	17/18
Andy Agg	**149**	–	**4**	–	**158**	–	**19**	–	**30**	–	**360**	–
Andrew Bonfield	**255**	768	**23**	69	**0**	787	**0**	2,183	**77**	230	**355**	4,037
John Pettigrew	**944**	887	**94**	85	**994**	919	**2,247**	1,491	**283**	266	**4,562**	3,648
Dean Seavers	**825**	771	**30**	24	**457**	740	**1,551**	1,398	**138**	142	**3,001**	3,075
Nicola Shaw	**515**	484	**15**	14	**552**	383	**959**	–	**155**	145	**2,196**	1,026
Total	**2,688**	2,910	**166**	192	**2,161**	2,829	**4,776**	5,072	**683**	783	**10,474**	11,786

Notes:
Salary: Base salaries were last increased on 1 June 2018 other than for Andrew Bonfield, who was not eligible to receive a salary increase due to leaving the business. Andy Agg's salary reflects the time in his role as CFO, 1 January to 31 March 2019. Andrew Bonfield's salary reflects the period before he left the business, 1 April to 31 July 2018.
Benefits in kind: Benefits in kind (BIK) include private medical insurance, life assurance and, for UK-based Executive Directors, either a fully expensed car or a cash alternative to a car and the use of a car and a driver when required. There were no Sharesave options granted to any of the Executive Directors during 2018/19. Andy Agg's BIK reflects the time in his role as CFO, 1 January to 31 March 2019. Andrew Bonfield's BIK reflects the period before he left the business, 1 April to 31 July 2018.
APP: Andy Agg's APP reflects his contribution for the three months of his appointment as CFO, 1 January to 31 March 2019. Andrew Bonfield was not eligible to receive an award due to leaving the business.
LTPP: The 2016 LTPP is due to vest in July 2019. The average share price over the three months from 1 January 2019 to 31 March 2019 of 837.34p ($54.73 per ADS) has been applied. The 2017/18 LTPP figures have been restated because last year they were estimated using the average share price (January-March 2018) and they now include the actual share price on vesting at 1 July 2018 and all dividend equivalent shares. Due to a higher share price at vesting of 841.07p versus the estimate of 787.8p (and the additional dividend equivalent shares added for the dividend with a record date of 1 June 2018 with a dividend rate of 30.44p per share), the actual value at vesting was £189,419 and £129,414 higher than the estimate (last year) for Andrew Bonfield and John Pettigrew, respectively. Despite a lower ADS price at vesting of $54.936 versus the estimate of $55.16, the actual value at vesting was $36,581 higher than the estimate (last year) for Dean Seavers. This is because the change in price was more than offset by the additional dividend equivalent ADSs for the dividend with a record date of 1 June 2018 with a dividend rate of $2.0606 per ADS. For Andy Agg the LTPP value shown in the table is prorated 3/36ths in relation to his time as CFO since 1 January 2019.
Impact of share price change: The impact of share price change for the 2016 LTPP, comparing the share price at grant (of 1,021.00p for Andy Agg and John Pettigrew and 1,105.07p for Nicola Shaw, who received her award on 12 July 2016, and $69.1825 for Dean Seavers) versus the average share price for the period 1 January 2019 to 31 March 2019 (837.34p and $54.73), was a reduction of 183.66p (18%) per share, 267.73p per share (24%) and $14.4525 per ADS (21%) respectively. This results in an estimated reduction in value (including dividend equivalents) of £4,267 for Andy Agg (prorated), £492,852 for John Pettigrew, $534,390 for Dean Seavers and £306,658 for Nicola Shaw.
Pension: Andy Agg's pension reflects the time in his role as CFO, 1 January to 31 March 2019. Andrew Bonfield's pension reflects the period before he left the business, 1 April to 31 July 2018.

Directors' Remuneration Report continued

Statement of implementation of remuneration policy in 2018/19 continued

Annual Performance Plan (APP)

Performance against targets for APP 2018/19

APP awards are earned by reference to the financial year and paid in June. Financial measures determine 70% of the APP, and individual objectives determine 30% of the APP.

Payment of the APP award is made in shares (50% of the award) and cash (50%). Shares (after any sales to pay income tax) must be retained until the shareholding requirement is met, and in any event for two years after receipt. Threshold, target and stretch performance levels for the financial measures are predetermined by the Committee and pay out at 0%, 50% and 100% of the maximum potential for each part and on a straight-line basis in between threshold and target performance and target and stretch performance. Target and stretch performance levels for the individual objectives are also predetermined by the Committee, and an assessment of the performance relative to the target and stretch performance levels and outturns is made at the end of the performance year on each objective.

The outcomes of APP awards earned for financial and individual performance in 2018/19 are summarised in the table below:

Performance measure	Proportion of max opportunity	Threshold	Target	Stretch	Actual	Proportion of max achieved
CEO and CFO						
Adjusted EPS (p/share)	35%	52.7	56.2	59.7	59.0	90.0%
Group RoE (%)	35%	11.24	11.64	12.04	11.91	83.7%
Executive Director, UK						
UK Value Added (£m)	23.3%	1,638	1,698	1,758	1,758	100.0%
UK RoE (%) (Percentage points above average allowed regulatory return)	23.3%	1.75	2.00	2.25	2.71	100.0%
Underlying UK Operating Profit (£m)	23.3%	1,362	1,412	1,462	1,433	71.0%
Executive Director, US						
US Value Added (£m)	23.3%	1,330	1,380	1,430	1,563	100.0%
US RoE (%)	23.3%	8.9	9.1	9.3	8.8	0.0%
Underlying US Operating Profit (£m)	23.3%	1,683	1,743	1,803	1,644	0.0%
All Executive Directors						
Individual objectives (%)	30%		Detail expanded in tables below			70%-81%

Notes:
Adjusted EPS: Technical adjustments have been made increasing the target by 2.1p to reflect the net effect of currency adjustments, the reclassification of the Group's 39% interest in Cadent as held for sale and discontinued operations, the impact of timing and major storm costs, certain actuarial assumptions on pensions, and to ensure the consistency of accounting treatment.
Group RoE: Technical adjustments have been made to reflect the net effect of the reclassification of the Group's 39% interest in Cadent as held for sale and discontinued operations, the true-up of opening equity, and to ensure consistency of accounting treatment.
UK financial measures: Technical adjustments have been made to ensure consistency of accounting treatment (and in the case of operating profit, to also reflect the net effect of certain actuarial assumptions on pensions).
US financial measures: Technical adjustments have been made to US operating profit to reflect the net effect of currency adjustments and to ensure consistency of accounting treatment. A technical adjustment has been made to US RoE to true-up the equity weighting element of the calculation.

Individual Objectives

For 2018/19, the individual objectives of the Executive Directors when taken together were designed to deliver against each of our business priorities. Performance against these objectives is set out in the tables below and on the following page. As with the financial measures, the achievement of 'stretch' performance and 'target' performance results in 100% and 50% respectively of the maximum payout.

Key — achievement against objective

- not achieved
- below target outcome
- target outcome
- between target and stretch outcome
- stretch outcome

Andy Agg

Individual objective & performance commentary	Weighting	Outturn
Drive the efficiency of the business • Major cost efficiency programmes across the Group have been substantially delivered • Enhanced controls in our UK business	25%	
Engage with investors • Established himself as CFO with investors and undertook an extensive investor engagement campaign	25%	
Delivering value for investors • Successfully agreed sale for our 25% minority stake in Cadent, delivering strong cash returns • Provided excellent support to RIIO-T2 and US rate case teams	25%	
Develop more diversity in talent • Significantly increased both the gender and ethnic diversity among the leadership population in the Finance function	25%	
Summary		
Andy Agg has made a strong start in the role, both as Interim CFO and, following his appointment, as CFO. In particular, he delivered investor value through the sale of our remaining stake in Cadent and through efficiency programmes in both the US and UK. Andy also enhanced controls in our UK business, supported the acquisition of Geronimo Energy in the US, provided excellent support to the RIIO-T2 and US rate case teams, and increased the diversity of our employees in the Finance function.	100%	81%

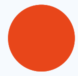
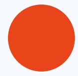
John Pettigrew

Individual objective & performance commentary	Weighting	Outturn
Delivering value for investors • Successfully completed sale for 25% minority stake in Cadent, delivering strong cash returns • Implemented operating model changes in both the US and UK, leading to early cost efficiencies, and on track to deliver future reductions in operational expenditures • Conducted comprehensive strategy and finance review to continue to support investor proposition	40%	
Engaging with external stakeholders • Supported US business to successfully complete new rate cases, and established and/or maintained strong engagement with multiple US stakeholders, albeit with some difficulties in relation to the labour dispute in Massachusetts • As in 2017/18, continued to support UK business with positive management of key stakeholders and debate on RIIO-T2, though there remains more work to be done to achieve an acceptable outcome on Hinkley-Seabank	20%	
Driving our corporate social responsibility agenda • Initiated review to drive enhanced focus on social purpose. Grid 4 Good simulations and pilots established with growing awareness across the business • Established strong understanding across workforce of what it means to be a purpose-led organisation	20%	
Driving our people agenda • Increased gender and ethnic diversity among leader population • Created a Senior Leadership Development Programme to strengthen succession and leadership capabilities • More work to be done to strengthen the pipeline of credible successors throughout organisation	20%	
Summary		
John Pettigrew has had a strong year, delivering investor value and continuing to engage successfully with key external stakeholders, with some difficulties due to the labour dispute in Massachusetts. John made significant progress in driving our corporate social responsibility and people agendas.	100%	78%

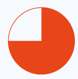
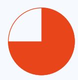
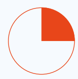
Directors' Remuneration Report continued

Statement of implementation of remuneration policy in 2018/19 continued

Dean Seavers

Individual objective & performance commentary	Weighting	Outturn
Deliver a step change in customer delivery • Successfully delivered customer strategy. Significant enhancements have been made in the distributed generator connection process in particular. However, changes in First Contact Resolution, which were key components of this objective, were below target	25%	
Define and implement a revised operating model • Completed operating model work ahead of schedule • Identified cost efficiencies to enable growth in a sustainable way with no detrimental impact on reliability and safety	25%	
Deliver successful outcomes in rate case filings for Massachusetts and Rhode Island • Delivered both Massachusetts and Rhode Island rate cases successfully with potential to earn 9.5% RoE • Reviewed impact of tax reform to mitigate negative impact for National Grid's US business	25%	
Develop more diversity in talent • Significantly increased both the gender and ethnicity diversity of the US Leadership Team	25%	
Summary		
Dean Seavers delivered considerable enhancements in customer initiatives, a revised operating model, and successful rate cases in MA and RI. He also significantly increased the gender and ethnicity diversity of the US Leadership Team. The US had some difficulties due to the labour dispute, but under Dean's leadership the US maintained strong reliability and safety performance.	100%	70%

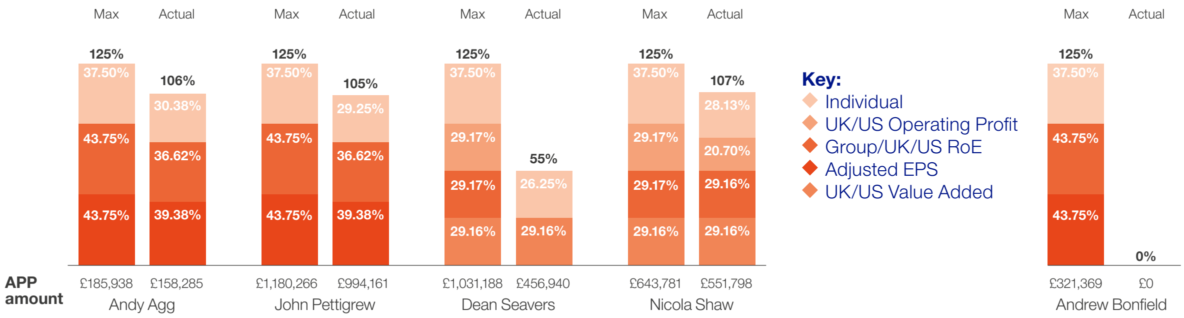
Nicola Shaw

Individual objective & performance commentary	Weighting	Outturn
Deliver a step change in customer delivery • Improved customer satisfaction scores; maintained Net Promoter Score • Successfully delivered customer strategy	25%	
Deliver a step change in operational performance • Delivered change in operational performance (including £24 million cost reduction) in line with plan while managing all key risks and the legal separation of our Electricity System Operator business	25%	
Deliver successful regulatory outcomes • Strong engagement with key stakeholders related to Hinkley-Seabank though there remains more to do • Progressed engagement with Ofgem on RIIO-T2 regulatory arrangements, including a thorough response to Ofgem's consultation document	25%	
Develop our talent and people • Strong leadership through period of significant change • Developed and delivered people initiatives, though employee enablement and engagement scores, which were key components of this objective, declined over the year	25%	
Summary		
Nicola Shaw has delivered enhancements in the areas of customer delivery, operational performance, and engagement with Ofgem and other key stakeholders. In particular, Nicola has successfully undertaken and managed a significant change programme in the UK this year and the legal separation of our Electricity System Operator business. During this period, project delivery and safety, reliability and environmental performance have been strong.	100%	75%

2018/19 APP as a proportion of base salary

The overall APP award and its composition based on financial performance and individual performance for each Executive Director is shown as a proportion of salary.

Executive Directors at 31 March 2019 **Former CFO**



Note:

1. US RoE/US Value Added/US Operating Profit pertain to Dean Seavers Executive Director, US, and UK RoE/UK Value Added/UK Operating Profit pertain to Nicola Shaw, Executive Director, UK. US Operating Profit and US RoE payouts are zero for 2018/19.
2. The APP award shown for Andy Agg relates to his appointment as CFO from 1 January to 31 March 2019.

2018/19 LTPP performance

The LTPP value included in the 2018/19 single total figure relates to anticipated vesting of the conditional LTPP awards granted in 2016.

2016 LTPP

The 2016 award is determined by performance over the three years ended 31 March 2019 of RoE (50% weighting) and Group Value Growth (50% weighting), which will vest on 1 July 2019. LTPP vesting is based upon the position held at the award date. For the UK and US Executive Directors in position at the award date, the RoE component is split equally between Group RoE and UK and US RoE respectively. For the CEO and the CFO in position at the award date, the entire RoE component is based on Group RoE.

The performance achieved against the 2016 LTPP award performance targets was:

Performance measure	Threshold – 20% vesting	Maximum – 100% vesting	Actual/expected vesting	Actual/expected proportion of maximum achieved
Group RoE (50% weighting for the CEO and CFO, 25% weighting for the Executive Director, UK, and the Executive Director, US)	11.0%	12.5% or more	11.9%	69.8%
UK RoE (25% weighting for the Executive Director, UK)	RoE is 1 percentage point above the average allowed regulatory return	RoE is 3.5 percentage points or more above the average allowed regulatory return	RoE is 2.4 percentage points above the average allowed regulatory return	65.9%
US RoE (25% weighting for the Executive Director, US)	90% of the average allowed regulatory return	105% of the average allowed regulatory return	92% of the average allowed regulatory return	28.1%
Group Value Growth (50% weighting)	10.0%	12.0% or more	11.97%	98.7%

The Group Value Growth vesting includes an amount, consistent with the vested awards disclosed in the 2016/17 and 2017/18 reports, to reflect the value added from the sale of a majority interest in the UK Gas Distribution business in 2016/17, as this event occurred within the three-year 2016–2019 performance period measured.

Directors' Remuneration Report continued

Statement of implementation of remuneration policy in 2018/19 continued

The amounts expected to vest under the 2016 LTPP for the performance period ended on 31 March 2019 and included in the 2018/19 single total figure are shown in the table below. The valuation is based on the average share price over the three months from 1 January 2019 to 31 March 2019 of 837.34p ($54.73 per ADS).

	Original number of share awards in 2016 LTPP	Overall vesting percentage	Number of awards vesting	Number of dividend equivalent shares	Total value of awards vesting and dividend equivalent shares (£'000)
Andy Agg	2,448	84.2%	2,061	261	19
John Pettigrew	282,810	84.2%	238,126	30,224	2,247
Dean Seavers (ADSs)	44,447	73.8%	32,802	4,179	1,551
Nicola Shaw	122,164	83.2%	101,640	12,900	959

Note:
The total value of awards vesting and dividend equivalent shares are subject to a two-year holding period.
Andy Agg: The 2016 LTPP vest has been prorated by 3/36ths in relation to his time as CFO since 1 January 2019.

Total pension benefits

Andy Agg, Andrew Bonfield, John Pettigrew and Nicola Shaw received a cash allowance in lieu of participation in a pension arrangement. Dean Seavers participated in a defined contribution pension arrangement in the US. There are no additional benefits on early retirement. The values of these benefits, received during this year, are shown in the single total figure of remuneration table.

John Pettigrew has, in addition, accrued defined benefit (DB) entitlements. He opted out of the DB scheme on 31 March 2016 with a deferred pension and lump sum payable at his normal retirement date. At 31 March 2019, John Pettigrew's accrued DB pension was £159,759 per annum and his accrued lump sum was £479,276. No additional DB entitlements have been earned over the financial year, other than an increase for price inflation due under the pension scheme rules and legislation. Under the terms of the pension scheme, if he satisfies the ill health requirements, or he is made redundant, an unreduced and immediate pension may be payable earlier than his normal retirement date. A lump sum death in service benefit is also provided in respect of these DB entitlements.

Single total figure of remuneration – Non-executive Directors

The following table shows a single total figure in respect of qualifying service for 2018/19, together with comparative figures for 2017/18:

	Fees £'000		Other emoluments £'000		Total £'000	
	2018/19	**2017/18**	**2018/19**	**2017/18**	**2018/19**	**2017/18**
Nora Mead Brownell	**100**	98	**8**	8	**108**	106
Jonathan Dawson	**108**	106	**2**	0	**110**	106
Pierre Dufour	**33**	99	**3**	13	**36**	112
Therese Esperdy	**138**	136	**15**	15	**153**	151
Sir Peter Gershon	**523**	511	**83**	74	**606**	585
Paul Golby	**101**	100	**5**	4	**106**	104
Amanda Mesler	**77**	–	**–**	–	**77**	–
Earl Shipp	**25**	–	**3**	–	**28**	–
Mark Williamson	**130**	128	**6**	6	**136**	134
Total	**1,235**	1,178	**125**	120	**1,360**	1,298

Notes:
Receiving the US-based Board fee: Nora Mead Brownell, Pierre Dufour, Therese Esperdy and Earl Shipp.
Receiving the UK-based Board fee: Jonathan Dawson, Paul Golby, Amanda Mesler and Mark Williamson.
Nora Mead Brownell: Nora Mead Brownell stepped down in April 2019.
Pierre Dufour: Pierre Dufour stepped down at the 2018 AGM.
Therese Esperdy: Fees for 2018/19 include £25,000 in fees for serving on the National Grid USA Board.
Sir Peter Gershon: Other emoluments comprise private medical insurance and the use of a car and driver when required. Effective 1 April 2018 the Chairman waived his entitlement to receive a cash allowance in lieu of a car. The Chairman continues to have the use of a car and driver, when required.
Amanda Mesler: Amanda Mesler joined the Board on 17 May 2018.
Earl Shipp: Earl Shipp joined the Board on 1 January 2019.
Other emoluments: In accordance with the Company's expenses policies, Non-executive Directors receive reimbursement for their reasonable expenses for attending Board meetings. In instances where these costs are treated by HMRC as taxable benefits, the Company also meets the associated tax cost to the Non-executive Directors through a PAYE settlement agreement with HMRC and these costs are included in the table above.

The total emoluments paid to Executive and Non-executive Directors in the year was £11.8 million (2017/18: £12.8 million).

Other Remuneration Disclosures

2018 LTPP (conditional award) granted during the financial year

The face value of the awards is calculated using the volume weighted average share price at the date of grant (28 June 2018) (£8.374083 per share and $55.2239 per ADS) and is used to determine the value of the awards granted.

	Basis of award	Face value '000	Proportion vesting at threshold performance	Number of shares	Performance period end date
Andy Agg	200% of salary	£920	20%	109,886	31 March 2021
John Pettigrew	350% of salary	£3,336	20%	398,398	31 March 2021
Dean Seavers (ADSs)	300% of salary	$3,246	20%	58,786 (ADSs)	31 March 2021
Nicola Shaw	300% of salary	£1,560	20%	186,263	31 March 2021

Notes:
The 2018 LTPP grant will vest on 1 July 2021. The total value of awards vesting and dividend equivalent shares are subject to a two-year holding period.
Andy Agg: Andy Agg's award is based upon his position as interim CFO at 28 June 2018 and not as an Executive Director.

Performance conditions for LTPP awards granted during the financial year

	Conditional share awards granted – 2018		
Performance measure	Weighting for all Executive Directors	Threshold 20% vesting	Maximum 100% vesting
Group RoE	50%	11.0%	12.5% or more
Group Value Growth	50%	10.0%	12.0% or more

Payments for loss of office

There were no payments made for loss of office during 2018/19.

Andrew Bonfield stepped down from the Board on 30 July at the AGM and was paid his salary and contractual benefits until 31 July 2018. Since his departure was due to resignation, which does not qualify as 'good leaver' status, he was not eligible for an APP award for 2018/19 and his 2016 LTPP and 2017 LTPP awards were forfeited. His 2015 LTPP award vested on 1 July 2018, and since Andrew was employed on the vesting date of 1 July 2018, he was eligible to receive the vested shares and these are disclosed in the single total figure of remuneration table.

Payments to past Directors

Steve Holliday stepped down from the Board and retired from the Company on 22 July 2016. He held a 2015 LTPP award prorated for time served.

Past Director	Prorated number of share awards	Overall vesting percentage	Number of awards vesting	Number of dividend equivalent shares	Total value of awards vesting and dividend equivalent shares (£'000)
Steve Holliday					
2015 LTPP	141,813	86.00%	121,959	19,767	1,192

Note:
The overall vesting percentage is in line with other Executive Directors and specifically relates to the CEO role at the award date. The total value of awards vesting has been calculated using the actual share price at 1 July 2018 and includes dividend equivalent shares.

Post-employment share ownership requirements

Andrew Bonfield stepped down from the Board at the 2018 July AGM and left the Company on 31 July 2018. He is required to maintain a holding in National Grid shares to the value of at least 200% of his salary (at the time of leaving) for a period of three years ending on 31 July 2021. At 31 March 2019, Andrew Bonfield had continued to meet this requirement.

Shareholder dilution

Where shares may be issued or treasury shares reissued to satisfy incentives, the aggregate dilution resulting from executive share-based incentives will not exceed 5% in any 10-year period. Dilution resulting from all incentives, including all-employee incentives, will not exceed 10% in any 10-year period. The Committee reviews dilution against these limits regularly and under these limits the Company, as at 31 March 2019, had headroom of 3.91% and 7.83% respectively.

Directors’ Remuneration Report continued

Statement of implementation of remuneration policy in 2018/19 continued

Statement of Directors’ shareholdings and share interests

The Executive Directors are required to build up and hold a shareholding from vested share plan awards. The following table shows how each Executive Director complies with the shareholding requirement and also the number of shares owned by the Non-executive Directors, including connected persons. The shareholding is as at 31 March 2019 and the salary used to calculate the value of the shareholding is the gross annual salary as at 31 March 2019.

As Andy Agg was only appointed to the Board in January 2019, he is not expected to meet the requirement until 2024. Nicola Shaw is also relatively new in post and is expected to meet the requirement in 2023. Dean Seavers is expected to meet the requirement in 2021. John Pettigrew is expected to meet his requirement in 2020. This is one year earlier than reported last year because the calculation carried out last year used the share price of 802.2p which projected the date of meeting the required shareholding as 2021. The calculation this year has used a share price of 850.8p which means the value of his shareholding has increased resulting in the projection to meet the shareholding requirement moving forward to 2020. These projections assume on-target performance/vesting outturns. Executive Directors will not be allowed to sell shares until this requirement is met. Non-executive Directors do not have a shareholding requirement.

The normal vesting dates for the conditional share awards subject to performance conditions are 1 July 2019, 1 July 2020 and 1 July 2021 for the 2016 LTPP, 2017 LTPP and 2018 LTPP respectively. In April 2019, a further 18 shares were purchased on behalf of each of Andy Agg, John Pettigrew and Nicola Shaw and again in May 2019. These shares were purchased via the Share Incentive Plan (an HMRC approved all-employee share plan), thereby increasing their beneficial interests. There have been no other changes in Directors’ shareholdings between 1 April 2018 and 15 May 2019.

Directors	Share ownership requirements (multiple of salary)	Number of shares owned outright (including connected persons)	Value of shares held as a multiple of current salary	Number of options held under the Sharesave Plan	Conditional share awards subject to performance conditions (LTPP 2016, 2017 & 2018)
Executive Directors					
Andy Agg	400%	96,056	136%	4,045	188,348
Andrew Bonfield (at 31 July 2018)	400%	633,091	693%	3,230	0
John Pettigrew	500%	482,758	428%	4,286	1,004,413
Dean Seavers (ADSs)	400%	53,341	275%	–	152,527
Nicola Shaw	400%	21,153	35%	4,070	459,536
Non-executive Directors					
Nora Mead Brownell (ADSs)	–	4,583	–	–	–
Jonathan Dawson	–	38,787	–	–	–
Therese Esperdy (ADSs)	–	1,587	–	–	–
Sir Peter Gershon	–	95,238	–	–	–
Paul Golby	–	2,291	–	–	–
Amanda Mesler	–	0	–	–	–
Earl Shipp (ADSs)	–	0	–	–	–
Mark Williamson	–	47,460	–	–	–

Notes:
Andy Agg: On 31 March 2019 Andy Agg held 4,045 options under the Sharesave Plan. 4,045 options were held at a value of 749p and they can be exercised at 749p per share between April 2020 and September 2020. The number of conditional share awards subject to performance conditions is as follows: 2016 LTPP: 29,382; 2017 LTPP: 49,080; 2018 LTPP: 109,886.
Andrew Bonfield: The number of shares owned (633,091) and options held (3,230) are stated as at 31 July 2018. Conditional awards totalling 458,493 in respect of 2016 and 2017 LTPP have lapsed due to Andrew’s resignation.
John Pettigrew: On 31 March 2019 John Pettigrew held 4,286 options under the Sharesave Plan. 1,252 options were held at a value of 599p per share and they can be exercised at 599p per share between April 2019 and September 2019. 3,034 options were held at a value of 749p per share and they can be exercised at 749p per share between April 2020 and September 2020. The number of conditional share awards subject to performance conditions is as follows: 2016 LTPP: 282,810; 2017 LTPP: 323,205; 2018 LTPP: 398,398.
Dean Seavers: The number of conditional share awards (ADSs) subject to performance conditions is as follows: 2016 LTPP: 44,447; 2017 LTPP: 49,294; 2018 LTPP: 58,786.
Nicola Shaw: On 31 March 2019 Nicola Shaw held 4,070 options under the Sharesave Plan. 4,070 options were held at a value of 737p per share and they can be exercised at 737p per share between April 2022 and September 2022. The number of conditional share awards subject to performance conditions is as follows: 2016 LTPP: 122,164; 2017 LTPP: 151,109; 2018 LTPP: 186,263.
Dean Seavers, Nora Mead Brownell, Therese Esperdy and Earl Shipp: Holdings and, for Dean Seavers, awards are shown as ADSs and each ADS represents five ordinary shares. Nora Mead Brownell stepped down from the Board on 8 April 2019.

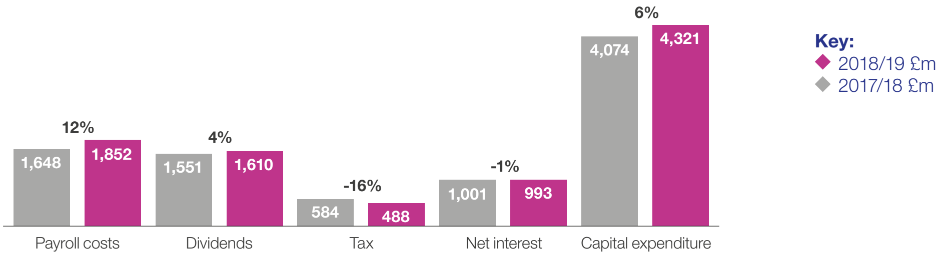
External appointments and retention of fees

The table below details the Executive Directors (at 31 March 2019) who served as Non-executive Directors in other companies during the year ended 31 March 2019:

	Company	Retained fees
John Pettigrew	Rentokil Initial plc	£60,000
Dean Seavers	Albermarle Corporation (from 8 May 2018)	£68,818 ($89,835)
Nicola Shaw	International Consolidated Airlines Group S.A.	£105,861 (€120,000)

Relative importance of spend on pay

The chart below shows the relative importance of spend on pay compared with other costs and disbursements (dividends, tax, net interest and capital expenditure). Given the capital-intensive nature of our business and the scale of our operations, these costs were chosen as the most relevant for comparison purposes. All amounts exclude exceptional items and remeasurements.

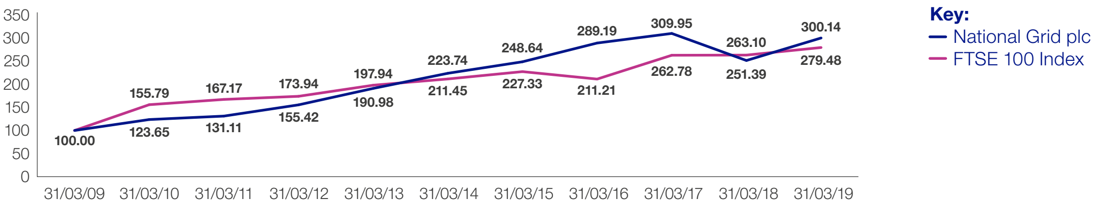


Notes:
1. The Dividends figure for 2017/18 has been restated at £1,551 million (from £1,522 million) to reflect the actual value of dividends paid.
2. 2017/18 comparators for tax and net interest have been restated to reflect the classification of our retained interest in Quadgas HoldCo Limited as a discontinued operation in the current financial period.
3. Percentage increase/decrease of the costs between years is shown.
4. The reduction in the underlying tax charge reflects the lowering of the federal tax rate in the US as a result of US Tax reform.

Performance graph

This chart shows National Grid plc's ten-year annual Total Shareholder Return (TSR) performance against the FTSE 100 Index since 31 March 2009. The FTSE 100 Index has been chosen because it is the widely recognised performance benchmark for large companies in the UK. The TSR level shown at 31 March each year is the average of the closing daily TSR levels for the 30-day period up to and including that date. It assumes dividends are reinvested.

Total shareholder return



Note:
Data source: The data source for the above graph has been changed for 2018/19 from FactSet to DataStream. This has not resulted in any changes to prior year figures.

Chief Executive's pay in the last ten financial years

Steve Holliday was CEO throughout the seven-year period from 2009/10 to 2015/16. John Pettigrew became CEO on 1 April 2016.

	Steve Holliday							John Pettigrew		
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Single total figure of remuneration (£'000)	3,931	3,738	3,539	3,170	4,801	4,845	5,151	4,623	3,648	4,562
Single total figure of remuneration including only 2014 LTPP (£'000)								3,931		
APP (proportion of maximum awarded)	95.33%	81.33%	68.67%	55.65%	77.94%	94.80%	94.60%	73.86%	82.90%	84.20%
PSP/LTPP (proportion of maximum vesting)	100.00%	65.15%	49.50%	25.15%	76.20%	55.81%	63.45%	90.41%	85.20%	84.20%

Notes:
Single total figure 2018/19: The figure for 2018/19 for John Pettigrew is explained in the single total figure table for Executive Directors.
Single total figure 2017/18: The figure for 2017/18 has been restated to reflect actual share price at 1 July 2017, consistent with comparative figures shown in this year's single total figure of remuneration table.
2014 LTPP: The 2016/17 LTPP figure includes both the 2013 LTPP award and the 2014 LTPP award due to a change in the vesting period of three years to four years between the 2013 LTPP and 2014 LTPP.
PSP/LTPP plans: Prior to 2014, LTPP awards were made under a different LTI framework which incorporated a four-year performance period for the RoE element of the awards. The last award under this framework was made in 2013 and was fully vested in 2017. Awards made from 2014 are subject to a three-year performance period. The first of these awards vested in 2017.

Directors' Remuneration Report continued

Statement of implementation of remuneration policy in 2018/19 continued

Percentage change in CEO's remuneration

The table below shows how the percentage change in the CEO's salary, benefits and APP between 2017/18 and 2018/19 compares with the percentage change in the average of each of those components of remuneration for non-union employees in the UK and the US. The Committee views this group as the most appropriate comparator group, as this group excludes employees represented by trade unions whose pay and benefits are negotiated with each individual union.

	Salary			Taxable benefits			APP		
	2018/19 £'000	2017/18 £'000	Change	2018/19 £'000	2017/18 £'000	Change	2018/19 £'000	2017/18 £'000	Change
John Pettigrew	944	887	6.4%	94	85	10.6%	994	919	8.2%
Non-union employees (average increase)			1.6%			0.9%			1.2%

Notes:
Non-union employees: The population is not a constant comparator group due to external hires and promotions which skew the salary data calculation. Calculating the salary change comparing employees that were employed throughout the period results in a 4.8% change. Pay data for US employees have been converted at $1.3054:£1.

CEO pay ratio

Ahead of the mandatory reporting requirements we have voluntarily disclosed our UK CEO pay ratios comparing the CEO single total figure of remuneration to the equivalent pay for the lower quartile, median and upper quartile UK employees (calculated on a full-time equivalent basis). The ratios have been calculated in accordance with the Companies (Miscellaneous Reporting) Regulations 2018, which were published during 2018 and will first formally apply to National Grid's financial year beginning 1 April 2019.

2019 – voluntary	Method	25th percentile pay ratio	Median pay ratio	75th percentile pay ratio
UK	Option A	96:1	76:1	58:1
Group			48:1	

The comparison with UK employees is specified by the regulations. US employees represent approximately 74% of our total employees. Our median pay ratio on a Group-wide basis is 48:1, calculated on the same basis as the UK pay ratios and an exchange rate of $1.3504:£1. Excluding estimated 2016 LTPP vesting our median pay ratios are 38:1 and 24:1 for the UK and Group respectively. The lower Group median pay ratio versus the UK reflects the higher labour cost in the US versus the UK, which is further influenced by the US locations in which we operate which have even higher labour costs than the US on average. The ratio of the pay of our Executive Director, UK, to the median UK employee is 36:1 and excluding the estimated 2016 LTPP vesting is 20:1.

The regulations require the total pay and benefits and the salary component of total pay and benefits to be set out as follows:

Pay data	Base salary	Total pay & benefits
CEO remuneration	£944,213	£4,562,987
UK employee 25th percentile	£33,250	£47,339
UK employee 50th percentile	£43,795	£60,376
UK employee 75th percentile	£59,577	£78,091

Flexibility is provided to adopt one of three methods for calculating the ratios. We have chosen Option A which is a calculation based on the pay of all UK employees on a full-time equivalent basis as this option is considered to be more statistically robust. The ratios are based on total pay and benefits and short-term and long-term incentives applicable for the financial year 1 April 2018 – 31 March 2019. The reference employees at the 25th, 50th and 75th percentile have been determined by reference to the last day of the financial year, 31 March 2019, though estimates have been used for the 2018/19 APP payouts and performance outturns of the 2016 Long Term Performance Plan and dividend equivalents.

This year the 2016 LTPP vesting represents some 53% of the CEO's single total figure. However, only 2% of UK-based employees will receive an estimated 2016 LTPP vest in our pay ratio calculations and all of these employees are in the upper quartile of our ranked list and so are not selected as a 75th percentile (or below) reference employee. Removing the impact of LTPP vesting in our calculations results in lower ratios for the reference employees of 49:1, 38:1 and 30:1 at the 25th, 50th and 75th percentiles respectively. As employees advance through the Company there will be the opportunity to receive higher rewards commensurate with increased accountability and market practice. All employees are eligible for a performance-based annual payment.

Our principles for pay setting and progression in our wider workforce are the same as for our executives – mid-market approach to total reward, being sufficiently competitive to attract and retain high-calibre individuals without over-paying and providing the opportunity for individual development and career progression. The pay ratios reflect how remuneration arrangements differ as accountability increases for more senior roles within the organisation and in particular the ratios reflect the weighting towards long-term value creation and alignment with shareholder interests for the CEO.

We are satisfied that the median pay ratio voluntarily reported this year is consistent with our wider pay, reward and progression policies for employees. The median reference employee falls within our collectively bargained employee population and has the opportunity for annual pay increases, annual performance payments and career progression and development opportunities.

Statement of implementation of remuneration policy in 2019/20

It is intended that the remuneration policy for approval at the 2019 AGM will be implemented during 2019/20 as described below.

Salary

Salary increases will normally be in line with the increase awarded to other employees in the UK and US, subject to performance. Higher salary increases may also be awarded for a change in responsibility. Additionally, in line with the policy on recruitment remuneration, salaries for new directors may be set below market level initially and aligned to market level over time (provided the increase is merited by the individual's contribution and performance).

	From 1 June 2019	From 1 June 2018	Increase
Andy Agg	£595,000	N/A	N/A
John Pettigrew	£1,029,461	£953,205	8.0%
Dean Seavers	$1,115,690	$1,082,144	3.1%
Nicola Shaw	£561,524	£519,930	8.0%

APP measures for 2019/20

The APP targets are considered commercially sensitive and consequently will be disclosed in the 2019/20 Directors' Remuneration Report.

John Pettigrew and Andy Agg	Weighting
Underlying EPS	35%
Group RoE	35%
Individual objectives	30%

Dean Seavers and Nicola Shaw	Weighting
UK or US Value Added	23.3%
UK or US RoE	23.3%
UK or US Operating Profit	23.3%
Individual objectives	30.0%

Performance measures for LTPP to be awarded in 2019

	Weighting for all Executive Directors	Threshold 20% vesting	Maximum 100% vesting
Group RoE	33.33%	11.0%	12.5% or more
Group Value Growth	66.67%	10.0%	12.0% or more

Note:
Group RoE will be measured over the first and second years of the three-year performance period and Group Value Growth will be measured over the entire three-year performance period, determining 1/3rd and 2/3rds of the total vesting outcome for the 2019 LTPP, respectively.

Fees for NEDs

Therese Esperdy was appointed as Non-executive Director to the National Grid USA Board in 2015 with an annual fee of £25,000 in addition to her current NED fees.

Role	From 1 June 2019 £'000	From 1 June 2018 £'000	Increase
Chairman	540.2	525.0	2.9%
Senior Independent Director	23.1	22.5	2.7%
Board fee (UK-based)	69.5	67.5	3.0%
Board fee (US-based)	82.1	79.7	3.0%
Committee membership fee	10.8	10.5	2.9%
Chair Audit Committee	31.2	30.3	3.0%
Chair Remuneration Committee	31.2	30.3	3.0%
Chair (other Board Committees)	23.9	23.3	2.6%

Note: From June 2019 the respective committee chair fee and committee member fee have been combined into a single fee. Accordingly, the 2018 figures have been restated as follows: chair fee for Audit and Remuneration Committees have been restated to £30,300 (being the sum of £19,800 plus £10,500 stated last year) and the chair fee for other committees has been restated to £23,300 (being £12,800 plus £10,500 stated last year).

Directors' Remuneration Report continued

Statement of implementation of remuneration policy in 2018/19 continued

Advisors to the Remuneration Committee

The Committee received advice during 2018/19 from independent consultants Willis Towers Watson. Willis Towers Watson was selected by the Committee to become its independent advisor from 23 October 2017 following a competitive tendering process.

Willis Towers Watson is a member of the Remuneration Consultants Group and has signed up to that group's code of conduct. The Committee is satisfied that any potential conflicts were appropriately managed.

Work undertaken by Willis Towers Watson in its role as independent advisor to the Committee has included providing market information for the Executive Directors and other senior employees and governance matters. This work has incurred fees of £189,704. The Committee reviews the objectivity and independence of the advice it receives from its advisors each year. It is satisfied that Willis Towers Watson provided credible and professional advice. Willis Towers Watson also provided general and technical remuneration services in relation to employees below Board and Group Executive Committee level.

The Committee considers the views of the Chairman on the performance and remuneration of the CEO, and of the CEO on the performance and remuneration of the other members of the Executive Committee. The Committee is also supported by the Group General Counsel and Company Secretary who acts as Secretary to the Committee, the Chief Human Resources Officer, the Group Head of Reward, and as required the Group Head of Pensions and Group Financial Controller. No other advisors have provided significant services to the Committee in the year.

Voting on 2016/17 Directors' Remuneration Policy adopted at 2017 AGM

The voting figures shown refer to votes cast at the 2017 AGM and represent 61.62% of the issued share capital. In addition, shareholders holding 9.4 million shares abstained.

	For	Against
Number of votes	2,060,765,320	52,015,518
Proportion of votes	97.54%	2.46%

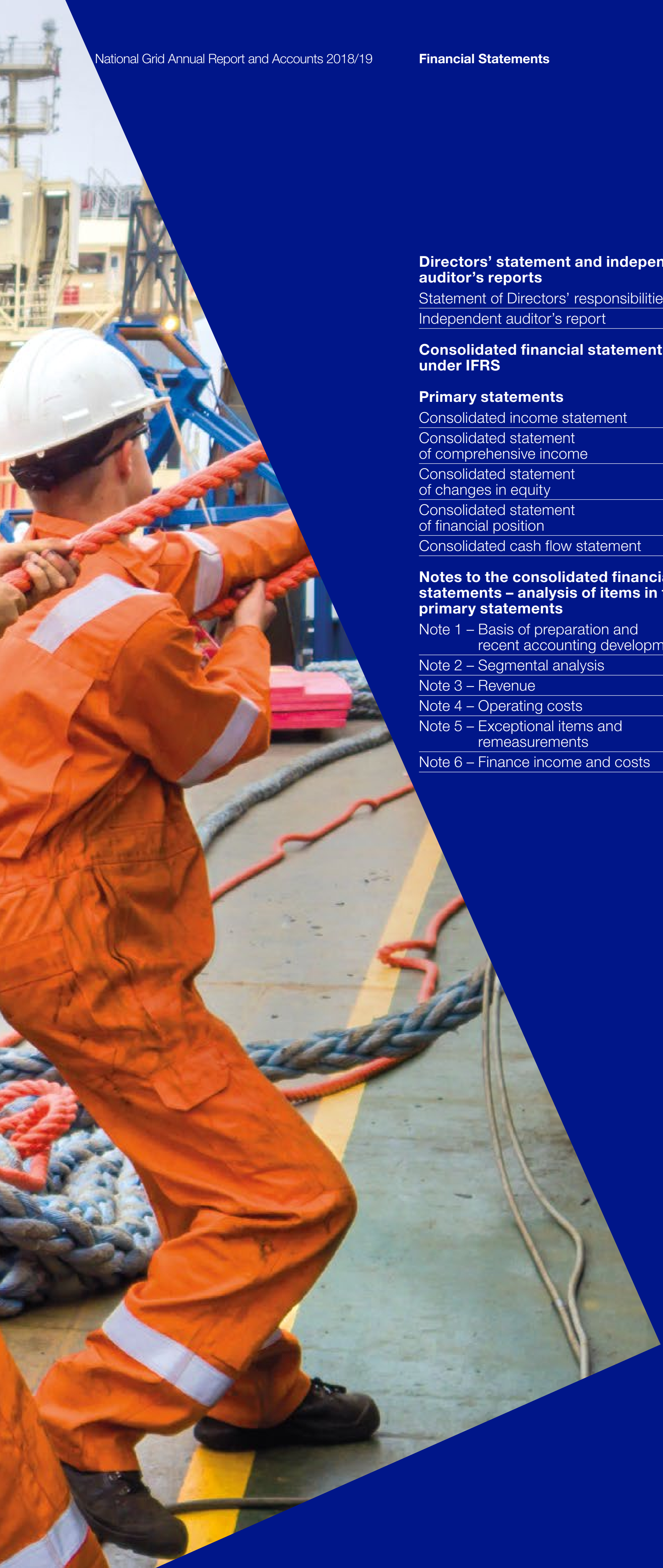
Voting on 2017/18 Directors' Remuneration Report at 2018 AGM

The voting figures shown refer to votes cast at the 2018 AGM (in respect of our current remuneration policy adopted in 2017) and represent 60.51% of the issued share capital. In addition, shareholders holding 8.2 million shares abstained.

	For	Against
Number of votes	1,971,102,408	62,185,956
Proportion of votes	96.94%	3.06%

The Directors' Remuneration Report has been approved by the Board and signed on its behalf by:

Jonathan Dawson
Committee Chairman
15 May 2019



Financial Statements

Statement of Directors' responsibilities

The Directors are responsible for preparing the Annual Report and Accounts, including the consolidated financial statements and the Company financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors are required to prepare the Group financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union and Article 4 of the IAS Regulation and have elected to prepare the Parent Company financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law), including FRS 101 'Reduced Disclosure Framework'. Under company law the Directors must not approve the accounts unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Parent Company and of the profit or loss of the Group and Parent Company for that period.

In preparing the Group financial statements, International Accounting Standard 1 requires that directors:

- properly select and apply accounting policies;
- present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information;
- provide additional disclosures when compliance with the specific requirements in IFRSs are insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity's financial position and financial performance; and
- make an assessment of the Group's ability to continue as a going concern.

In preparing the Parent Company financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Group and Parent Company's transactions and disclose with reasonable accuracy at any time the financial position of the Group and Parent Company on a consolidated and individual basis, and to enable them to ensure that the consolidated financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Parent Company and its subsidiaries and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the Company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Having made the requisite enquiries, so far as the Directors in office at the date of the approval of this Report are aware, there is no relevant audit information of which the auditors are unaware and each Director has taken all reasonable steps to make themselves aware of any relevant audit information and to establish that the auditors are aware of that information.

Each of the Directors, whose names and functions are listed on pages 48 – 49, confirms that:

- to the best of their knowledge, the consolidated financial statements and the Parent Company financial statements, which have been prepared in accordance with IFRSs as issued by the IASB and IFRS as adopted by the European Union and UK GAAP FRS 101 respectively, give a true and fair view of the assets, liabilities, financial position and profit of the Company on a consolidated and individual basis;
- to the best of their knowledge, the Strategic Report contained in the Annual Report and Accounts includes a fair review of the development and performance of the business and the position of the Company on a consolidated and individual basis, together with a description of the principal risks and uncertainties that it faces; and
- they consider that the Annual Report and Accounts, taken as a whole, are fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy.

This responsibilities statement was approved by the Board and signed on its behalf.

Directors' Report

The Directors' Report, prepared in accordance with the requirements of the Companies Act 2006 and the UK Listing Authority's Listing Rules, and Disclosure Rules and Transparency Rules, comprising pages 2 – 90 and 196 – 237, was approved by the Board and signed on its behalf.

Strategic Report

The Strategic Report, comprising pages 2 – 45, was approved by the Board and signed on its behalf.

By order of the Board

Alison Kay
Group General Counsel
& Company Secretary

15 May 2019
Company number: 4031152

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Consolidated income statement
for the years ended 31 March

2019	Notes	Before exceptional items and remeasurements £m	Exceptional items and remeasurements (see note 5) £m	Total £m
Continuing operations				
Revenue	2(a),3	**14,933**	**—**	**14,933**
Operating costs	4,5	**(11,491)**	**(572)**	**(12,063)**
Operating profit	2(b)	**3,442**	**(572)**	**2,870**
Finance income	5,6	**73**	**15**	**88**
Finance costs	5,6	**(1,066)**	**(91)**	**(1,157)**
Share of post-tax results of joint ventures and associates	16,10	**40**	**—**	**40**
Profit before tax	2(b),5	**2,489**	**(648)**	**1,841**
Tax	5,7	**(488)**	**149**	**(339)**
Profit after tax from continuing operations	5	**2,001**	**(499)**	**1,502**
Profit after tax from discontinued operations	10	**57**	**(45)**	**12**
Total profit for the year (continuing and discontinued)		**2,058**	**(544)**	**1,514**
Attributable to:				
Equity shareholders of the parent		**2,055**	**(544)**	**1,511**
Non-controlling interests[1]		**3**	**—**	**3**
Earnings per share (pence)				
Basic earnings per share (continuing)	8			**44.3**
Diluted earnings per share (continuing)	8			**44.1**
Basic earnings per share (continuing and discontinued)	8			**44.6**
Diluted earnings per share (continuing and discontinued)	8			**44.4**

1. The non-controlling interests for the year ended 31 March 2019 relate to continuing operations.

2018[1]	Notes	Before exceptional items and remeasurements £m	Exceptional items and remeasurements (see note 5) £m	Total £m
Continuing operations				
Revenue	2(a)	15,250	—	15,250
Operating costs	4,5	(11,793)	36	(11,757)
Operating profit	2(b)	3,457	36	3,493
Finance income	6	127	—	127
Finance costs	5,6	(1,128)	119	(1,009)
Share of post-tax results of joint ventures and associates	16,10	44	5	49
Profit before tax	2(b),5	2,500	160	2,660
Tax	5,7	(584)	1,473	889
Profit after tax from continuing operations	5	1,916	1,633	3,549
Profit after tax from discontinued operations	10	145	(143)	2
Total profit for the year (continuing and discontinued)		2,061	1,490	3,551
Attributable to:				
Equity shareholders of the parent		2,060	1,490	3,550
Non-controlling interests[2]		1	—	1
Earnings per share (pence)				
Basic earnings per share (continuing)	8			102.5
Diluted earnings per share (continuing)	8			102.1
Basic earnings per share (continuing and discontinued)	8			102.6
Diluted earnings per share (continuing and discontinued)	8			102.1

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas HoldCo Limited as a discontinued operation in the current period (see note 1C and note 10).
2. The non-controlling interests for the year ended 31 March 2018 relate to continuing operations.

Consolidated income statement
for the years ended 31 March continued

2017	Notes	Before exceptional items and remeasurements £m	Exceptional items and remeasurements (see note 5) £m	Total £m
Continuing operations				
Revenue	2(a)	15,035	—	15,035
Operating costs	4,5	(11,262)	(565)	(11,827)
Operating profit	2(b)	3,773	(565)	3,208
Finance income	6	53	—	53
Finance costs	5,6	(1,082)	(58)	(1,140)
Share of post-tax results of joint ventures and associates		63	—	63
Profit before tax	2(b),5	2,807	(623)	2,184
Tax	5,7	(666)	292	(374)
Profit after tax from continuing operations	5	2,141	(331)	1,810
Profit after tax from discontinued operations	10	606	5,378	5,984
Total profit for the year (continuing and discontinued)		2,747	5,047	7,794
Attributable to:				
Equity shareholders of the parent		2,747	5,048	7,795
Non-controlling interests[1]		—	(1)	(1)
Earnings per share (pence)				
Basic earnings per share (continuing)	8			48.1
Diluted earnings per share (continuing)	8			47.9
Basic earnings per share (continuing and discontinued)	8			207.1
Diluted earnings per share (continuing and discontinued)	8			206.2

1. The non-controlling interests for the year ended 31 March 2017 relate to discontinued operations.

Consolidated statement of comprehensive income
for the years ended 31 March

	Notes	2019 £m	2018[1] £m	2017 £m
Profit after tax from continuing operations		**1,502**	3,549	1,810
Other comprehensive income from continuing operations				
Items from continuing operations that will never be reclassified to profit or loss:				
Remeasurement gains on pension assets and post-retirement benefit obligations	25	**68**	1,313	423
Net gains on financial liability designated at fair value through profit and loss attributable to changes in own credit risk		**7**	—	—
Net losses in respect of cash flow hedging of capital expenditure		**(13)**	—	—
Tax on items that will never be reclassified to profit or loss	7	**(15)**	(530)	(277)
Total items from continuing operations that will never be reclassified to profit or loss		**47**	783	146
Items from continuing operations that may be reclassified subsequently to profit or loss:				
Exchange adjustments		**347**	(505)	346
Net (losses)/gains in respect of cash flow hedges and cost of hedging		**(147)**	19	70
Transferred from/(to) profit or loss in respect of cash flow hedges and cost of hedging		**41**	(3)	(6)
Net (losses)/gains on available-for-sale investments		**–**	(30)	81
Transferred to profit or loss on sale of available-for-sale investments		**–**	(73)	(25)
Net gains on investment in debt instruments measured at fair value through other comprehensive income		**2**	—	—
Share of other comprehensive income of associates, net of tax		**1**	—	—
Tax on items that may be reclassified subsequently to profit or loss	7	**12**	33	(34)
Total items from continuing operations that may be reclassified subsequently to profit or loss		**256**	(559)	432
Other comprehensive income for the year, net of tax from continuing operations		**303**	224	578
Other comprehensive income for the year, net of tax from discontinued operations[2]	10	**36**	147	42
Other comprehensive income for the year, net of tax		**339**	371	620
Total comprehensive income for the year from continuing operations		**1,805**	3,773	2,388
Total comprehensive income for the year from discontinued operations	10	**48**	149	6,026
Total comprehensive income for the year		**1,853**	3,922	8,414
Attributable to:				
Equity shareholders of the parent				
From continuing operations		**1,801**	3,773	2,389
From discontinued operations		**48**	149	6,026
		1,849	3,922	8,415
Non-controlling interests				
From continuing operations		**4**	—	(1)

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas HoldCo Limited as a discontinued operation in the current period (see note 1C and note 10).
2. The other comprehensive income from discontinued operations relates to the items of other comprehensive income of Cadent (investment through Quadgas HoldCo Limited), comprising mainly £35 million (2018: £142 million; 2017: £nil) remeasurement gains on pension assets and post-retirement benefit obligations and a £1 million (2018: £5 million; 2017: £nil) net gain in respect of cash flow hedges. Both items are shown net of tax.

Consolidated statement of changes in equity
for the years ended 31 March

	Share capital £m	Share premium account £m	Retained earnings £m	Other equity reserves[1] £m	Total shareholders' equity £m	Non-controlling interests £m	Total equity £m
At 31 March 2016	447	1,326	16,305	(4,523)	13,555	10	13,565
Profit/(loss) for the year	—	—	7,795	—	7,795	(1)	7,794
Other comprehensive income for the year	—	—	84	536	620	—	620
Total comprehensive income/(loss) for the year	—	—	7,879	536	8,415	(1)	8,414
Equity dividends	—	—	(1,463)	—	(1,463)	—	(1,463)
Scrip dividend-related share issue[2]	2	(2)	—	—	—	—	—
Purchase of treasury shares	—	—	(189)	—	(189)	—	(189)
Issue of treasury shares	—	—	18	—	18	—	18
Purchase of own shares	—	—	(6)	—	(6)	—	(6)
Other movements in non-controlling interests	—	—	—	—	—	7	7
Share-based payments	—	—	35	—	35	—	35
Tax on share-based payments	—	—	3	—	3	—	3
At 31 March 2017	449	1,324	22,582	(3,987)	20,368	16	20,384
Profit for the year	—	—	3,550	—	3,550	1	3,551
Other comprehensive income/(loss) for the year	—	—	925	(553)	372	(1)	371
Total comprehensive income/(loss) for the year	—	—	4,475	(553)	3,922	—	3,922
Equity dividends	—	—	(4,487)	—	(4,487)	—	(4,487)
Scrip dividend-related share issue[2]	3	(3)	—	—	—	—	—
Purchase of treasury shares	—	—	(1,017)	—	(1,017)	—	(1,017)
Issue of treasury shares	—	—	33	—	33	—	33
Purchase of own shares	—	—	(5)	—	(5)	—	(5)
Share-based payments	—	—	16	—	16	—	16
Tax on share-based payments	—	—	2	—	2	—	2
At 31 March 2018 (as previously reported)	452	1,321	21,599	(4,540)	18,832	16	18,848
Impact of transition to IFRS 9 and IFRS 15[3]	—	—	(268)	72	(196)	—	(196)
At 1 April 2018 (as restated)	452	1,321	21,331	(4,468)	18,636	16	18,652
Profit for the year	—	—	1,511	—	1,511	3	1,514
Other comprehensive income for the year	—	—	89	249	338	1	339
Total comprehensive income for the year	—	—	1,600	249	1,849	4	1,853
Equity dividends	—	—	(1,160)	—	(1,160)	—	(1,160)
Scrip dividend-related share issue[2]	6	(7)	—	—	(1)	—	(1)
Issue of treasury shares	—	—	18	—	18	—	18
Purchase of own shares	—	—	(2)	—	(2)	—	(2)
Share-based payments	—	—	27	—	27	—	27
Cash flow hedges transferred to the statement of financial position, net of tax	—	—	—	(18)	(18)	—	(18)
At 31 March 2019	**458**	**1,314**	**21,814**	**(4,237)**	**19,349**	**20**	**19,369**

1. For further details of other equity reserves, see note 28.
2. Included within the share premium account are costs associated with scrip dividends.
3. For further details of the impact of the transition to IFRS 9 and IFRS 15, see note 37.

Consolidated statement of financial position
as at 31 March

	Notes	2019 £m	2018 £m
Non-current assets			
Goodwill	11	**5,869**	5,444
Other intangible assets	12	**1,084**	899
Property, plant and equipment	13	**43,913**	39,853
Other non-current assets	14	**264**	115
Pension assets	25	**1,567**	1,409
Financial and other investments	15	**667**	899
Investments in joint ventures and associates	16	**608**	2,168
Derivative financial assets	17	**1,045**	1,319
Total non-current assets		**55,017**	52,106
Current assets			
Inventories and current intangible assets	18	**370**	341
Trade and other receivables	19	**3,153**	2,798
Current tax assets		**126**	114
Financial and other investments	15	**1,981**	2,694
Derivative financial assets	17	**108**	405
Cash and cash equivalents	20	**252**	329
Assets held for sale	10	**1,956**	—
Total current assets		**7,946**	6,681
Total assets		**62,963**	58,787
Current liabilities			
Borrowings	21	**(4,472)**	(4,447)
Derivative financial liabilities	17	**(350)**	(401)
Trade and other payables	22	**(3,769)**	(3,453)
Contract liabilities	23	**(61)**	—
Current tax liabilities		**(161)**	(123)
Provisions	26	**(316)**	(273)
Total current liabilities		**(9,129)**	(8,697)
Non-current liabilities			
Borrowings	21	**(24,258)**	(22,178)
Derivative financial liabilities	17	**(833)**	(660)
Other non-current liabilities	24	**(808)**	(1,317)
Contract liabilities	23	**(933)**	—
Deferred tax liabilities	7	**(3,965)**	(3,636)
Pensions and other post-retirement benefit obligations	25	**(1,785)**	(1,672)
Provisions	26	**(1,883)**	(1,779)
Total non-current liabilities		**(34,465)**	(31,242)
Total liabilities		**(43,594)**	(39,939)
Net assets		**19,369**	18,848
Equity			
Share capital	27	**458**	452
Share premium account		**1,314**	1,321
Retained earnings		**21,814**	21,599
Other equity reserves	28	**(4,237)**	(4,540)
Total shareholders' equity		**19,349**	18,832
Non-controlling interests		**20**	16
Total equity		**19,369**	18,848

The consolidated financial statements set out on pages 103 to 188 were approved by the Board of Directors on 15 May 2019 and were signed on its behalf by:

Sir Peter Gershon Chairman
Andy Agg Chief Financial Officer

National Grid plc
Registered number: 4031152

Consolidated cash flow statement
for the years ended 31 March

	Notes	2019 £m	2018[1] £m	2017 £m
Cash flows from operating activities				
Total operating profit from continuing operations	2(b)	**2,870**	3,493	3,208
Adjustments for:				
Exceptional items and remeasurements	5	**572**	(36)	565
Depreciation, amortisation and impairment		**1,588**	1,530	1,481
Share-based payments		**27**	16	32
Changes in working capital		**40**	118	151
Changes in provisions		**(110)**	(206)	(181)
Changes in pensions and other post-retirement benefit obligations		**(123)**	(239)	(768)
Cash flows relating to exceptional items		**(400)**	26	(36)
Cash generated from operations – continuing operations		**4,464**	4,702	4,452
Tax (paid)/recovered		**(75)**	8	(132)
Net cash inflow from operating activities – continuing operations		**4,389**	4,710	4,320
Net cash (used in)/inflow from operating activities – discontinued operations	10	**(71)**	(207)	909
Cash flows from investing activities				
Acquisition of financial investments		**(89)**	(2)	—
Investments in joint ventures and associates		**(143)**	(129)	(76)
Loans to joint ventures and associates		**(31)**	(68)	(61)
Disposal of financial investments		**18**	134	—
Disposal of 61% interest in UK Gas Distribution		**–**	(20)	5,454
Purchases of intangible assets		**(306)**	(173)	(223)
Purchases of property, plant and equipment		**(3,635)**	(3,738)	(3,296)
Disposals of property, plant and equipment		**38**	10	18
Dividends received from joint ventures and associates		**68**	69	99
Interest received		**68**	30	51
Net movements in short-term financial investments		**822**	5,953	(5,600)
Net cash flow (used in)/from investing activities – continuing operations		**(3,190)**	2,066	(3,634)
Net cash flow from/(used in) investing activities – discontinued operations[2]	10	**156**	171	(680)
Cash flows from financing activities				
Purchase of treasury shares		**–**	(1,017)	(189)
Proceeds from issue of treasury shares		**17**	33	18
Purchase of own shares		**(2)**	(5)	(6)
Proceeds received from loans		**2,932**	1,941	2,463
Repayment of loans		**(1,969)**	(2,156)	(1,616)
Net movements in short-term borrowings and derivatives		**(268)**	(772)	90
Interest paid		**(914)**	(853)	(839)
Dividends paid to shareholders		**(1,160)**	(4,487)	(1,463)
Net cash flow used in financing activities – continuing operations		**(1,364)**	(7,316)	(1,542)
Net cash flow (used in)/from financing activities – discontinued operations	10	**–**	(231)	1,611
Net (decrease)/increase in cash and cash equivalents	29(a)	**(80)**	(807)	984
Disposal of bank overdraft in UK Gas Distribution		**–**	—	15
Exchange movements		**3**	(3)	16
Cash and cash equivalents at start of year		**329**	1,139	124
Cash and cash equivalents at end of year	20	**252**	329	1,139

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas HoldCo Limited as a discontinued operation in the current period (see note 1C and note 10).
2. Receipts of dividends from Quadgas HoldCo Limited of £133 million (2018: £144 million) and interest of £23 million (2018: £27 million).

Notes to the consolidated financial statements
– analysis of items in the primary statements

1. Basis of preparation and recent accounting developments

Accounting policies describe our approach to recognising and measuring transactions and balances in the year. The accounting policies applicable across the financial statements are shown below, whereas accounting policies that are specific to a component of the financial statements have been incorporated into the relevant note.

This section also shows areas of judgement and key sources of estimation uncertainty in these financial statements. In addition, we have summarised new International Accounting Standards Board (IASB) and EU endorsed accounting standards, amendments and interpretations and whether these are effective for this year end or in later years, explaining how significant changes are expected to affect our reported results.

National Grid's principal activities involve the transmission and distribution of electricity and gas in Great Britain and northeastern US. The Company is a public limited liability company incorporated and domiciled in England and Wales, with its registered office at 1–3 Strand, London WC2N 5EH.

The Company, National Grid plc, which is the ultimate parent of the Group, has its primary listing on the London Stock Exchange and is also quoted on the New York Stock Exchange.

These consolidated financial statements were approved for issue by the Board on 15 May 2019.

These consolidated financial statements have been prepared in accordance with International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) and related interpretations as issued by the IASB and IFRS as adopted by the EU. They are prepared on the basis of all IFRS accounting standards and interpretations that are mandatory for periods ended 31 March 2019 and in accordance with the Companies Act 2006 applicable to companies reporting under IFRS and Article 4 of the EU IAS Regulation. The comparative financial information has also been prepared on this basis.

The consolidated financial statements have been prepared on a historical cost basis, except for the recording of pension assets and liabilities, the revaluation of derivative financial instruments and certain commodity contracts and certain financial assets and liabilities measured at fair value.

These consolidated financial statements are presented in pounds sterling, which is also the functional currency of the Company.

The notes to the financial statements have been prepared on a continuing basis unless otherwise stated.

Our income statement and segmental analysis separately identify financial results before and after exceptional items and remeasurements. We continue to use a columnar presentation as we consider it improves the clarity of the presentation, and is consistent with the way that financial performance is measured by management and reported to the Board and Executive Committee, and assists users of the financial statements to understand the results. The Directors believe that presentation of the results in this way is relevant to an understanding of the Group's financial performance. Presenting financial results before exceptional items and remeasurements is consistent with the way that financial performance is measured by management and reported to the Board and Executive Committee and aids the comparability of reported financial performance from year to year in this context. The inclusion of total profit for the period from continuing operations before exceptional items and remeasurements forms part of the incentive target set annually for remunerating certain Executive Directors and accordingly we believe it is important for users of the financial statements to understand how this compares to our results on a statutory basis and period on period.

A. Going concern

The Directors considered it appropriate to prepare the financial statements on a going concern basis, having considered the Company's cash flow forecasts with respect to business planning and treasury management activities. The going concern basis presumes that the Group has adequate resources to remain in operation, and that the Directors intend it to do so, for at least one year from the date the financial statements are signed.

B. Basis of consolidation

The consolidated financial statements incorporate the results, assets and liabilities of the Company and its subsidiaries, together with a share of the results, assets and liabilities of joint operations.

A subsidiary is defined as an entity controlled by the Group. Control is achieved where the Group is exposed to, or has the rights to, variable returns from its involvement with the entity and has the power to affect those returns through its power over the entity.

The Group accounts for joint ventures and associates using the equity method of accounting, where the investment is carried at cost plus post-acquisition changes in the share of net assets of the joint venture or associate, less any provision for impairment. Losses in excess of the consolidated interest in joint ventures and associates are not recognised, except where the Company or its subsidiaries have made a commitment to make good those losses.

Where necessary, adjustments are made to bring the accounting policies used in the individual financial statements of the Company, subsidiaries, joint operations, joint ventures and associates into line with those used by the Group in its consolidated financial statements under IFRS. Intercompany transactions are eliminated.

The results of subsidiaries, joint operations, joint ventures and associates acquired or disposed of during the year are included in the consolidated income statement from the effective date of acquisition or up to the effective date of disposal, as appropriate.

Acquisitions are accounted for using the acquisition method, where the purchase price is allocated to the identifiable assets acquired and liabilities assumed on a fair value basis and the remainder recognised as goodwill.

C. Treatment of interests in Quadgas HoldCo Limited (Quadgas) – discontinued operations and held for sale

Following the Group's disposal of a 61% controlling stake in the UK Gas Distribution business on 31 March 2017, we have decided to exercise the options over the retained 39% interest in the business (held through Quadgas) and the sale is expected to complete at the end of June 2019, subject to customary regulatory approvals. Accordingly, our interests have been classified as held for sale with effect from 30 June 2018. The Quadgas disposal group comprises our equity investment in Quadgas, our shareholder loan to Quadgas, the Further Acquisition Agreement (FAA) derivative and the Remaining Acquisition Agreement (RAA) derivative. Refer to note 10 for further details.

We have also treated the results of the disposal group as a discontinued operation in the consolidated income statement for the current year and we have restated our prior year comparatives for 2018 on the same basis. The results of the UK Gas Distribution business were already treated as a discontinued operation for the year ended 31 March 2017 with certain true ups (relating to completion accounts) to the disposal of the controlling stake recorded within discontinued operations for the year ended 31 March 2018. The reclassification impacts the consolidated income statement, the consolidated statement of comprehensive income and consolidated cash flow statement, as well as earnings per share (EPS) split between continuing and discontinued operations.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

1. Basis of preparation and recent accounting developments continued

D. Foreign currencies

Transactions in currencies other than the functional currency of the Company or subsidiary concerned are recorded at the rates of exchange prevailing on the dates of the transactions. At each reporting date, monetary assets and liabilities that are denominated in foreign currencies are retranslated at closing exchange rates. Non-monetary assets are not retranslated unless they are carried at fair value.

Gains and losses arising on the retranslation of monetary assets and liabilities are included in the income statement, except where the application of hedge accounting requires inclusion in other comprehensive income (see note 32(e)).

On consolidation, the assets and liabilities of operations that have a functional currency different from the Company's functional currency of pounds sterling, principally our US operations that have a functional currency of US dollars, are translated at exchange rates prevailing at the reporting date. Income and expense items are translated at the average exchange rates for the period where these do not differ materially from rates at the date of the transaction. Exchange differences arising are recognised in other comprehensive income and transferred to the consolidated translation reserve within other equity reserves (see note 28).

E. Areas of judgement and key sources of estimation uncertainty

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from these estimates. Information about such judgements and estimations is in the notes to the financial statements, and the key areas are summarised below.

Areas of judgement that have the most significant effect on the amounts recognised in the financial statements are as follows:

- Categorisation of certain items as exceptional items or remeasurements and the definition of adjusted earnings (see notes 5 and 8). In applying the Group's exceptional items framework, we have considered a number of key matters, as detailed in note 5.
- In addition, we have exercised our judgement in concluding that it is appropriate to classify our investment in and shareholder loan to Quadgas, along with the related Further Acquisition Agreement (FAA) and Remaining Acquisition Agreement (RAA) derivatives, as held for sale and as a discontinued operation, as detailed in note 10.

Key sources of estimation uncertainty that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are as follows:

- valuation of liabilities for pensions and other post-retirement benefits (see note 25); and
- the cash flows applied in determining the environmental provisions (see note 26).

In order to illustrate the impact that changes in assumptions could have on our results and financial position, we have included sensitivity analyses in note 35.

F. Accounting policy choices

IFRS provides certain options available within accounting standards. Choices we have made, and continue to make, include the following:

- Presentational formats: we use the nature of expense method for our income statement and aggregate our statement of financial position to net assets and total equity. In the income statement, we present subtotals of total operating profit, profit before tax and profit after tax from continuing operations, together with additional subtotals excluding exceptional items and remeasurements as a result of the three columnar presentation described earlier. Exceptional items and remeasurements are presented in a separate column on the face of the income statement.
- Financial instruments: we normally opt to apply hedge accounting in most circumstances where this is permitted (see note 32(e)).

G. New IFRS accounting standards effective for the year ended 31 March 2019

The Group adopted IFRS 9 'Financial Instruments' and IFRS 15 'Revenue from Contracts with Customers' with effect from 1 April 2018. We have applied the modified retrospective approach permitted in the Standards whereby prior year comparatives have not been restated on adoption. Instead, the cumulative transition adjustments are reflected through reserves. Refer to note 37 for full details of the impact and transition adjustments arising on adoption.

The Group has also adopted the following amendments to standards, which have had no material impact on the Group's results or financial statement disclosure:

- Annual improvements to IFRSs 2014-2016 Cycle;
- Amendments to IFRS 2 'Share-based payment'; and
- IFRIC 22 'Foreign Currency Transactions and Advance Consideration'.

1. Basis of preparation and recent accounting developments continued

H. New IFRS accounting standards and interpretations not yet adopted

The Group has considered the impact of the following new IFRS standards or interpretations that have not yet been adopted:

i) IFRS 16 'Leases'

IFRS 16 'Leases' is effective for National Grid for the year ending 31 March 2020. IFRS 16 introduces a single lease accounting model for lessees (rather than the current distinction between operating and finance leases). A contract is, or contains, a lease, if it provides the right to control the use of an identified asset for a specific period of time in exchange for consideration. The new standard will result in our operating leases being accounted for in the consolidated statement of financial position as 'right-of-use' assets with corresponding lease liabilities also recognised. It will therefore increase both our assets and liabilities (including net debt). In future periods, this will change the timing and presentation in the consolidated income statement as it will result in an increase in finance costs and depreciation largely offset by a reduction in the previously straight-line operating costs.

Transition options

We will apply IFRS 16 with effect from 1 April 2019 using the modified retrospective approach. Comparatives will not be restated on adoption. Instead, a cumulative adjustment to our opening consolidated statement of financial position will be reflected in retained earnings as well as recognition of the opening right-of-use assets and additional lease liabilities and associated deferred tax. For short-term leases (lease term of 12 months or less) and leases of low-value assets (such as computers), the Group will continue to recognise a lease expense on a straight-line basis as permitted by IFRS 16.

In preparing for the transition, we have elected to apply the practical expedient to grandfather our previous assessments of whether contracts were previously accounted for as a lease, as permitted by the standard, instead of reassessing all significant contracts as at the date of initial application to determine whether they met the IFRS 16 definition of a lease.

We have elected to apply the practical expedient on transition, which permits right-of-use assets to be measured at an amount equal to the lease liability on adoption of the standard (adjusted for any prepaid or accrued lease expenses).

In addition, we have also elected the option to adjust the carrying amounts of the right-of-use assets as at 1 April 2019 for onerous lease provisions that had been recognised on the Group consolidated statement of financial position as at 31 March 2019, rather than performing impairment assessments on transition.

Impact of transition

As at the reporting date, the Group has non-cancellable operating lease commitments of £0.3 billion (see note 30), of which the majority are in the US. A further £0.3 billion of lease liabilities is recognised due to the requirement in IFRS 16 to recognise lease liabilities for the term that we are reasonably certain to exercise lease extension or lease termination options for, rather than only for the period of the minimum contractual term that is used in determining our lease liability commitments. This is partially offset by the £0.2 billion impact of discounting our lease liabilities at the incremental borrowing rate for each lease. There are some immaterial short term and low value leases, which will be recognised on a straight-line basis as an expense in profit and loss over the remaining lease term.

As a result, the Group expects to recognise additional right-of-use assets and lease liabilities (which are included within net debt) of approximately £0.4 billion at 1 April 2019 with no material additional net deferred tax. This is in addition to the £0.3 billion of finance leases already recognised on the consolidated statement of financial position under IAS 17. There will be no material net impact on net assets.

Accordingly, the Group does not expect the impact of IFRS 16 on profit after tax as a result of adopting the new standard to be material. However, it will result in an increase in operating profit due to the operating costs now being replaced with depreciation and interest charges.

We expect operating cash flows to increase and financing cash flows to decrease by less than £0.1 billion, because repayment of the principal portion of the lease liabilities will be classified as cash flows from financing activities rather than operating cash flows.

ii) Other

In addition, the following new accounting standards and amendments to existing standards have been issued but are not yet effective or have not yet been endorsed by the EU:

- IFRIC 23 'Uncertainty over Income Tax Treatments';
- Amendments to IAS 28 'Investments in Associates – Long-term Interests in Associates and Joint Ventures';
- Annual Improvements to IFRS Standards 2015-2017 Cycle;
- IFRS 17 'Insurance Contracts';
- Amendments to IAS 19 'Employee Benefits';
- Amendments to IFRS 3 'Business Combinations';
- Amendments to the References to the Conceptual Framework; and
- Amendments to IAS 1 and IAS 8: Definition of material.

Effective dates remain subject to the EU endorsement process.

The Group is currently assessing the impact of the above standards, but they are not expected to have a material impact. The Group has not adopted any other standard, amendment or interpretation that has been issued but is not yet effective.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

2. Segmental analysis

This note sets out the financial performance for the year split into the different parts of the business (operating segments). The performance of these operating segments is monitored and managed on a day-to-day basis. Revenue and the results of the business are analysed by operating segment, based on the information the Board of Directors uses internally for the purposes of evaluating the performance of each operating segment and determining resource allocation between them. The Board is National Grid's chief operating decision maker (as defined by IFRS 8 'Operating Segments') and assesses the profitability of operations principally on the basis of operating profit before exceptional items and remeasurements (see note 5). As a matter of course, the Board also considers profitability by segment, excluding the effect of timing. However, the measure of profit disclosed in this note is operating profit before exceptional items and remeasurements as this is the measure that is most consistent with the IFRS results reported within these financial statements.

The results of our three principal businesses are reported to the Board of Directors and are accordingly treated as reportable operating segments. All other operating segments are reported to the Board of Directors on an aggregated basis. The following table describes the main activities for each reportable operating segment:

UK Electricity Transmission	The high-voltage electricity transmission networks in England and Wales and Great Britain system operator.
UK Gas Transmission	The high-pressure gas transmission networks in Great Britain and system operator in Great Britain.
US Regulated	Gas distribution networks, electricity distribution networks and high-voltage electricity transmission networks in New York and New England and electricity generation facilities in New York.

The National Grid Ventures (NGV) operating segment represents our key strategic growth area outside our regulated core business in competitive markets across the US and the UK. The business comprises all commercial operations in metering, LNG at the Isle of Grain in the UK and electricity interconnectors, with a focus on investment and future activities in emerging growth areas. NGV does not currently meet the thresholds set out in IFRS 8 to be identified as a separate reportable segment and therefore its results are not required to be separately presented. However, certain additional disclosure is included in the footnotes below.

Other activities that do not form part of any of the segments in the above table or NGV primarily relate to our UK property business together with insurance and corporate activities in the UK and US and the Group's investments in technology and innovation companies through National Grid Partners.

The segmental information is presented in relation to continuing operations only and therefore does not include the profits and losses relating to our interest in Quadgas for 2018 and 2019 or those associated with the UK Gas Distribution business (see note 10).

(a) Revenue

Revenue primarily represents the sales value derived from the generation, transmission and distribution of energy, together with the sales value derived from the provision of other services to customers. Refer to note 3 for further details.

Sales between operating segments are priced considering the regulatory and legal requirements to which the businesses are subject. The analysis of revenue by geographical area is on the basis of destination. There are no material sales between the UK and US geographical areas.

	2019			2018			2017		
	Total sales £m	**Sales between segments £m**	**Sales to third parties £m**	Total sales £m	Sales between segments £m	Sales to third parties £m	Total sales £m	Sales between segments £m	Sales to third parties £m
Operating segments – continuing operations:									
UK Electricity Transmission	**3,351**	**(20)**	**3,331**	4,154	(28)	4,126	4,439	(29)	4,410
UK Gas Transmission	**896**	**(12)**	**884**	1,091	(9)	1,082	1,080	(99)	981
US Regulated	**9,846**	**–**	**9,846**	9,272	–	9,272	8,931	–	8,931
NGV and Other[1]	**876**	**(4)**	**872**	776	(6)	770	713	–	713
Total revenue from continuing operations	**14,969**	**(36)**	**14,933**	15,293	(43)	15,250	15,163	(128)	15,035
Split by geographical areas – continuing operations:									
UK			**5,045**			5,938			6,064
US			**9,888**			9,312			8,971
			14,933			15,250			15,035

1. Included within NGV and Other is £597 million (2018: £593 million; 2017: £604 million) of revenue relating to NGV.

2. Segmental analysis continued

(b) Operating profit

A reconciliation of the operating segments' measure of profit to profit before tax from continuing operations is provided below. Further details of the exceptional items and remeasurements are provided in note 5.

	Before exceptional items and remeasurements			After exceptional items and remeasurements		
	2019 £m	2018[1] £m	2017 £m	**2019 £m**	2018[1] £m	2017 £m
Operating segments – continuing operations:						
UK Electricity Transmission	**1,015**	1,041	1,372	**778**	1,041	1,361
UK Gas Transmission	**303**	487	511	**267**	487	507
US Regulated	**1,724**	1,698	1,713	**1,425**	1,734	1,278
NGV and Other[2,3]	**400**	231	177	**400**	231	62
Total operating profit from continuing operations	**3,442**	3,457	3,773	**2,870**	3,493	3,208
Split by geographical area – continuing operations:						
UK	**1,695**	1,840	2,118	**1,422**	1,840	1,988
US	**1,747**	1,617	1,655	**1,448**	1,653	1,220
	3,442	3,457	3,773	**2,870**	3,493	3,208

Below we reconcile total operating profit from continuing operations to profit before tax from continuing operations. Operating exceptional items and remeasurements of £237 million charge (2018: £nil; 2017: £11 million charge) detailed in note 5 are attributable to UK Electricity Transmission; £36 million charge (2018: £nil; 2017: £4 million charge) to UK Gas Transmission; £299 million charge (2018: £36 million gain; 2017: £435 million charge) to US Regulated; and £nil (2018: £nil; 2017: £115 million charge) to NGV and Other.

Reconciliation to profit before tax:						
Operating profit from continuing operations	**3,442**	3,457	3,773	**2,870**	3,493	3,208
Finance income	**73**	127	53	**88**	127	53
Finance costs	**(1,066)**	(1,128)	(1,082)	**(1,157)**	(1,009)	(1,140)
Share of post-tax results of joint ventures and associates	**40**	44	63	**40**	49	63
Profit before tax from continuing operations	**2,489**	2,500	2,807	**1,841**	2,660	2,184

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).
2. Included within NGV and Other is £263 million (2018: £234 million; 2017: £239 million) of operating profit (both before and after exceptional items and remeasurements) relating to NGV. Also included in this balance for the year ended 31 March 2019 is £181 million (2018: £84 million; 2017: £55 million) of operating profit in relation to the Property business.
3. NGV and Other includes gains of £95 million (2018: £nil; 2017: £nil) in relation to cash received in respect of two legal settlements.

(c) Capital expenditure

	Net book value of property, plant and equipment and other intangible assets			Capital expenditure[1]			Depreciation, amortisation and impairment		
	2019 £m	2018 £m	2017 £m	**2019 £m**	2018 £m	2017 £m	**2019 £m**	2018 £m	2017 £m
Operating segments:									
UK Electricity Transmission	**13,288**	13,028	12,515	**925**	999	1,027	**(628)**	(475)	(421)
UK Gas Transmission	**4,412**	4,280	4,165	**308**	310	214	**(181)**	(194)	(186)
US Regulated	**24,542**	20,953	21,638	**2,650**	2,424	2,247	**(700)**	(635)	(642)
NGV and Other[2]	**2,755**	2,491	2,430	**438**	341	247	**(226)**	(226)	(232)
Total from continuing operations	**44,997**	40,752	40,748	**4,321**	4,074	3,735	**(1,735)**	(1,530)	(1,481)
Split by geographical area – continuing operations:									
UK	**19,343**	18,772	18,102	**1,584**	1,527	1,357	**(931)**	(804)	(753)
US	**25,654**	21,980	22,646	**2,737**	2,547	2,378	**(804)**	(726)	(728)
	44,997	40,752	40,748	**4,321**	4,074	3,735	**(1,735)**	(1,530)	(1,481)
Asset type:									
Property, plant and equipment	**43,913**	39,853	39,825	**4,015**	3,901	3,507	**(1,560)**	(1,392)	(1,348)
Non-current intangible assets	**1,084**	899	923	**306**	173	228	**(175)**	(138)	(133)
Total from continuing operations	**44,997**	40,752	40,748	**4,321**	4,074	3,735	**(1,735)**	(1,530)	(1,481)

1. Represents additions to property, plant and equipment and non-current intangibles but excludes additional investments in and loans to joint ventures and associates.
2. Included within NGV and Other are assets with a net book value of £1,635 million (2018: £1,454 million; 2017: £1,432 million), capital expenditure of £317 million (2018: £186 million; 2017: £98 million) and depreciation, amortisation and impairment of £114 million (2018: £143 million; 2017: £143 million) relating to NGV.

Total non-current assets other than financial instruments and pension assets located in the UK and US were £30,072 million and £21,787 million respectively as at 31 March 2019 (31 March 2018: UK £20,816 million, US £27,663 million; 31 March 2017: UK £20,045 million, US £28,951 million).

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

3. Revenue

Revenue arises in the course of the ordinary activities and principally comprises:

- transmission services;
- distribution services; and
- generation services.

Transmission services, distribution services and certain other services (excluding rental income but including metering) fall within the scope of IFRS 15 'Revenue from Contracts with Customers', whereas generation services are accounted for under the leasing standard as rental income, presented within revenue. Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties and value added tax. The Group recognises revenue when it transfers control over a product or service to a customer.

IFRS 15 was effective from 1 April 2018. As explained in note 37, the standard has been applied prospectively and therefore the analysis below is only provided for the current period. The impact of adoption on the opening consolidated statement of financial position and reserves is disclosed in note 37, with the main change to profit being in relation to customer connection income in the UK Electricity Transmission and US Regulated businesses. Note 37 includes the quantification of the impact for the year if revenue were still to have been accounted for under IAS 18, which arises from a change in the recognition of receipts from other UK network owners (and has no impact on profit).

The following is a description of principal activities, by reportable segment, from which the Group generates its revenue. For more detailed information about our segments, see note 2.

(a) UK Electricity Transmission

The UK Electricity Transmission segment principally generates revenue by providing electricity transmission services (both as transmission owner in England and Wales and system operator in Great Britain). Our business operates as a monopoly regulated by Ofgem, which has established price control mechanisms that set the amount of annual allowed returns our business can earn. The IFRS revenues we record are principally a function of volumes and price. Price is determined prior to our financial year end with reference to the regulated allowed returns and estimated annual volumes. Where revenue received or receivable exceeds the maximum amount permitted by regulatory agreement, adjustments will be made to future prices to reflect this over-recovery. No liability is recognised, as such an adjustment to future prices relates to the provision of future services. Similarly no asset is recognised where a regulatory agreement permits adjustments to be made to future prices in respect of an under-recovery. As part of our regulatory agreements we are entitled to recover certain costs directly from customers (pass-through costs). These amounts are included in the overall calculation of allowed revenue as stipulated by regulatory agreements.

The transmission of high-voltage electricity encompasses the following principal services:

- the supply of high-voltage electricity (including both transmission and system operator charges); and
- construction work (principally for connections).

For the supply of high-voltage electricity, revenue is recognised based on capacity and volumes. Our performance obligation is satisfied over time as our customers make use of our network. We bill monthly in arrears and our payment terms are up to 60 days.

For construction work relating to connections, customers can either pay over the useful life of the connection or upfront. Revenue is recognised over time, as we provide access to our network, and where the customer pays upfront, revenues are deferred and released over the life of the connection.

For other construction where there is no consideration for any future services, for example diversions (being the re-routing of network assets at our customers' request), revenues are recognised as the construction work is completed.

(b) UK Gas Transmission

The UK Gas Transmission segment of the Group principally generates revenue by providing gas transmission services to our customers (both as transmission owner and as system operator) in Great Britain. Similar to our UK Electricity Transmission business, our business operates as a monopoly regulated by Ofgem. The price control mechanism in place that determines our annual allowances is also similar, as is the way in which revenue is recorded.

The transmission of gas encompasses the following principal services:

- the supply of high-pressure gas (including both transmission and system operator charges); and
- construction work (principally for connections).

For the supply of high-pressure gas, revenue is recognised based on capacity and volumes. Our performance obligation is satisfied over time as our customers make use of our network, and we bill monthly in arrears with payment terms of up to 45 days.

For construction work relating to connections, customers pay for the connection upfront. Revenue is recognised over time, as we provide access to our network. Where revenues are received upfront, they are deferred and released over the life of the connection.

For other construction where there is no consideration for any future services (such as diversions), revenues are recognised when the construction work is completed.

3. Revenue continued

(c) US Regulated

The US Regulated segments of the Group principally generate revenue by providing gas and electricity distribution services in New York and New England, high voltage electricity transmission services in New York and New England, and electricity generation in New York.

Distribution services

Provision of gas and electric distribution services in New York and New England. This comprises the following principal services:

- Gas and electricity distribution: revenue is recognised based on usage (over time) by customers and billed monthly. Payment terms are 30 days; and
- Connections: revenue is recognised over time, as we provide access to our network. Where payments are made upfront, they are deferred over the life of the asset.

Transmission services

Provision of electricity transmission services to customers and operation of electricity transmission facilities. Our principal services are:

- Electricity transmission: revenue is recognised based on usage by customers (over time) and billed monthly. Payment terms are 30 days; and
- Connections: revenue is recognised over time, as we provide access to our network. Where payments are made upfront, they are deferred over the life of the asset.

Electricity generation

Provision of energy services and supply capacity to produce energy for the use of customers of the Long Island Power Authority (LIPA) through a power supply agreement. This falls within the scope of the leasing standard, where we act as lessor with rental income being recorded as other income, which forms part of total revenue.

(d) NGV and Other

NGV and Other includes electricity interconnectors, LNG at Grain, commercial metering, property sales and rental income, and insurance.

The Group recognises revenue from transmission services through interconnectors and from LNG at Grain by means of customers' use of capacity and volumes. Revenue is recognised over time and is billed monthly. Payment terms are 30 days.

Other revenue in the scope of IFRS 15 principally includes revenues from our metering businesses. Revenue is recognised over time and is billed monthly. Payment terms are 30 days.

Other revenue, recognised in accordance with standards other than IFRS 15, includes property sales by our UK commercial property business and rental income. Property sales are recorded at a point in time (when the sale is legally completed) and rental income is recorded over time.

In the following tables, revenue is disaggregated by primary geographical market and major service lines. The table reconciles disaggregated revenue with the Group's reportable segments (see note 2).

Revenue for the year ended 31 March 2019	UK Electricity Transmission £m	UK Gas Transmission £m	US Regulated £m	NGV and Other £m	Total £m
Revenue under IFRS 15					
Transmission	3,325	833	370	313	4,841
Distribution	–	–	8,941	–	8,941
Other	–	–	–	284	284
Total IFRS 15 revenue	3,325	833	9,311	597	14,066
Other revenue					
Generation	–	–	367	–	367
Other	6	51	168	275	500
Total other revenue	6	51	535	275	867
Total revenue from continuing operations	3,331	884	9,846	872	14,933

Geographical split for the year ended 31 March 2019	UK Electricity Transmission £m	UK Gas Transmission £m	US Regulated £m	NGV and Other £m	Total £m
Revenue under IFRS 15					
UK	3,325	833	–	585	4,743
US	–	–	9,311	12	9,323
Total IFRS 15 revenue	3,325	833	9,311	597	14,066
Other revenue					
UK	6	51	–	245	302
US	–	–	535	30	565
Total other revenue	6	51	535	275	867
Total revenue from continuing operations	3,331	884	9,846	872	14,933

Revenue to be recognised in future periods, presented as contract liabilities of £994 million (see note 23), relates to contributions in aid of construction. Revenue is recognised over the life of the asset. The asset lives for connections in UK Electricity Transmission, UK Gas Transmission and US Regulated are 40 years, 36 years (to 2055), and up to 47 years respectively. The weighted average amortisation period is 43 years.

Future revenues in relation to unfulfilled performance obligations not yet received in cash amount to £3.5 billion. £1.6 billion relates to connection contracts in UK Electricity Transmission which will be recognised as revenue over 30 years and £1.8 billion relates to revenues to be earned under LNG at Grain contracts over 11 years. The remaining amount will be recognised as revenue over 5 years.

The amount of revenue recognised for the year ended 31 March 2019 from performance obligations satisfied (or partially satisfied) in previous periods, mainly due to the changes in the estimate of the stage of completion, is £nil.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

4. Operating costs

Below we have presented separately certain items included in our operating costs from continuing operations. These include a breakdown of payroll costs (including disclosure of amounts paid to key management personnel) and fees paid to our auditors.

Rentals under operating leases are charged to the income statement on a straight-line basis over the term of the relevant lease.

	Before exceptional items and remeasurements			Exceptional items and remeasurements			Total		
	2019 £m	2018 £m	2017 £m	**2019 £m**	2018 £m	2017 £m	**2019 £m**	2018 £m	2017 £m
Depreciation, amortisation and impairment	**1,588**	1,530	1,481	**147**	–	–	**1,735**	1,530	1,481
Payroll costs	**1,703**	1,648	1,578	**149**	–	–	**1,852**	1,648	1,578
Purchases of electricity	**1,504**	1,299	1,143	**(50)**	(14)	(46)	**1,454**	1,285	1,097
Purchases of gas	**1,644**	1,539	1,241	**(2)**	4	(22)	**1,642**	1,543	1,219
Rates and property taxes	**1,108**	1,057	1,042	**–**	–	–	**1,108**	1,057	1,042
Balancing Services Incentive Scheme	**1,196**	1,012	1,120	**–**	–	–	**1,196**	1,012	1,120
Payments to other UK network owners[1]	**–**	1,043	1,008	**–**	–	–	**–**	1,043	1,008
Other	**2,748**	2,665	2,649	**328**	(26)	633	**3,076**	2,639	3,282
	11,491	11,793	11,262	**572**	(36)	565	**12,063**	11,757	11,827
Operating costs include:									
Inventory consumed							**415**	367	296
Operating leases[2]							**46**	51	43
Research and development expenditure							**19**	13	14

1. Under IFRS 15, for 2019 revenue and associated payments to other UK network owners are presented on a net basis. Refer to note 37.
2. Following a review during the year, the comparatives have been refined to provide consistency with the current year.

(a) Payroll costs

	2019 £m	2018 £m	2017 £m
Wages and salaries[1]	**2,084**	1,998	1,852
Social security costs	**156**	157	145
Defined contribution scheme costs	**72**	65	58
Defined benefit pension costs	**232**	156	151
Share-based payments	**27**	16	32
Severance costs (excluding pension costs)	**76**	7	5
	2,647	2,399	2,243
Less: payroll costs capitalised	**(795)**	(751)	(665)
Total payroll costs	**1,852**	1,648	1,578

1. Included within wages and salaries are US other post-retirement benefit costs of £48 million (2018: £46 million; 2017: £53 million). For further information refer to note 25.

(b) Number of employees

	31 March 2019	**Monthly average 2019**	31 March 2018	Monthly average 2018	31 March 2017	Monthly average 2017
UK	**5,962**	**6,227**	6,517	6,431	6,265	6,291
US	**16,614**	**16,669**	16,506	16,274	15,867	15,752
Total number of employees	**22,576**	**22,896**	23,023	22,705	22,132	22,043

4. Operating costs continued

(c) Key management compensation

	2019 £m	2018 £m	2017 £m
Short-term employee benefits	**7**	8	8
Post-employment benefits	**1**	1	1
Share-based payments	**3**	3	6
Total key management compensation	**11**	12	15

Key management compensation relates to the Board, including the Executive Directors and Non-executive Directors for the years presented.

(d) Directors' emoluments

Details of Executive Directors' emoluments are contained in the Remuneration Report on page 79 and those of Non-executive Directors on page 84.

(e) Auditors' remuneration

Auditors' remuneration is presented below in accordance with the requirements of the Companies Act 2006 and the principal accountant fees and services disclosure requirements of Item 16C of Form 20-F:

	2019 £m	2018 £m	2017 £m
Audit fees payable to the Parent Company's auditors and their associates in respect of:[1]			
Audit of the Parent Company's individual and consolidated financial statements[2]	**1.6**	2.7	1.5
The auditing of accounts of any associate of the Company[3]	**7.2**	9.3	13.7
Other services supplied[4]	**5.2**	3.9	4.6
	14.0	15.9	19.8
Total other services[5]			
Tax fees:			
Tax compliance services	**–**	0.3	0.4
Tax advisory services	**–**	–	0.1
All other fees:			
Other assurance services[6]	**1.1**	0.7	4.6
Services relating to corporate finance transactions not covered above[7]	**–**	–	5.9
Other non-audit services not covered above[8]	**2.2**	0.9	6.3
	3.3	1.9	17.3
Total auditors' remuneration	**17.3**	17.8	37.1

1. Deloitte LLP became the Group's principal auditor for the year ended 31 March 2018. PricewaterhouseCoopers LLP (PwC) was the principal auditor for the year ended 31 March 2017.
2. Audit fees in each year represent fees for the audit of the Company's financial statements and regulatory reporting for the years ended 31 March 2019, 2018 and 2017.
3. The 2018 comparative has been updated following finalisation of the 2018 audit fee with the Audit Committee.
4. Other services supplied represent fees payable for services in relation to other statutory filings or engagements that are required to be carried out by the auditors. In particular, this includes fees for reports under section 404 of the US Public Company Accounting Reform and Investor Protection Act of 2002 (Sarbanes-Oxley), audit reports on regulatory returns and the review of interim financial statements for the six-month periods ended 30 September 2018, 2017 and 2016 respectively.
5. There were no audit related fees as described in Item 16C(b) of Form 20-F.
6. Principally amounts relating to assurance services provided in relation to comfort letters for debt issuances. In 2017, amounts represented assurance services undertaken by PwC in relation to the sale of UK Gas Distribution and data assurance work in respect of financial information included in US rate filings.
7. Vendor due diligence and other transaction services in relation to the sale of UK Gas Distribution.
8. Fees for other non-audit services – projects including services provided to the UK Property business, relating to evaluating possible options for the use of property assets. In 2017, services related principally to PwC assisting the Company with separation activities in relation to the sale of UK Gas Distribution.

The Audit Committee considers and makes recommendations to the Board, to be put to shareholders for approval at each AGM, in relation to the appointment, re-appointment, removal and oversight of the Company's independent auditors. The Committee also considers and approves the audit fees on behalf of the Board in accordance with the Competition and Market Authority Audit Order 2014. The auditors' remuneration is then put to shareholders at each AGM. Details of our policies and procedures in relation to non-audit services to be provided by the independent auditors are set out on page 62 of the Corporate Governance Report.

Certain services are prohibited from being performed by the external auditors under the Sarbanes-Oxley Act. Of the above services, none were prohibited.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

5. Exceptional items and remeasurements

To monitor our financial performance, we use a profit measure that excludes certain income and expenses. We call that measure 'business performance' or 'adjusted profit'. Business performance (which excludes exceptional items and remeasurements as defined below) is used by management to monitor financial performance as it is considered that it aids the comparability of our reported financial performance from year to year. We exclude items from business performance because, if included, these items could distort understanding of our performance for the year and the comparability between periods. This note analyses these items, which are included in our results for the year but are excluded from business performance.

Exceptional items and remeasurements from continuing operations

	2019 £m	2018[1] £m	2017 £m
Included within operating profit			
Exceptional items:			
Cost efficiency and restructuring programmes	**(204)**	–	–
Massachusetts Gas labour dispute	**(283)**	–	–
Impairment of nuclear connection development costs	**(137)**	–	–
Final settlement of LIPA MSA Transition	**–**	26	–
Environmental charges	**–**	–	(526)
Gas holder demolition costs	**–**	–	(107)
	(624)	26	(633)
Remeasurements – commodity contract derivatives	**52**	10	68
	(572)	36	(565)
Included within finance income and costs			
Remeasurements:			
Net (losses)/gains on derivative financial instruments	**(40)**	119	(58)
Net gains on financial assets at fair value through profit and loss	**15**	–	–
Net losses on financial liabilities at fair value through profit and loss	**(51)**	–	–
	(76)	119	(58)
Included within share of post-tax results of joint ventures and associates			
Deferred tax arising on the reduction in US corporation tax rate	**–**	5	–
Total included within profit before tax	**(648)**	160	(623)
Included within tax			
Exceptional items – credits arising on items not included in profit before tax:			
Deferred tax arising on the reduction in the UK corporation tax rate	**–**	–	94
Deferred tax arising on the reduction in the US corporation tax rate	**–**	1,510	–
Tax on exceptional items	**144**	(9)	227
Tax on remeasurements	**5**	(28)	(29)
	149	1,473	292
Total exceptional items and remeasurements after tax	**(499)**	1,633	(331)
Analysis of total exceptional items and remeasurements after tax			
Exceptional items after tax	**(480)**	1,532	(312)
Remeasurements after tax	**(19)**	101	(19)
Total exceptional items and remeasurements after tax	**(499)**	1,633	(331)

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).

5. Exceptional items and remeasurements continued

Exceptional items

Management uses an exceptional items framework that has been discussed and approved by the Audit Committee. This follows a three-step process which considers the nature of the event, the financial materiality involved and any particular facts and circumstances. In considering the nature of the event, management focuses on whether the event is within the Group's control and how frequently such an event typically occurs. In determining the facts and circumstances, management considers factors such as ensuring consistent treatment between favourable and unfavourable transactions, the precedent for similar items, the number of periods over which costs will be spread or gains earned, and the commercial context for the particular transaction.

Items of income or expense that are considered by management for designation as exceptional items include significant restructurings, write-downs or impairments of non-current assets, significant changes in environmental or decommissioning provisions, integration of acquired businesses, gains or losses on disposals of businesses or investments and significant debt redemption costs as a consequence of transactions such as significant disposals or issues of equity, and the related tax as well as deferred tax arising on changes to corporation tax rates.

Costs arising from restructuring programmes include redundancy costs. Redundancy costs are charged to the consolidated income statement in the year in which a commitment is made to incur the costs and the main features of the restructuring plan have been announced to affected employees.

2019

In assessing certain items of income and expenditure against our exceptional items framework, we have concluded that the costs associated with the Massachusetts Gas labour dispute (£283 million), our cost efficiency and restructuring programme (£204 million) and impairments relating to two nuclear connection cancellations (£137 million) should be treated as exceptional (as described further below).

We also considered whether the £95 million income from two legal settlements received in the period should be classified as exceptional. However, we concluded it was appropriate to recognise the income in earnings before exceptional items (within NGV and Other), in line with the treatment of the original costs.

Cost efficiency and restructuring programmes: Our UK and US businesses incurred restructuring charges as we reviewed organisational structures, operational activities and relevant roles and responsibilities to ensure we are able to operate more efficiently and to continue to drive outperformance for customers and shareholders. In the UK these reviews were largely completed during the first half of the year, and we reported a £127 million exceptional charge at 30 September 2018, reflecting £100 million in severance and associated planning and support costs. A net charge of £52 million relating to pension costs is recognised within this amount. No significant additional operational costs have been incurred in the UK since 30 September 2018; however, during the second half of the year we commenced an equivalent programme for our US core business, which has resulted in a charge of £68 million, relating to severance and lease terminations following a decision to exit certain of our properties in New York City. The cash outflow for the year was £93 million.

Massachusetts Gas labour dispute: On 25 June 2018, National Grid implemented a workforce contingency plan across its Massachusetts Gas business following the expiration of contracts for the 1,250 members of the existing workforce. In early January 2019 we reached agreement with the two unions over employment terms and conditions, with affected staff members returning to work in late January 2019. Throughout the duration of the labour dispute, we employed experienced contractors alongside supervisors and workers from other areas of our business to ensure work continued safely, and external contractor activity returned to normal levels in February 2019. In presenting this year's financial statements, we have excluded the net incremental cost of £283 million on the basis that this ensures adjusted earnings presents a clear view of the financial performance of the US regulated business had the workforce contingency plan not been implemented. The total cash outflow related to the labour dispute was £320 million for the year.

Impairment of nuclear connection development costs: In November 2018, Toshiba announced the cancellation of its NuGen project to build a new nuclear power station at Moorside in Cumbria, and on 23 November 2018, NuGen terminated its connection agreement with UK Electricity Transmission. On 15 February 2019, Hitachi terminated its connection agreements in respect of its Horizon projects at Wylfa and Oldbury. As there is no realistic prospect of these schemes continuing in their present form, we have concluded that it is appropriate to impair the assets we had been developing for over 10 years. After deducting cash inflows relating to termination fees received of £13 million, the net impairment charge was £137 million.

2018

During the year, the Group reached an agreement with LIPA on an amount in final settlement of receivables and payables that arose following the cessation of the Management Services Agreement with LIPA in December 2013. The settlement resulted in a gain of £26 million, which has been recorded as exceptional, consistent with the treatment of gains and losses on the original transaction.

2017

In the US, the Group's most significant environmental liabilities relate to former manufactured gas plant (MGP) facilities formerly owned or operated by the Group. The sites are subject to both state and federal law in the US. Environmental reserves are re-evaluated at each reporting period. The expenditure is expected to be largely recoverable from rate payers but, under IFRS, no asset can be recorded for this. During 2017, the Group updated its assessment of the gross remediation costs at three key sites in New York, resulting in an increase of £481 million on an undiscounted basis.

The charge booked reflects the Group's best estimate of future cash outflow, based on notices received from state and federal authorities, and plans developed in response, supported by external consultants where appropriate. In some cases, judgement is also required regarding the Group's share of the estimated cost, principally at sites where other parties are also potentially liable but where no cost sharing agreement exists.

Also included within the above are charges relating to the impact of a change in the real discount rate from 2% to 1% on our provisions.

A provision of £107 million was made for the demolition of certain non-operational gas holders in the UK. Following the disposal of UK Gas Distribution, the land on which the gas holders are sited was transferred to the Group's UK property division. The Group's property division maximises our return from our land portfolio and therefore a constructive obligation exists to demolish the gas holders.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

5. Exceptional items and remeasurements continued

Remeasurements

Remeasurements comprise unrealised gains or losses recorded in the consolidated income statement arising from changes in the fair value of certain of our financial assets and liabilities accounted for at fair value through profit and loss (FVTPL). Consistent with prior periods, in the current period these assets and liabilities include commodity contract derivatives and financial derivative instruments to the extent that hedge accounting is not achieved or is not effective.

Following the adoption of IFRS 9 in the current period, this year we have also classified the unrealised gains or losses reported in profit and loss on certain additional assets and liabilities now treated at FVTPL within remeasurements. These relate to the financial assets (which fail the 'solely payments of principal and interest test' under IFRS 9), the money market fund investments used by Group Treasury for cash management purposes and certain financial liabilities which we elected to designate at FVTPL on transition. In all cases, these fair values increase or decrease because of changes in foreign exchange, commodity or other financial indices over which we have no control.

We report unrealised gains or losses relating to certain discrete classes of financial assets accounted for at FVTPL within business performance. These comprise our portfolio of investments made by National Grid Partners, and our investment in Sunrun Neptune 2016 LLC (within NGV and Other). The performance of these assets (including changes in fair value) are included in our assessment of business performance for the relevant business units.

Remeasurements excluded from business performance are made up of the following categories:

i. Net gains/(losses) on commodity contract derivatives represent mark-to-market movements on certain physical and financial commodity contract obligations in the US. These contracts primarily relate to the forward purchase of energy for supply to customers, or to the economic hedging thereof, that are required to be measured at fair value and that do not qualify for hedge accounting. Under the existing rate plans in the US, commodity costs are recoverable from customers although the timing of recovery may differ from the pattern of costs incurred.

ii. Net gains/(losses) on derivative financial instruments comprise gains/(losses) arising on derivative financial instruments reported in the consolidated income statement in relation to our debt financing and foreign exchange hedging of the investment funds held by our insurance captives. These exclude gains and losses for which hedge accounting has been effective, and have been recognised directly in the consolidated statement of other comprehensive income or are offset by adjustments to the carrying value of debt (see notes 17 and 32).

iii. Net gains/(losses) on financial assets measured at FVTPL comprise gains/(losses) on the investment funds held by our insurance captives which are categorised as FVTPL (see note 15).

iv. Net gains/(losses) on financial liabilities measured at FVTPL comprises the change in the fair value (excluding changes due to own credit risk) of a financial liability that has been designated at FVTPL on transition to IFRS 9 to reduce a measurement mismatch (see note 21).

Items included within tax

2018

The Tax Cuts and Jobs Act (Tax Reform), which was enacted on 22 December 2017, reduced the US corporate tax rate from 35% to 21% with effect from 1 January 2018. Deferred taxes at the reporting date have been measured using these enacted tax rates. This resulted in a one-off deferred tax credit in the year ended 31 March 2018. However, as described in note 11, we expect the overall impact of Tax Reform to be economically neutral for the Group.

2017

The Finance Act 2016, which was enacted on 15 September 2016, reduced the main rate of UK corporation tax to 17% with effect from 1 April 2020. Deferred tax balances have been calculated at this rate for the years ended 31 March 2019 and 31 March 2018.

6. Finance income and costs

This note details the interest income generated by our financial assets and interest expense incurred on our financial liabilities, primarily our financing portfolio (including our financing derivatives). It also includes the net interest on our pensions and other post-retirement assets. In reporting business performance, we adjust net financing costs to exclude any net gains or losses on financial instruments included in remeasurements (see note 5). In addition, where debt redemptions relate to exceptional transactions they are typically treated as exceptional.

The Group adopted IFRS 9 with effect from 1 April 2018. The comparatives are not required to be restated and are accounted for in accordance with IAS 39. Following the adoption of IFRS 9, finance income and costs remeasurements include unrealised gains and losses on certain assets and liabilities now treated at FVTPL. The interest income, dividends and interest expense on these items are included in finance income and finance costs before remeasurements, respectively.

	Notes	2019 £m	2018[1] £m	2017 £m
Finance income				
Interest income on financial instruments:				
Bank deposits and other financial assets		**54**	54	28
Dividends received on equities held at fair value through other comprehensive income		**2**	—	—
Gains on disposal of available-for-sale investments		**–**	73	25
Other income		**17**	—	—
		73	127	53
Finance costs				
Net interest on pensions and other post-retirement benefit obligations	25	**(22)**	(65)	(107)
Interest expense on financial liabilities held at amortised cost:				
Bank loans and overdrafts		**(72)**	(87)	(59)
Other borrowings		**(970)**	(1,030)	(927)
Interest expense on financial liabilities held at fair value through profit and loss		**(20)**	—	—
Derivatives		**(43)**	12	(8)
Unwinding of discount on provisions	26	**(74)**	(75)	(73)
Other interest		**–**	(11)	(17)
Less: interest capitalised[2]		**135**	128	109
		(1,066)	(1,128)	(1,082)
Remeasurements – Finance income				
Net gains on financial assets held at fair value through profit and loss		**15**	—	—
		15	—	—
Remeasurements – Finance costs				
Net losses on financial liabilities held at fair value through profit and loss		**(51)**	—	—
Net (losses)/gains on derivative financial instruments[3]:				
Derivatives designated as hedges for hedge accounting		**(37)**	49	81
Derivatives not designated as hedges for hedge accounting		**(3)**	70	(139)
		(91)	119	(58)
Total remeasurements – Finance income and costs		**(76)**	119	(58)
Finance income		**88**	127	53
Finance costs		**(1,157)**	(1,009)	(1,140)
Net finance costs from continuing operations		**(1,069)**	(882)	(1,087)

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).
2. Interest on funding attributable to assets in the course of construction in the current year was capitalised at a rate of 3.9% (2018: 4.1%; 2017: 3.4%). In the UK, capitalised interest qualifies for a current year tax deduction with tax relief claimed of £19 million (2018: £20 million; 2017: £18 million). In the US, capitalised interest is added to the cost of plant and qualifies for tax depreciation allowances.
3. Includes a net foreign exchange gain on financing activities of £264 million (2018: £314 million loss; 2017: £264 million loss) offset by foreign exchange losses and gains on derivative financial instruments measured at fair value.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

7. Tax

Tax is payable in the territories where we operate, mainly the UK and the US. This note gives further details of the total tax charge and tax liabilities, including current and deferred tax. The current tax charge is the tax payable on this year's taxable profits. Deferred tax is an accounting adjustment to provide for tax that is expected to arise in the future due to differences in the accounting and tax bases.

The tax charge for the period is recognised in the income statement, the statement of comprehensive income or directly in equity, according to the accounting treatment of the related transaction. The tax charge comprises both current and deferred tax.

Current tax assets and liabilities are measured at the amounts expected to be recovered from or paid to the tax authorities. The tax rates and tax laws used to compute the amounts are those that have been enacted or substantively enacted by the reporting date.

The Group operates internationally in territories with different and complex tax codes. Management exercises judgement in relation to the level of provision required for uncertain tax outcomes. There are a number of tax positions not yet agreed with the tax authorities where different interpretations of legislation could lead to a range of outcomes. Judgements are made for each position having regard to particular circumstances and advice obtained.

Deferred tax is provided for using the balance sheet liability method, and is recognised on temporary differences between the carrying amount of assets and liabilities in the financial statements and the corresponding tax bases.

Deferred tax liabilities are generally recognised on all taxable temporary differences, and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. However, deferred tax assets and liabilities are not recognised if the temporary differences arise from the initial recognition of goodwill or from the initial recognition of other assets and liabilities in a transaction (other than a business combination) that affects neither the accounting nor the taxable profit or loss.

Deferred tax liabilities are recognised on taxable temporary differences arising on investments in subsidiaries and joint arrangements except where the Company is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised, based on the tax rates and tax laws that have been enacted or substantively enacted by the reporting date.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered. Unrecognised deferred tax assets are reassessed at each reporting date and are recognised to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when they relate to income taxes levied by the same tax authority and the Company and its subsidiaries intend to settle their current tax assets and liabilities on a net basis.

Tax charged/(credited) to the consolidated income statement – continuing operations

	2019 £m	2018[1] £m	2017 £m
Tax before exceptional items and remeasurements	**488**	584	666
Exceptional tax on items not included in profit before tax (see note 5)	**–**	(1,510)	(94)
Tax on other exceptional items and remeasurements	**(149)**	37	(198)
Tax on total exceptional items and remeasurements	**(149)**	(1,473)	(292)
Total tax charge/(credit) from continuing operations	**339**	(889)	374

Tax as a percentage of profit before tax

	2019 %	2018[1] %	2017 %
Before exceptional items and remeasurements – continuing operations	**19.6**	23.4	23.7
After exceptional items and remeasurements – continuing operations	**18.4**	(33.4)	17.1

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).

7. Tax continued

The tax charge for the year can be analysed as follows:

	2019 £m	2018[1] £m	2017 £m
Current tax:			
UK corporation tax at 19% (2018: 19%; 2017: 20%)	**132**	200	225
UK corporation tax adjustment in respect of prior years	**(12)**	(18)	(47)
	120	182	178
Overseas corporation tax	**8**	15	—
Overseas corporation tax adjustment in respect of prior years	**(40)**	(4)	1
	(32)	11	1
Total current tax from continuing operations	**88**	193	179
Deferred tax:			
UK deferred tax	**27**	65	(9)
UK deferred tax adjustment in respect of prior years	**2**	(2)	(18)
	29	63	(27)
Overseas deferred tax	**208**	(1,155)	224
Overseas deferred tax adjustment in respect of prior years	**14**	10	(2)
	222	(1,145)	222
Total deferred tax from continuing operations	**251**	(1,082)	195
Total tax charge/(credit) from continuing operations	**339**	(889)	374

Tax charged/(credited) to the consolidated statement of other comprehensive income and equity

	2019 £m	2018[1] £m	2017 £m
Current tax:			
Available-for-sale investments	**–**	(11)	6
Investments at fair value through other comprehensive income	**–**	—	—
Cash flow hedges, Cost of hedging and Own credit reserve	**3**	—	—
Share-based payments	**–**	(3)	(4)
Deferred tax:			
Available-for-sale investments	**–**	(18)	8
Investments at fair value through other comprehensive income	**–**	—	—
Cash flow hedges, Cost of hedging and Own credit reserve	**(12)**	(4)	20
Remeasurements of gains of pension assets and post-retirement benefit obligations[2]	**12**	530	277
Share-based payments	**–**	1	1
	3	495	308
Total tax recognised in the statements of comprehensive income from continuing operations	**3**	497	311
Total tax recognised in the statements of comprehensive income from discontinued operations	**–**	—	10
Total tax relating to share-based payments recognised directly in equity from continuing operations	**–**	(2)	(3)
Total tax relating to share-based payments recognised directly in equity from discontinued operations	**–**	—	—
	3	495	318

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).
2. Remeasurements of gains on pension assets and post-retirement benefit obligations for the year ended 31 March 2018 includes a deferred tax charge of £281 million arising on the reduction in the US corporation tax rate.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

7. Tax continued

The tax charge for the year after exceptional items and remeasurements, for the continuing business, is lower (2018: lower tax charge; 2017: lower tax charge) than the standard rate of corporation tax in the UK of 19% (2018: 19%; 2017: 20%):

	Before exceptional items and remeasurements 2019 £m	After exceptional items and remeasurements 2019 £m	Before exceptional items and remeasurements 2018 £m	After exceptional items and remeasurements 2018 £m	Before exceptional items and remeasurements 2017 £m	After exceptional items and remeasurements 2017 £m
Profit before tax from continuing operations						
Before exceptional items and remeasurements	**2,489**	**2,489**	2,500	2,500	2,807	2,807
Exceptional items and remeasurements	**–**	**(648)**	–	160	–	(623)
Profit before tax from continuing operations	**2,489**	**1,841**	2,500	2,660	2,807	2,184
Profit before tax from continuing operations multiplied by UK corporation tax rate of 19% (2018: 19%; 2017: 20%)	**473**	**350**	475	506	561	437
Effect of:						
Adjustments in respect of prior years[1]	**(36)**	**(36)**	(22)	(14)	(67)	(67)
Expenses not deductible for tax purposes[2]	**22**	**28**	20	21	35	442
Non-taxable income[2,3]	**(36)**	**(36)**	(16)	(26)	(24)	(425)
Adjustment in respect of foreign tax rates	**78**	**56**	153	157	180	104
Deferred tax impact of change in UK tax rate	**(3)**	**(3)**	(7)	(7)	–	(94)
Deferred tax impact of change in US tax rate due to Tax Reform	**–**	**–**	–	(1,510)	–	–
Other[4]	**(10)**	**(20)**	(19)	(16)	(19)	(23)
Total tax charge/(credit) from continuing operations	**488**	**339**	584	(889)	666	374
	%	**%**	%	%	%	%
Effective tax rate – continuing operations	**19.6**	**18.4**	23.4	(33.4)	23.7	17.1

1. Prior year adjustment is primarily due to agreement of prior period tax returns.
2. For the year ended 31 March 2017, the adjustments after exceptional items and remeasurements primarily represent the impact of the Group's net investment hedging following significant US dollar currency fluctuations.
3. Includes gains on chargeable disposals which are offset by previously unrecognised capital losses.
4. Other primarily comprises an adjustment in respect of post-tax profits of joint ventures and associates included within profit before tax from continuing operations.

Factors that may affect future tax charges

The main rate of UK corporation tax is reduced to 17% with effect from 1 April 2020. Deferred tax balances have been calculated at this rate.

We will continue to monitor the developments driven by Brexit, the OECD's Base Erosion and Profit Shifting (BEPS) project and European Commission initiatives including fiscal aid investigations. At this time we do not expect this to have any material impact on our future tax charges.

7. Tax continued

Tax included within the statement of financial position

The following are the major deferred tax assets and liabilities recognised, and the movements thereon, during the current and prior reporting periods:

	Accelerated tax depreciation £m	Share-based payments £m	Pensions and other post-retirement benefits £m	Financial instruments £m	Other net temporary differences[1] £m	Total £m
Deferred tax liabilities/(assets)						
At 1 April 2017	7,074	(12)	(747)	9	(1,845)	4,479
Exchange adjustments and other[2]	(559)	—	69	1	221	(268)
(Credited)/charged to income statement	(1,641)	2	(55)	12	598	(1,084)
Charged/(credited) to other comprehensive income and equity	—	1	530	(1)	(21)	509
At 31 March 2018 (as previously reported)	4,874	(9)	(203)	21	(1,047)	3,636
Impact of transition to IFRS 9 and IFRS 15	19	—	—	(5)	(93)	(79)
At 1 April 2018 (as restated)	4,893	(9)	(203)	16	(1,140)	3,557
Exchange adjustments and other[2]	275	—	(31)	(3)	(76)	165
(Credited)/charged to income statement	309	—	52	6	(124)	243
Charged/(credited) to other comprehensive income and equity	—	—	12	(12)	—	—
At 31 March 2019	**5,477**	**(9)**	**(170)**	**7**	**(1,340)**	**3,965**

1. The deferred tax asset of £1,340 million as at 31 March 2019 (2018: £1,047 million) in respect of other net temporary differences primarily relates to US net operating losses of £423 million (2018: £390 million) and environmental provisions of £409 million (2018: £378 million).
2. Exchange adjustments and other comprises foreign exchange arising on translation of the US dollar deferred tax balances. In the prior period it also included reclassification of £43 million relating to offset of the opening deferred tax balance on US net operating losses against US current tax liabilities.

Deferred tax assets and liabilities are only offset where there is a legally enforceable right of offset and there is an intention to settle the balances net. The deferred tax balances (after offset) for statement of financial position purposes consist solely of deferred tax liabilities of £3,965 million (2018: £3,636 million). This balance is after offset of a deferred tax asset of £423 million (2018: £390 million) which has been recognised in respect of net operating losses. In the prior period, the deferred tax credited to the income statement of £1,084 million was after offset of a £293 million deferred tax charge in respect of net operating losses.

Deferred tax assets in respect of capital losses, trading losses and non-trade deficits have not been recognised as their future recovery is uncertain or not currently anticipated. The deferred tax assets not recognised are as follows:

	2019 £m	2018 £m
Capital losses	**1,470**	510
Non-trade deficits	**4**	4
Trading losses	**5**	4

The capital losses arose in the UK on disposal of certain businesses or assets, some of which were agreed with HMRC in the current period. They are available to carry forward indefinitely but can only be offset against future capital gains. The UK non-trade deficits arose prior to 1 April 2017 and therefore can only be offset against future non-trade profits.

At 31 March 2019 and 31 March 2018, there were no recognised deferred tax liabilities for taxes that would be payable on the unremitted earnings of the Group's subsidiaries or its associates as there are no significant corporation tax consequences of the Group's UK, US or overseas subsidiaries or associates paying dividends to their parent companies. There are also no significant income tax consequences for the Group from the payment of dividends by the Group to its shareholders.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

8. Earnings per share (EPS)

EPS is the amount of post-tax profit attributable to each ordinary share. Basic EPS is calculated on profit for the year attributable to equity shareholders divided by the weighted average number of shares in issue during the year. Diluted EPS shows what the impact would be if all outstanding share options were exercised and treated as ordinary shares at year end. The weighted average number of shares is increased by additional shares issued as scrip dividends and reduced by shares repurchased by the Company during the year. The earnings per share calculations are based on profit after tax attributable to equity shareholders of the Company which excludes non-controlling interests.

Adjusted earnings and EPS, which exclude exceptional items and remeasurements, are provided to reflect the business performance sub-totals used by the Company. We have included reconciliations from this additional EPS measure to earnings for both basic and diluted EPS to provide additional detail for these items. For further details of exceptional items and remeasurements, see note 5.

Following the sale of the UK Gas Distribution business on 31 March 2017, National Grid plc returned £3,171 million of proceeds to shareholders through a special dividend, paid on 2 June 2017. In order to maintain the comparability of the Company's share price before and after the special dividend, this was preceded by a share consolidation undertaken on 22 May 2017, replacing every 12 existing ordinary shares with 11 new ordinary shares. The weighted average number of ordinary shares outstanding for the year ended 31 March 2018 includes the effect of both the share consolidation and the special dividend from the date that the special dividend was paid. The associated share buyback programme which began on 2 June 2017 completed in March 2018. Purchased shares are held as treasury shares.

(a) Basic EPS

	Earnings 2019 £m	**EPS 2019 pence**	Earnings 2018[1] £m	EPS 2018[1] pence	Earnings 2017 £m	EPS 2017 pence
Adjusted earnings from continuing operations	**1,998**	**59.0**	1,915	55.3	2,141	56.9
Exceptional items and remeasurements after tax from continuing operations	**(499)**	**(14.7)**	1,633	47.2	(331)	(8.8)
Earnings from continuing operations	**1,499**	**44.3**	3,548	102.5	1,810	48.1
Adjusted earnings from discontinued operations	**57**	**1.7**	145	4.2	607	16.1
Exceptional items and remeasurements after tax from discontinued operations	**(45)**	**(1.4)**	(143)	(4.1)	5,378	142.9
Earnings from discontinued operations	**12**	**0.3**	2	0.1	5,985	159.0
Total adjusted earnings	**2,055**	**60.7**	2,060	59.5	2,748	73.0
Total exceptional items and remeasurements after tax (including discontinued operations)	**(544)**	**(16.1)**	1,490	43.1	5,047	134.1
Total earnings	**1,511**	**44.6**	3,550	102.6	7,795	207.1

	2019 millions	2018 millions	2017 millions
Weighted average number of ordinary shares – basic	**3,386**	3,461	3,763

(b) Diluted EPS

	Earnings 2019 £m	**EPS 2019 pence**	Earnings 2018[1] £m	EPS 2018[1] pence	Earnings 2017 £m	EPS 2017 pence
Adjusted earnings from continuing operations	**1,998**	**58.8**	1,915	55.1	2,141	56.7
Exceptional items and remeasurements after tax from continuing operations	**(499)**	**(14.7)**	1,633	47.0	(331)	(8.8)
Earnings from continuing operations	**1,499**	**44.1**	3,548	102.1	1,810	47.9
Adjusted earnings from discontinued operations	**57**	**1.7**	145	4.2	607	16.0
Exceptional items and remeasurements after tax from discontinued operations	**(45)**	**(1.4)**	(143)	(4.2)	5,378	142.3
Earnings from discontinued operations	**12**	**0.3**	2	0.0	5,985	158.3
Total adjusted earnings	**2,055**	**60.5**	2,060	59.3	2,748	72.7
Total exceptional items and remeasurements after tax (including discontinued operations)	**(544)**	**(16.1)**	1,490	42.8	5,047	133.5
Total earnings	**1,511**	**44.4**	3,550	102.1	7,795	206.2

	2019 millions	2018 millions	2017 millions
Weighted average number of ordinary shares – diluted	**3,401**	3,476	3,780

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).

8. Earnings per share (EPS) continued

(c) Reconciliation of basic to diluted average number of shares

	2019 millions	2018 millions	2017 millions
Weighted average number of ordinary shares – basic	**3,386**	3,461	3,763
Effect of dilutive potential ordinary shares – employee share plans	**15**	15	17
Weighted average number of ordinary shares – diluted	**3,401**	3,476	3,780

9. Dividends

Interim dividends are recognised when they become payable to the Company's shareholders. Final dividends are recognised when they are approved by shareholders.

	2019			2018			2017		
	Pence per share	Cash dividend paid £m	Scrip dividend £m	Pence per share	Cash dividend paid £m	Scrip dividend £m	Pence per share	Cash dividend paid £m	Scrip dividend £m
Interim dividend in respect of the current year	**16.08**	**450**	**94**	15.49	346	176	15.17	540	32
Special dividend	**–**	**–**	**–**	84.375	3,171	–	–	–	–
Final dividend in respect of the prior year	**30.44**	**710**	**319**	29.10	970	33	28.34	923	151
	46.52	**1,160**	**413**	128.965	4,487	209	43.51	1,463	183

The Directors are proposing a final dividend for the year ended 31 March 2019 of 31.26p per share that will absorb approximately £1,066 million of shareholders' equity (assuming all amounts are settled in cash). It will be paid on 14 August 2019 to shareholders who are on the register of members at 31 May 2019 (subject to shareholders' approval at the AGM). A scrip dividend will be offered as an alternative.

Following completion of the sale of the majority interest in UK Gas Distribution, the Company paid a special dividend on 2 June 2017 of 84.375p per existing ordinary share ($5.4224 per existing American Depositary Share). This returned £3,171 million to shareholders. No scrip dividend was offered as an alternative.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

10. Discontinued operations and assets held for sale

The results and cash flows of significant assets or businesses sold during the year are shown separately from our continuing operations. Assets and businesses are classified as held for sale when their carrying amounts are recovered through sale rather than through continuing use. They only meet the held for sale condition when the assets are ready for immediate sale in their present condition, management is committed to the sale and it is highly probable that the sale will complete within one year. Depreciation ceases on assets and businesses when they are classified as held for sale and the assets and businesses are impaired if the proceeds less sale costs fall short of the carrying value.

Following the decision that we will exercise our put option to sell the 39% equity interest we hold in Quadgas, and on the basis that we intend to dispose of our stake by 30 June 2019, we have met the criteria to classify our interests in Quadgas as a disposal group held for sale. The disposal group comprises our equity interests in Quadgas, the shareholder loan to Quadgas and the derivatives arising from the put/call agreements (described further below). The Group has classified the results of the disposal group as a discontinued operation for the year, and therefore they are presented in the income statement as a discontinued operation separately from the results of the rest of our business, in the same way as the results of the UK Gas Distribution business were disclosed following the sale of a 61% controlling stake in the business on 31 March 2017.

On 31 March 2017, the Group sold 61% of its UK Gas Distribution business to Quadgas BidCo Limited (the Consortium) and retained 39% of the business. At the same time, we and the Consortium also entered into a Further Acquisition Agreement (FAA), a put/call arrangement, to sell a further 14% of our investment in the business between 1 March 2019 and 30 June 2019 (our put, having given at least six months' notice) or between 1 July 2019 to 31 October 2019 (the Consortium's call, having given six months' notice).

On 1 May 2018, we announced that we had entered into a Remaining Acquisition Agreement (RAA) with the Consortium for the remaining 25% stake in the business under an agreement similar to the FAA. The pricing under the RAA is less favourable to the Group than the FAA. However, in all other material aspects, the RAA is similar to the FAA, in particular regarding the windows for the notice to be given and exercise of the put and call options. This resulted in the recognition of a net derivative financial asset with a fair value of £110 million (2018: £110 million) relating to the FAA. The fair value of this derivative was initially determined by comparing the pricing mechanism within the FAA against that of the agreement concerning our remaining 25% interest. The £110 million gain as at 31 March 2018 reflected the pricing differential between the two contracts.

An impairment review of the Group's interests in Quadgas (comprising the FAA derivative, a 39% equity interest and £0.4 billion in shareholder loans) was undertaken, comparing the aggregated carrying value of these interests against the future dividend income and proceeds we would expect to receive under the FAA and RAA. At 31 March 2018, this resulted in a charge of £213 million, recorded as an impairment against the carrying value of the equity, largely offsetting pension accounting gains, and the recognition of the FAA derivative asset.

We have decided to exercise the options over our remaining 39% interest in Quadgas and the sale is expected to complete at the end of June 2019, subject to customary regulatory approvals.

The aggregate carrying value of our investment in Quadgas at 31 March 2019 was £2.0 billion (2018: £2.1 billion), determined with reference to the future proceeds expected to be received under the FAA and RAA. This comprises the carrying value of the Group's equity interest in Quadgas of £1.5 billion (2018: £1.6 billion), the shareholder loan to Quadgas of £0.4 billion (2018: £0.4 billion) and the derivatives described above.

Assets held for sale

Under IFRS, the reclassification of assets (and any associated liabilities) as 'held for sale' can only be triggered once the assets are available for sale in their present condition and the sale is 'highly probable'. The highly probable criterion is met when the sale is expected to be completed within a year. We have therefore classified our interests in Quadgas as 'held for sale' with effect from 30 June 2018, since we expect to exit our investment by 30 June 2019. At 31 March 2018, we had no such expectation of sale completion within a year.

The aggregate carrying value of the assets and liabilities we will sell amount to £2.0 billion (2018: £2.1 billion), reflecting the total proceeds that remain to be received. No discounting has been applied on the basis that the period to exercise is now less than a year. The value allocated to each element of the Quadgas disposal group at 31 March 2019 is as follows:

- the shareholder loan receivable is valued at par of £0.4 billion;
- the RAA derivative[1] is valued at £nil;
- the FAA derivative asset[1] is valued at £110 million; and
- the residual balance of £1.5 billion has been allocated to the investment in associate.

Treatment as a discontinued operation

We consider that the exercise of our put options is the final stage of the plan to dispose of our interest in the UK Gas Distribution business first announced in 2015, and we have accordingly treated the results and cash flows arising from Quadgas as a discontinued operation in the current year on the basis that the sale forms part of a 'single coordinated plan' to dispose of UK Gas Distribution. As a consequence, we have classified the various elements of income, expense and cash flows within discontinued operations as set out below, with comparatives also re-presented accordingly.

Also included within discontinued operations are the results of the UK Gas Distribution business for the year ended 31 March 2017, following the disposal of our 61% equity interest in the UK Gas Distribution business described above. This principally comprised the Group's equity and debt interests in National Grid Gas Distribution Limited together with certain other assets (principally property and a 45% interest in Xoserve Limited). The business represented a reportable segment and a separate major line of business and accordingly was presented as a discontinued operation in the consolidated income statement, consolidated statement of comprehensive income and the consolidated cash flow statement in 2017. Further details are included in the Annual Report and Accounts 2016/17. Within the Annual Report and Accounts 2017/18, both the income statement and the cash flow statement for the year ended 31 March 2018 included amounts relating to the transaction within discontinued operations, primarily relating to the completion accounts settlement in November 2017, a cash outflow from operating activities of £207 million related to the utilisation of provisions (mainly relating to payments of professional fees in respect of the disposal of the UK Gas Distribution business), and net cash flows used in financing activities of £231 million for the settlement of RPI swaps (relating to the final stages of the Group-wide liability management programme executed as part of the sale process).

1. The RAA and FAA are both level 3 financial instruments. No sensitivity analysis is provided in respect of the FAA and RAA derivatives. The price at which we will exit our interest in Quadgas is fixed and accordingly reflected in the aggregate carrying value of the disposal group. Any change in the fair value of these derivatives at 31 March would have been offset by equal and opposite adjustments to the carrying value of our equity interest, with nil net impact on profit and loss for the year. The notional value of the FAA was £739 million (2018: £739 million) and the notional value of the RAA was £1,087 million.

10. Discontinued operations and assets held for sale continued

Summary income statement – discontinued operations

The summary income statement for discontinued operations is as follows:

	2019 £m	2018[1] £m	2017 £m
Revenue	**–**	–	1,887
Operating costs[2]	**(1)**	(41)	(993)
Operating (loss)/profit	**(1)**	(41)	894
Net finance income/(costs)	**23**	137	(152)
Share of post-tax results of joint ventures and associates[3]	**(5)**	(89)	–
Profit before tax from discontinued operations	**17**	7	742
Tax from discontinued operations	**(5)**	(5)	(79)
Profit after tax from discontinued operations	**12**	2	663
Gain on disposal of UK Gas Distribution after tax[4]	**–**	–	5,321
Total profit after tax from discontinued operations[5]	**12**	2	5,984

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C).
2. Operating costs of £41 million for the year ended 31 March 2018 related to amounts in respect of the disposal of the UK Gas Distribution business, primarily relating to the completion accounts settlement in November 2017. The remainder of the balances relate to the disposal group and have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period.
3. For the year ended 31 March 2019, this is the net of £43 million impairment charge against investment in Quadgas (see note 16) and £38 million share of Quadgas post-tax profits recognised prior to classification as held for sale.
4. The total gain on the disposal after tax of £5,321 million was comprised of total consideration of £7,494 million before transaction costs of £1,837 million and a tax credit of £312 million compared to net assets on disposal of £648 million.
5. Of the total profit after tax from discontinued operations for the year ended 31 March 2019, the £43 million impairment charge against the investment in Quadgas, net operating costs of £1 million and the tax thereon are classified as exceptional items.

Statement of comprehensive income – discontinued operations

The summary statement of comprehensive income for discontinued operations is as follows:

	Notes	2019 £m	2018[1] £m	2017 £m
Profit after tax from discontinued operations		**12**	2	5,984
Other comprehensive income/(loss)				
Items that will never be reclassified to profit or loss:				
Remeasurement losses of pension assets and post-retirement benefit obligations	25	**–**	–	(75)
Share of other comprehensive income of associate, net of tax		**36**	142	–
Tax on items that will never be reclassified to profit or loss		**–**	–	13
Total items from discontinued operations that will never be reclassified to profit or loss		**36**	142	(62)
Items that may be reclassified subsequently to profit or loss:				
Net losses in respect of cash flow hedges		**–**	–	(106)
Transferred to profit or loss in respect of cash flow hedges		**–**	–	233
Share of other comprehensive income of associate, net of tax		**–**	5	–
Tax on items that may be reclassified subsequently to profit or loss		**–**	–	(23)
Total items from discontinued operations that may be reclassified subsequently to profit or loss		**–**	5	104
Other comprehensive income for the year, net of tax from discontinued operations		**36**	147	42
Total comprehensive income for the year from discontinued operations		**48**	149	6,026

1. Comparatives for 2018 only have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C).

Once the assets are treated as 'held for sale', equity accounting ceases for our investment in our associate. We therefore ceased to record our share of profits and share of gains/losses recorded within the consolidated statement of other comprehensive income from 30 June 2018.

Summary cash flow statement – discontinued operations

Cash outflow from operating activities of £71 million (2018: £207 million) primarily related to the payments to Affordable Warmth and professional fees in respect of the disposal of the UK Gas Distribution business. In 2017, the amount related to outflows of cash by the UK Gas Distribution business itself.

Cash inflows from investing activities of £156 million (2018: £171 million) was comprised of dividends received and interest received on the shareholder loan. In 2017, this represented cash outflows from investments made by UK Gas Distribution.

There were no cash flows for financing activities in the year. In 2018, net cash flows used in financing activities were £231 million for the settlement of RPI swaps relating to the final stages of the Group-wide liability management programme executed as part of sale process. In 2017, amounts related to the liability management programme, comprising £4.8 billion of debt issued and term debt raised, offset by £3.2 billion in respect of bond buybacks.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

11. Goodwill

Goodwill represents the excess of what we paid to acquire businesses over the fair value of their net assets at the acquisition date. We assess whether goodwill is recoverable each year by performing an impairment review.

Goodwill is recognised as an asset and is not amortised, but is tested for impairment annually or more frequently if events or changes in circumstances indicate a potential impairment. Any impairment is recognised immediately in the income statement and is not subsequently reversed.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing exchange rate.

Goodwill is allocated to cash-generating units and this allocation is made to those cash-generating units that are expected to benefit from the business combination in which the goodwill arose.

Impairment is recognised where there is a difference between the carrying value of the cash-generating unit and the estimated recoverable amount of the cash-generating unit to which that goodwill has been allocated. Any impairment loss is first allocated to the carrying value of the goodwill and then to the other assets within the cash-generating unit. Recoverable amount is defined as the higher of fair value less costs to sell and estimated value-in-use at the date the impairment review is undertaken.

Value-in-use represents the present value of expected future cash flows, discounted using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

Impairments are recognised in the income statement and are disclosed separately.

	Total £m
Net book value at 1 April 2017	6,096
Exchange adjustments	(652)
Net book value at 31 March 2018	5,444
Exchange adjustments	425
Net book value at 31 March 2019	**5,869**

The cost of goodwill at 31 March 2019 was £5,885 million (2018: £5,458 million) with an accumulated impairment charge of £16 million (2018: £14 million).

The amounts disclosed above as at 31 March 2019 include balances relating to the following cash-generating units: New York £3,382 million (2018: £3,137 million); Massachusetts £1,264 million (2018: £1,173 million); Rhode Island £470 million (2018: £436 million); and Federal £753 million (2018: £698 million).

Goodwill is reviewed annually for impairment and the recoverability of goodwill has been assessed by comparing the carrying amount of our operations described above (our cash-generating units) with the expected recoverable amount on a value-in-use basis. In each assessment, the value-in-use has been calculated based on five-year plan projections that incorporate our best estimates of future cash flows, customer rates, costs (including changes in commodity prices), future prices and growth. Such projections reflect our current regulatory rate plans taking into account regulatory arrangements to allow for future rate plan filings and recovery of investment. Our plans have proved to be reliable guides in the past and the Directors believe the estimates are appropriate.

The future economic growth rate used to extrapolate projections beyond five years is 2.2% (2018: 2.3%). The growth rate has been determined having regard to data on projected growth in US real gross domestic product (GDP). Based on our business' place in the underlying US economy, it is appropriate for the terminal growth rate to be based upon the overall growth in real GDP and, given the nature of our operations, to extend over a long period of time. Cash flow projections have been discounted to reflect the time value of money, using a post-tax discount rate of 5.3% (2018: 5.3%). The equivalent pre-tax discount rate is 5.3% (2018: 5.3%) as tax is assumed to be a pass-through cost to our customers, recoverable under our rate plans. The discount rate represents the estimated weighted average cost of capital of these operations.

In reaching this conclusion, the Directors have considered the potential future consequences regarding the manner in which Tax Reform will impact the Group and its future cash flows. In our US business, we are subject to federal and state taxes; however, our regulatory arrangements require us to pass this cost back to our customers. The reduction in the corporation tax rate from 35% to 21% will be reflected through lower bills to customers, reducing our revenues (and tax costs) in future periods. For the purposes of the goodwill impairment exercise, we have reflected the lower billing levels through lower revenue forecasts as well as lower tax charges.

Historically, as a result of tax losses arising from claiming accelerated depreciation allowances, we have not paid substantial amounts of tax in the US. Accordingly, for IFRS purposes, we have recognised significant deferred tax liabilities in respect of these accelerated allowances. In accounting terms, Tax Reform triggered the remeasurement of our deferred tax liabilities from 35% to 21% which resulted in the exceptional gain under IFRS for the year ended 31 March 2018 (as disclosed in notes 5 and 7). However, the impact for our US business is that the amounts we have previously received from customers assuming a 35% federal tax rate instead of a 21% federal tax rate must now be returned to customers over a period of up to 50 years. The precise manner and timing over which this occurs remains subject to agreement with our regulators.

Offsetting this change will be the additional income we earn, since the rate base will grow faster. (Our rate base is net of deferred tax liabilities, which, as a result of Tax Reform, will now be smaller.) In overall terms we expect the outcome to be economically neutral.

In assessing the carrying value of goodwill, we have sensitised our forecasts to factor in a reduction in revenues and lower tax costs into our cash flow forecasts, but we have not reflected the impact of additional rate base growth on future earnings. While it is possible that a key assumption in the calculation could change, the Directors believe that no reasonably foreseeable change would result in an impairment of goodwill, in view of the long-term nature of the key assumptions and the margin by which the estimated value-in-use exceeds the carrying amount.

12. Other intangible assets

Other intangible assets include software which is written down (amortised) over the length of period we expect to receive a benefit from the asset.

Identifiable intangible assets are recorded at cost less accumulated amortisation and any provision for impairment. Other intangible assets are tested for impairment only if there is an indication that the carrying value of the assets may have been impaired. Impairments of assets are calculated as the difference between the carrying value of the asset and the recoverable amount, if lower. Where such an asset does not generate cash flows that are independent from other assets, the recoverable amount of the cash-generating unit to which that asset belongs is estimated. Impairments are recognised in the income statement and are disclosed separately. Any assets which suffered impairment in a previous period are reviewed for possible reversal of the impairment at each reporting date.

Internally generated intangible assets, such as software, are recognised only if: i) an asset is created that can be identified; ii) it is probable that the asset created will generate future economic benefits; and iii) the development cost of the asset can be measured reliably. Where no internally generated intangible asset can be recognised, development expenditure is recorded as an expense in the period in which it is incurred.

Other intangible assets are amortised on a straight-line basis over their estimated useful economic lives. Amortisation periods for categories of intangible assets are:

	Years
Software	3 to 10

	Software £m
Cost at 1 April 2017	1,732
Exchange adjustments	(98)
Additions	173
Disposals	(18)
Reclassifications[1]	8
Cost at 31 March 2018	1,797
Exchange adjustments	70
Additions	306
Disposals	(15)
Reclassifications[1]	10
Cost at 31 March 2019	2,168
Accumulated amortisation at 1 April 2017	(809)
Exchange adjustments	43
Amortisation charge for the year	(138)
Accumulated amortisation of disposals	6
Accumulated amortisation at 31 March 2018	(898)
Exchange adjustments	(26)
Amortisation charge for the year	(175)
Accumulated amortisation of disposals	15
Accumulated amortisation at 31 March 2019	(1,084)
Net book value at 31 March 2019[2]	**1,084**
Net book value at 31 March 2018	899

1. Reclassifications includes amounts transferred (to)/from property, plant and equipment (see note 13).
2. Included in software is £116 million (2018: £160 million) relating to the US Enterprise Resource Planning system, which still has a remaining amortisation period of four years.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

13. Property, plant and equipment

The following note shows the physical assets controlled by us. The cost of these assets primarily represents the amount initially paid for them. This includes both their purchase price and the construction and other costs associated with getting them ready for operation. A depreciation expense is charged to the income statement to reflect annual wear and tear and the reduced value of the asset over time. Depreciation is calculated by estimating the number of years we expect the asset to be used (useful economic life) and charging the cost of the asset to the income statement equally over this period.

We operate an energy networks business and therefore have a significant physical asset base. We continue to invest in our networks to maintain reliability, create new customer connections and ensure our networks are flexible and resilient. Our business plan envisages these additional investments will be funded through a mixture of cash generated from operations and the issue of new debt.

Property, plant and equipment is recorded at cost, less accumulated depreciation and any impairment losses.

Cost includes the purchase price of the asset; any payroll and finance costs incurred which are directly attributable to the construction of property, plant and equipment; and the cost of any associated asset retirement obligations.

Property, plant and equipment includes assets in which the Group's interest comprises legally protected statutory or contractual rights of use. Additions represent the purchase or construction of new assets, including capital expenditure for safety and environmental assets, and extensions to, enhancements to, or replacement of, existing assets. All costs associated with projects or activities which have not been fully commissioned at the period end are classified within assets in the course of construction.

No depreciation is provided on freehold land or assets in the course of construction.

Other items of property, plant and equipment are depreciated, on a straight-line basis, at rates estimated to write off their book values over their estimated useful economic lives. In assessing estimated useful economic lives, consideration is given to any contractual arrangements and operational requirements relating to particular assets. The assessments of estimated useful economic lives and residual values of assets are performed annually. Unless otherwise determined by operational requirements, the depreciation periods for the principal categories of property, plant and equipment are, in general, as shown in the table below:

	Years
Freehold and leasehold buildings	up to 103
Plant and machinery:	
Electricity transmission plant and wires	10 to 100
Electricity distribution plant	29 to 85
Electricity generation plant	15 to 93
Interconnector plant and other	5 to 65
Gas plant – mains, services and regulating equipment	10 to 95
Gas plant – storage	5 to 65
Gas plant – meters	7 to 62
Motor vehicles and office equipment	up to 30

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within operating profit in the income statement.

Items within property, plant and equipment are tested for impairment only if there is some indication that the carrying value of the assets may have been impaired.

Impairments of assets are calculated as the difference between the carrying value of the asset and the recoverable amount, if lower. Where such an asset does not generate cash flows that are independent from other assets, the recoverable amount of the cash-generating unit to which that asset belongs is estimated.

Impairments are recognised in the income statement and if immaterial are included within the depreciation charge for the year.

Any assets which suffered impairment in a previous period are reviewed for possible reversal of the impairment at each reporting date.

13. Property, plant and equipment continued

	Land and buildings £m	Plant and machinery £m	Assets in the course of construction[1] £m	Motor vehicles and office equipment £m	Total £m
Cost at 1 April 2017	2,979	49,231	3,951	834	56,995
Exchange adjustments	(169)	(2,862)	(89)	(67)	(3,187)
Additions	38	430	3,358	75	3,901
Disposals[2]	(16)	(216)	(21)	(34)	(287)
Reclassifications[3]	98	2,791	(2,926)	49	12
Cost at 31 March 2018	2,930	49,374	4,273	857	57,434
Exchange adjustments	114	2,001	70	47	2,232
Additions	34	391	3,533	57	4,015
Disposals[2]	(35)	(357)	(159)	(44)	(595)
Reclassifications[3]	295	2,974	(3,292)	13	(10)
Cost at 31 March 2019	3,338	54,383	4,425	930	63,076
Accumulated depreciation at 1 April 2017	(684)	(15,996)	—	(490)	(17,170)
Exchange adjustments	28	695	—	36	759
Depreciation charge for the year	(28)	(1,276)	—	(88)	(1,392)
Disposals	10	199	—	33	242
Reclassifications[3]	—	(20)	—	—	(20)
Accumulated depreciation at 31 March 2018	(674)	(16,398)	—	(509)	(17,581)
Exchange adjustments	(19)	(501)	—	(25)	(545)
Depreciation charge for the year	(93)	(1,229)	(150)	(101)	(1,573)
Disposals	7	335	150	44	536
Reclassifications[3]	1	(1)	—	—	—
Accumulated depreciation at 31 March 2019	(778)	(17,794)	—	(591)	(19,163)
Net book value at 31 March 2019	**2,560**	**36,589**	**4,425**	**339**	**43,913**
Net book value at 31 March 2018	2,256	32,976	4,273	348	39,853

1. Included within disposals are UK nuclear connections development costs of £150 million (before £13 million of termination income) which were written off (2018: £nil). See note 5 for further details.
2. In 2018, this included the reversal of assets with cost of £51 million and accumulated depreciation of £51 million disposed of in previous years that remain in use in the Group. It also included £334 million of adjustments from accumulated depreciation to cost for historical disposals relating to assets acquired as part of the KeySpan acquisition in 2008 which were disposed of in subsequent periods. Both of these adjustments have a nil net book value impact.
3. Represents amounts transferred between categories, (to)/from other intangible assets (see note 12), reclassifications from inventories and reclassifications between cost and accumulated depreciation.

	2019 £m	2018 £m
Information in relation to property, plant and equipment		
Capitalised interest included within cost	**1,995**	1,861
Net book value of assets held under finance leases (all relating to motor vehicles and office equipment)	**241**	253
Additions to assets held under finance leases (all relating to motor vehicles and office equipment)	**38**	58
Contributions to cost of property, plant and equipment included within:		
Trade and other payables	**87**	85
Non-current liabilities	**372**	844
Contract liabilities – current	**61**	—
Contract liabilities – non-current	**933**	—

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

14. Other non-current assets

Other non-current assets include assets that do not fall into any other non-current asset category (such as goodwill or property, plant and equipment) where the benefit to be received from the asset is not due to be received until after 31 March 2020.

	2019 £m	2018 £m
Other receivables	28	36
Non-current tax assets	56	51
Prepayments and accrued income[1]	180	28
	264	115

1. Includes accrued income in relation to property sales to the St William joint venture.

15. Financial and other investments

The Group holds a range of financial and other investments. These investments include short-term money funds, quoted investments in equities or bonds of other companies, long-term loans to our associates and joint ventures and other loans and receivables. Other loans and receivables typically includes bank deposits with a maturity of greater than three months, and cash balances that cannot be readily used in operations, principally collateral pledged against derivative holdings.

The Group adopted IFRS 9 with effect from 1 April 2018. The comparatives are not required to be restated and are accounted for in accordance with IAS 39. Under IFRS 9, the Group has reported four categories of financial investments, and the classification for each investment is dependent on its contractual cash flows and the business model it is held under and recognised on trade date.

Debt instruments that have contractual cash flows that are solely payments of principal and interest, and which are held within a business model whose objective is to collect contractual cash flows, are held at amortised cost. This category includes our long-term loans to joint ventures and associates as well as collateral pledged balances.

Debt investments that have contractual cash flows that are solely payments of principal and interest, and which are held within a business model whose objective is both to collect the contractual cash flows and to sell the debt instruments, are measured at fair value through other comprehensive income. On disposal, any realised gains or losses are recycled to the income statement in investment income (see note 6).

The Group has elected to measure equity instruments at fair value through other comprehensive income as they are shares held as part of a portfolio of financial instruments which back some long-term employee liabilities. They are not held for trading and so recognising gains and losses on these investments in profit and loss would not be representative of performance in the year. On disposal, any realised gains and losses are transferred to retained profits (see note 28).

Other financial investments are subsequently measured at fair value through profit and loss. This primarily comprises our money market funds, insurance company fund investments and corporate venture capital investments held by National Grid Partners.

Financial and other investments are initially recognised on trade date. Subsequent to initial recognition, the fair values of financial assets measured at fair value that are quoted in active markets are based on bid prices. When independent prices are not available, fair values are determined by using valuation techniques that are consistent with techniques commonly used by the relevant market. The techniques use observable market data to the extent available.

2018

For 2018, financial and other investments were £3,593 million reported across three categories. Assets classified as available-for-sale typically represent investments in short-term money funds and quoted investments in equities or bonds of other companies. The second category comprises long-term loans to our associates and joint ventures, and the third category is other loans and receivables, which includes bank deposits, collateral pledged against derivative holdings or other restricted deposit balances.

Financial assets, liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into, and recognised on trade date. Available-for-sale financial assets are non-derivatives that are either designated in this category or not classified in any other categories. Available-for-sale financial investments are recognised at fair value plus directly related incremental transaction costs, and they are subsequently carried at fair value in the statement of financial position. Changes in the fair value of available-for-sale investments are recognised directly in other comprehensive income, until the investment is disposed of or is determined to be impaired. At this time the cumulative gain or loss previously recognised in equity is included in the income statement for the period. Investment income is recognised using the effective interest method and taken through interest income in the income statement.

Loans and other receivables are initially recognised at fair value plus transaction costs and subsequently held at amortised cost using the effective interest method. Interest income, together with gains and losses when the loans and receivables are derecognised or impaired, is recognised in the income statement.

15. Financial and other investments continued

	2019 £m	2018 £m
Non-current		
Debt investments at fair value through other comprehensive income	**343**	–
Equity investments at fair value through other comprehensive income	**93**	–
Investments at fair value through profit and loss	**62**	–
Available-for-sale investments	**–**	417
Loans to joint ventures and associates[1]	**169**	482
	667	899
Current		
Investments at fair value through profit and loss	**1,311**	–
Available-for-sale investments	**–**	2,304
Other loans and receivables	**670**	390
	1,981	2,694
	2,648	3,593
Financial and other investments include the following:		
Investments in short-term money funds[2]	**969**	1,999
Insurance company fund investments[3]	**342**	301
Equities[4]	**93**	84
Bonds[4]	**122**	145
Cash surrender value of life insurance policies[4]	**221**	198
Loans to joint ventures and associates	**169**	482
Corporate venture capital and other	**62**	–
Restricted balances:		
Collateral[5]	**637**	335
Other	**33**	49
	2,648	3,593

1. Comprises a loan to a joint venture. In 2018, £352 million related to a shareholder loan to Quadgas, which has been re-classified to assets held for sale during the period.
2. Includes £6 million (2018: £69 million) held as insurance company fund investments and £22 million (2018: £nil) US non-qualified plan investments, and therefore restricted.
3. Includes restricted amounts of £342 million (2018: £301 million) held as insurance company fund investments.
4. Primarily includes restricted amounts of £436 million (2018: £411 million) relating to US non-qualified plan investments.
5. Refers to collateral placed with counterparties with whom we have entered into a credit support annex to the ISDA (International Swaps and Derivatives Association) Master Agreement.

Fair value through profit and loss, fair value through other comprehensive income and available-for-sale investments are recorded at fair value. The carrying value of current loans and receivables is approximate to their fair values, due to short-dated maturities. The carrying value of the non-current loans to joint ventures and associates approximates their fair values as at 31 March 2019 and 31 March 2018. The exposure to credit risk at the reporting date is the fair value of the financial investments. For further information on our credit risk, refer to note 32(a).

For the purposes of impairment assessment, the investments in bonds are considered to be low risk as they are managed with an investment remit to invest in investment grade securities; life insurance policies are held with regulated insurance companies; and loans to joint ventures are individually assessed based on comparable external credit ratings and a review of forecasts. No balances are more than 30 days past due. All financial assets held at fair value through other comprehensive income or amortised cost are therefore considered to have low credit risk and have a loss allowance equal to 12-month expected credit losses.

In determining the expected credit losses for these assets, some or all of the following information has been considered: credit ratings, the financial position of counterparties, the future prospects of the relevant industries and general economic forecasts.

No fair value through other comprehensive income or amortised cost financial assets have had modified cash flows during the period. There has been no change in the estimation techniques or significant assumptions made during the year in assessing the loss allowance for these financial assets. There were no significant movements in the gross carrying value of financial assets during the year that contribute to changes in the loss allowance. No collateral is held in respect of any of the financial investments in the above table. No balances were written off during the year.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

16. Investments in joint ventures and associates

Investments in joint ventures and associates represent businesses we do not control but over which we exercise joint control or significant influence.

A joint venture is an arrangement established to engage in economic activity, which the Group jointly controls with other parties and has rights to the net assets of the arrangement. An associate is an entity which is neither a subsidiary nor a joint venture, but over which the Group has significant influence.

	2019			2018		
	Associates £m	**Joint ventures £m**	**Total £m**	Associates £m	Joint ventures £m	Total £m
Share of net assets at 1 April	**1,807**	**361**	**2,168**	1,776	307	2,083
Exchange adjustments	**17**	**(6)**	**11**	(19)	7	(12)
Additions	**58**	**85**	**143**	65	64	129
Capitalisation of shareholder loan to Quadgas	**—**	**—**	**—**	69	—	69
Impairment charge against investment in Quadgas	**(43)**	**—**	**(43)**	(213)	—	(213)
Transfer of interest in Quadgas to assets held for sale	**(1,625)**	**—**	**(1,625)**	—	—	—
Share of post-tax results for the year	**67**	**11**	**78**	147	26	173
Share of other comprehensive income of associates, net of tax	**37**	**—**	**37**	147	—	147
Dividends received	**(38)**	**(30)**	**(68)**	(170)	(43)	(213)
Other movements[1]	**11**	**(104)**	**(93)**	5	—	5
Share of net assets at 31 March	**291**	**317**	**608**	1,807	361	2,168

1. Other movements on joint ventures relate to reducing the carrying value of the investment in St William Homes LLP to reflect deferred income we expect to recognise over the next 10 years.

A list of joint ventures and associates including the name and proportion of ownership is provided in note 34. Transactions with and outstanding balances with joint ventures and associates are shown in note 31. Further information on the Group's interest in Quadgas and the subsequent reclassification of the interest to assets held for sale is provided in note 10.

In 2017, the Group first entered into an arrangement with San Francisco-based Sunrun Neptune Investor 2016 LLC, a leading US provider of residential solar energy systems to provide investment capital. In the period to 31 March 2019, the Group invested £6 million (2018: £38 million) alongside Sunrun into a newly incorporated partnership vehicle. The investment is measured at fair value. The fair value gain on this investment of £8 million (2018: £7 million) has been reflected within the share of post-tax results for the year.

The joint ventures and associates have no significant contingent liabilities to which the Group is exposed, and the Group has no significant contingent liabilities in relation to its interests in the joint ventures and associates. The Group has capital commitments of £18 million (2018: £120 million) in relation to joint ventures.

At 31 March 2019, the Group had one material joint venture, being its 50% equity stake in BritNed and one material associate, being its 26.25% investment in Millennium Pipeline Company LLC. The Group's 39% equity stake in Quadgas is held for sale and therefore all disclosures in relation to Quadgas are included in note 10. BritNed is a joint venture with transmission system operator TenneT and operates the subsea electricity link between Great Britain and the Netherlands, commissioned in 2011. BritNed has a reporting period end of 31 December with monthly management reporting information provided to National Grid. Millennium Pipeline Company LLC is an associate that owns a natural gas pipeline from southern New York to the Lower Hudson Valley. Summarised financial information as at 31 March, together with the carrying amount of the investments, is as follows:

	BritNed Development Limited		Millennium Pipeline Company LLC	
	2019 £m	2018 £m	**2019 £m**	2018 £m
Statement of financial position				
Non-current assets	**370**	390	**937**	709
Cash and cash equivalents	**59**	50	**35**	15
All other current assets	**2**	4	**22**	28
Non-current liabilities	**(11)**	(10)	**(326)**	(331)
Current liabilities	**(28)**	(28)	**(84)**	(64)
Equity	**392**	406	**584**	357
Carrying amount of the Group's investment	**196**	203	**153**	94

	BritNed Development Limited		Millennium Pipeline Company LLC	
	2019 £m	2018[1] £m	**2019 £m**	2018 £m
Income statement				
Revenue	**87**	121	**166**	151
Depreciation and amortisation	**(13)**	(13)	**(34)**	(31)
Other costs	**(10)**	(16)	**(35)**	(41)
Operating profit	**64**	92	**97**	79
Income tax expense	**(10)**	(20)	**—**	—
Profit for the year	**54**	72	**97**	79
Group's share of profit	**27**	36	**25**	21

1. Comparatives for revenue and other costs have been re-presented on a net basis in line with current year classification.

17. Derivative financial instruments

Derivatives are financial instruments that derive their value from the price of an underlying item such as interest rates, foreign exchange rates, credit spreads, commodities, equities or other indices. In accordance with Board-approved policies, derivatives are transacted generally to manage exposures to fluctuations in interest rates, foreign exchange rates and commodity prices. Our derivatives balances comprise two broad categories:

- financing derivatives managing our exposure to interest rates and foreign exchange rates. Specifically we use these derivatives to manage our financing portfolio, holdings in foreign operations and contractual operational cash flows; and
- commodity contract derivatives managing our US customers' exposure to price and supply risks. Some forward contracts for the purchase of commodities meet the definition of derivatives and are included here. We also enter into derivative financial instruments linked to commodity prices, including index futures, options and swaps. These are used to manage market price volatility.

The Group adopted IFRS 9 with effect from 1 April 2018. The comparatives are not required to be restated and are accounted for in accordance with IAS 39. There is no impact on derivatives balances as a result of the transition to IFRS 9.

Derivatives are initially recognised at fair value and subsequently remeasured to fair value at each reporting date. Changes in fair values are recorded in the period they arise, in either the income statement or other comprehensive income as required by IFRS 9. Where the gains or losses recorded in the income statement arise from changes in the fair value of derivatives to the extent that hedge accounting is not applied or is not fully effective, these are recorded as remeasurements, detailed in notes 5 and 6. Where the fair value of a derivative is positive it is carried as a derivative asset, and where negative as a derivative liability.

We calculate the fair value of derivative financial instruments by taking the present value of future cash flows, primarily incorporating market observable inputs. The various inputs include foreign exchange spot and forward rates, yield curves of the respective currencies, currency basis spreads between the respective currencies, interest rate and inflation curves, the forward rate curves of underlying commodities, and for those positions that are not fully cash collateralised the credit quality of the counterparties.

Certain clauses embedded in non-derivative financial instruments or other contracts are presented as derivatives because they impact the risk profile of their host contracts and they are deemed to have risks or rewards not closely related to those host contracts.

Further information on how derivatives are valued and used for risk management purposes is presented in note 32.

Information on commodity contracts and other commitments not meeting the definition of derivatives is presented in note 30.

The fair values of derivatives by category are as follows:

	2019			2018		
	Assets £m	**Liabilities £m**	**Total £m**	Assets £m	Liabilities £m	Total £m
Financing derivatives	**1,052**	**(1,084)**	**(32)**	1,545	(945)	600
Commodity contract derivatives	**101**	**(99)**	**2**	69	(116)	(47)
Further Acquisition Agreement derivative[1]	**–**	**–**	**–**	110	–	110
	1,153	**(1,183)**	**(30)**	1,724	(1,061)	663

1. The Further Acquisition Agreement derivative is a put/call option over a 14% interest in Quadgas that has been reclassified as held for sale during the period (see note 10).

(a) Financing derivatives

The fair values of financing derivatives by type are as follows:

	2019			2018		
	Assets £m	**Liabilities £m**	**Total £m**	Assets £m	Liabilities £m	Total £m
Interest rate swaps	**539**	**(384)**	**155**	678	(457)	221
Cross-currency interest rate swaps	**470**	**(443)**	**27**	687	(207)	480
Foreign exchange forward contracts[1]	**41**	**(41)**	**–**	174	(2)	172
Inflation-linked swaps	**–**	**(214)**	**(214)**	5	(278)	(273)
Equity options	**2**	**(2)**	**–**	1	(1)	–
	1,052	**(1,084)**	**(32)**	1,545	(945)	600

1. Included within the foreign exchange forward contracts balance is £32 million (2018: £67 million) of derivatives in relation to hedging of capital expenditure.

Notes to the consolidated financial statements – analysis of items in the primary statements continued

17. Derivative financial instruments continued

(a) Financing derivatives continued

The maturity profile of financing derivatives is as follows:

	2019			2018		
	Assets £m	Liabilities £m	Total £m	Assets £m	Liabilities £m	Total £m
Current						
Less than 1 year	**56**	**(282)**	**(226)**	375	(325)	50
	56	**(282)**	**(226)**	375	(325)	50
Non-current						
In 1 to 2 years	**19**	**(193)**	**(174)**	83	(88)	(5)
In 2 to 3 years	**416**	**(1)**	**415**	25	(27)	(2)
In 3 to 4 years	**11**	**–**	**11**	418	(5)	413
In 4 to 5 years	**20**	**(14)**	**6**	12	–	12
More than 5 years	**530**	**(594)**	**(64)**	632	(500)	132
	996	**(802)**	**194**	1,170	(620)	550
	1,052	**(1,084)**	**(32)**	1,545	(945)	600

The notional contract[1] amounts of financing derivatives by type are as follows:

	2019 £m	2018 £m
Interest rate swaps	**(6,299)**	(8,390)
Cross-currency interest rate swaps	**(6,700)**	(6,925)
Foreign exchange forward contracts	**(2,937)**	(5,793)
Inflation-linked swaps	**(500)**	(1,191)
Equity options	**(800)**	(800)
	(17,236)	(23,099)

1. The notional contract amounts of derivatives indicate the gross nominal value of transactions outstanding at the reporting date.

(b) Commodity contract derivatives

The fair values of commodity contract derivatives by type are as follows:

	2019			2018		
	Assets £m	Liabilities £m	Total £m	Assets £m	Liabilities £m	Total £m
Commodity purchase contracts accounted for as derivative contracts						
Forward purchases of gas	**66**	**(78)**	**(12)**	60	(64)	(4)
Derivative financial instruments linked to commodity prices						
Electricity capacity	**–**	**–**	**–**	1	–	1
Electricity swaps	**29**	**(19)**	**10**	7	(46)	(39)
Electricity options	**–**	**–**	**–**	–	(1)	(1)
Gas swaps	**5**	**(1)**	**4**	1	(4)	(3)
Gas options	**1**	**(1)**	**–**	–	(1)	(1)
	101	**(99)**	**2**	69	(116)	(47)

17. Derivative financial instruments continued

(b) Commodity contract derivatives continued

The maturity profile of commodity contract derivatives is as follows:

	2019			2018		
	Assets £m	Liabilities £m	Total £m	Assets £m	Liabilities £m	Total £m
Current						
Less than one year	**52**	**(68)**	**(16)**	30	(76)	(46)
	52	**(68)**	**(16)**	30	(76)	(46)
Non-current						
In 1 to 2 years	**14**	**(9)**	**5**	6	(17)	(11)
In 2 to 3 years	**9**	**(8)**	**1**	6	(11)	(5)
In 3 to 4 years	**6**	**(4)**	**2**	6	(3)	3
In 4 to 5 years	**6**	**(4)**	**2**	5	(2)	3
More than 5 years	**14**	**(6)**	**8**	16	(7)	9
	49	**(31)**	**18**	39	(40)	(1)
	101	**(99)**	**2**	69	(116)	(47)

The notional quantities of commodity contract derivatives by type are as follows:

	2019	2018
Forward purchases of gas[1]	**52m Dth**	54m Dth
Electricity swaps	**12,848 GWh**	12,839 GWh
Electricity options	**10,444 GWh**	13,897 GWh
Electricity capacity	**-**	0.6 GWm
Gas swaps	**87m Dth**	100m Dth
Gas options	**34m Dth**	7m Dth

1. Forward gas purchases have terms up to two years. The contractual obligations under these contracts are £108 million (2018: £96 million).

18. Inventories and current intangible assets

Inventories represent assets that we intend to use in order to generate revenue in the short term, either by selling the asset itself (for example, fuel stocks) or by using it to fulfil a service to a customer or to maintain our network (consumables).

Inventories are stated at the lower of weighted average cost and net realisable value.

Where applicable, cost comprises direct materials and direct labour costs as well as those overheads that have been incurred in bringing the inventories to their present location and condition.

Emission allowances, principally relating to the emissions of carbon dioxide in the UK and sulphur and nitrous oxides in the US, are recorded as intangible assets within current assets, and they are initially recorded at cost and subsequently at the lower of cost and net realisable value. A liability is recorded in respect of the obligation to deliver emission allowances, and emission charges are recognised in the income statement in the period in which emissions are made.

	2019 £m	2018 £m
Fuel stocks	**99**	78
Raw materials and consumables	**184**	190
Current intangible assets – emission allowances	**87**	73
	370	341

There is a provision for obsolescence of £20 million against inventories as at 31 March 2019 (2018: £18 million).

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

19. Trade and other receivables

Trade and other receivables are amounts which are due from our customers for services we have provided.

Trade and other receivables are initially recognised at fair value and subsequently measured at amortised cost, less any appropriate allowances for estimated irrecoverable amounts.

	2019 £m	2018 £m
Trade receivables	**1,899**	1,674
Accrued income	**883**	817
Prepayments	**237**	229
Other receivables	**134**	78
	3,153	2,798

Trade receivables are non-interest-bearing and generally have a 30 to 90 days term. Due to their short maturities, the fair value of trade and other receivables approximates their book value. The maximum exposure of trade receivables to credit risk is the gross carrying amount of £2,293 million (2018: £1,983 million).

Provision for impairment of receivables
IFRS 9, effective from 1 April 2018, has changed the basis upon which the impairment provision is calculated. Under IFRS 9, a provision is recognised for credit losses at an amount equal to the expected credit losses that will arise over the lifetime of the trade receivables. Under IAS 39, a provision is established for irrecoverable amounts when there is objective evidence that amounts due under the original payment terms will not be collected. Comparative amounts have not been restated, with the 2018 impairment provision being calculated under IAS 39 and the 2019 impairment provision being calculated on the basis of expected losses under IFRS 9.

	2019 £m	2018 £m
At 1 April	**309**	424
Exchange adjustments	**24**	(42)
Charge for the year, net of recoveries	**181**	36
Uncollectible amounts written off	**(120)**	(109)
At 31 March	**394**	309

The provision for retail customer receivables in the US is calculated based on a series of provision matrices which are prepared by regulated entity and by customer type. The expected loss rates in each provision matrix are based on historical loss rates adjusted for current and forecasted economic conditions at the balance sheet date. The inclusion of forward-looking information in the provision matrix setting process under IFRS 9 resulted in loss rates that reflect expected future economic conditions and the recognition of an expected loss on all debtors even where no loss event has occurred. This had no material impact on the estimation process during the year.

The average expected loss rates and balances for the retail customer receivables in our US operations are set out below:

	2019 %	**2019 £m**	2018 %	2018 £m
0 – 30 days	**3**	**736**	3	741
30 – 60 days	**12**	**194**	8	192
60 – 90 days	**20**	**89**	19	97
3 – 6 months	**30**	**109**	29	97
6 – 12 months	**39**	**99**	39	88
Over 12 months	**68**	**238**	69	218

US retail customer receivables are not collateralised. Write-off policies vary as they are aligned with regulatory requirements, which differ between regulators. Receivables are not modified but are written off when regulatory requirements are met. There were no significant amounts written off during the period but still subject to enforcement action. Our internal definition of default is aligned with that of the individual regulators in each jurisdiction.

There are no material bad debt provisions in the UK businesses, as they have no retail customer receivables. A provision matrix is not used in the UK as an assessment of expected losses on individual debtors is performed. This is also the case for non-retail US customer receivables.

Trade receivables past due

	2019 £m	2018 £m
Up to 3 months past due	**295**	271
3 to 6 months past due	**108**	73
Over 6 months past due	**160**	131
	563	475

For further information on our wholesale and retail credit risk, refer to note 32(a).

20. Cash and cash equivalents

Cash and cash equivalents include cash balances, together with short-term investments with an original maturity of less than three months that are readily convertible to cash.

Net cash and cash equivalents reflected in the cash flow statement are net of bank overdrafts, which are reported in borrowings. The carrying amounts of cash and cash equivalents and bank overdrafts approximate their fair values.

Cash at bank earns interest at floating rates based on daily bank deposit rates. Short-term deposits are made for periods varying between one day and three months, depending on the immediate cash requirements, and earn interest at the respective short-term deposit rates.

Net cash and cash equivalents held in currencies other than sterling have been converted into sterling at year-end exchange rates. For further information on currency exposures, refer to note 32.

	2019 £m	2018 £m
Cash at bank	**177**	54
Short-term deposits	**75**	275
Cash and cash equivalents	**252**	329

21. Borrowings

We borrow money primarily in the form of bonds and bank loans. These are for a fixed term and may have fixed or floating interest rates or are linked to RPI. We use derivatives to manage risks associated with interest rates and foreign exchange.

Our price controls and rate plans lead us to fund our networks within a certain ratio of debt to equity and, as a result, we have issued a significant amount of debt. As we continue to invest in our networks, the value of debt is expected to increase over time. To maintain a strong balance sheet and to allow us to access capital markets at commercially acceptable interest rates, we balance the amount of debt we issue with the value of our assets, and we take account of certain other metrics used by credit rating agencies.

The Group adopted IFRS 9 with effect from 1 April 2018. The comparatives are not required to be restated and are accounted for in accordance with IAS 39. On adoption of IFRS 9, the Group elected to change the measurement basis of one liability from amortised cost to fair value through profit and loss, in order to eliminate a measurement mismatch. All other borrowings are accounted for at amortised cost.

Borrowings, which include interest-bearing and inflation-linked debt and overdrafts, are initially recorded at fair value, which normally reflects the proceeds received, net of direct issue costs less any repayments. Subsequently these are stated either: i) at amortised cost; or ii) at fair value though profit and loss. Where a borrowing is held at amortised cost any difference between the proceeds after direct issue costs and the redemption value is recognised over the term of the borrowing in the income statement using the effective interest method. For the liability held at fair value through profit and loss, the difference between the fair value at the date of reclassification and the redemption value is recognised over the term of the borrowing using the effective interest method.

Where a borrowing or liability is held at fair value, changes in the fair value of the borrowing due to changes in the issuer's credit risk are recorded in the own credit reserve (see note 28). All other changes in the fair value of the liability are recognised in the income statement within remeasurements (see notes 5 and 6).

2018

Under IAS 39, borrowings were all accounted for at amortised cost, using the effective interest method, as described above.

	2019 £m	2018 £m
Current		
Bank loans	**641**	2,020
Bonds	**1,973**	2,156
Commercial paper	**1,792**	206
Finance leases	**65**	64
Other loans	**1**	1
	4,472	4,447
Non-current		
Bank loans	**2,599**	2,384
Bonds[1]	**21,278**	19,418
Finance leases	**205**	207
Other loans	**176**	169
	24,258	22,178
Total borrowings	**28,730**	26,625

1. In 2019 this includes a liability held at fair value through profit and loss of £667 million.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

21. Borrowings continued

Total borrowings are repayable as follows:

	2019 £m	2018 £m
Less than 1 year	**4,472**	4,447
In 1 to 2 years	**2,393**	1,694
In 2 to 3 years	**1,990**	2,347
In 3 to 4 years	**1,553**	1,873
In 4 to 5 years	**714**	1,469
More than 5 years:		
By instalments	**959**	1,010
Other than by instalments	**16,649**	13,785
	28,730	26,625

The fair value of borrowings at 31 March 2019 was £32,252 million (2018: £30,164 million). Where market values were available, fair value of borrowings (Level 1) was £14,356 million (2018: £13,018 million). Where market values were not available, fair value of borrowings (Level 2) was £17,896 million (2018: £17,146 million), calculated by discounting cash flows at prevailing interest rates. The notional amount outstanding of the debt portfolio at 31 March 2019 was £28,417 million (2018: £26,363 million).

The assets of the Colonial Gas Company and the Niagara Mohawk Power Corporation and certain gas distribution assets of The Narragansett Electric Company are subject to liens and other charges and are provided as collateral over borrowings totalling £81 million at 31 March 2019 (2018: £392 million). During 2019, the Niagara Mohawk Power Corporation first mortgage debenture was cancelled; therefore, it is no longer subject to liens and other charges as at 31 March 2019.

Collateral is placed with or received from any counterparty where we have entered into a credit support annex to the ISDA Master Agreement once the current mark-to-market valuation of the trades between the parties exceeds an agreed threshold. Included in current bank loans is £558 million (2018: £878 million) in respect of cash received under collateral agreements. For further details of our borrowing facilities, refer to note 33. For further details of our bonds in issue, please refer to the debt investor section of our website. Unless included herein, the information on our website is unaudited.

Financial liability at fair value through profit and loss

The financial liability designated at fair value through profit and loss is analysed as follows:

i) the fair value of the liability was £667 million, which includes cumulative change in fair value attributable to changes in credit risk recognised in other comprehensive income, post tax of £13 million;

ii) the amount repayable at maturity in November 2021 is £943 million; and

iii) the difference between carrying amount and contractual amount at maturity is £276 million.

This liability has been reclassified in order to eliminate a measurement mismatch with derivatives which provide an economic hedge. The associated derivatives are collateralised and do not contain significant exposure to our own credit risk. The presentation of credit risk in other comprehensive income does not, therefore, create or enlarge an accounting mismatch in profit or loss.

The change in the fair value attributable to a change in credit risk is calculated as the difference between the total change in the fair value of the liability and the change in the value of the liability due to changes in market risk factors alone. The change in the fair value due to market risk factors was calculated using benchmark yield curves as at the end of the reporting period holding the credit risk margin constant. The fair value of the liability was calculated using observed market prices.

21. Borrowings continued

Finance lease obligations

Assets held under finance leases are recognised at their fair value or, if lower, the present value of the minimum lease payments on inception. The corresponding liability is recognised as a finance lease obligation within borrowings. Rental payments are apportioned between finance costs and reduction in the finance lease obligation, so as to achieve a constant rate of interest.

Assets held under finance leases are depreciated over the shorter of their useful life and the lease term.

	2019 £m	2018 £m
Gross finance lease liabilities are repayable as follows:		
Less than 1 year	**65**	64
1 to 5 years	**183**	177
More than 5 years	**62**	72
	310	313
Less: finance charges allocated to future periods	**(40)**	(42)
	270	271
The present value of finance lease liabilities is as follows:		
Less than 1 year	**65**	64
1 to 5 years	**156**	144
More than 5 years	**49**	63
	270	271

22. Trade and other payables

Trade and other payables include amounts owed to suppliers, tax authorities and other parties which are due to be settled within 12 months. The total also includes deferred amounts, some of which represent monies received from customers but for which we have not yet delivered the associated service. These amounts are recognised as revenue when the service is provided.

Trade and other payables are initially recognised at fair value and subsequently measured at amortised cost.

	2019 £m	2018 £m
Trade payables	**2,404**	1,977
Deferred payables	**217**	355
Customer contributions[1]	**87**	85
Social security and other taxes	**159**	173
Other payables	**902**	863
	3,769	3,453

1. From government-related entities.

Due to their short maturities, the fair value of trade payables approximates their book value.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

23. Contract liabilities

Contract liabilities primarily relate to the advance consideration received from customers for construction contracts, mainly in relation to connections, for which revenue is recognised over the life of the asset.

The balances have arisen on transition to IFRS 15, which has been applied using the modified retrospective approach and therefore comparatives have not been restated.

	2019 £m	2018 £m
Current	**61**	—
Non-current	**933**	—
	994	—

Significant changes in the contract liabilities balances during the period are as follows:

	2019 £m
As at 1 April 2018 (see note 37)	**866**
Exchange adjustments	**29**
Revenue recognised that was included in the contract liability balance at the beginning of the period	**(51)**
Increases due to cash received, excluding amounts recognised as revenue during the period	**155**
Changes due to amounts recognised as revenue	**(5)**
At 31 March 2019	**994**

24. Other non-current liabilities

Other non-current liabilities include deferred income which will not be recognised as income until after 31 March 2020. It also includes payables that are not due until after that date.

Non-current liabilities are initially recognised at fair value and subsequently measured at amortised cost.

	2019 £m	2018 £m
Deferred income[1]	**96**	114
Customer contributions[2]	**372**	844
Other payables	**340**	359
	808	1,317

1. Principally the deferral of profits relating to the sale of property, plant and equipment.
2. From government-related entities.

There is no material difference between the fair value and the carrying value of other payables.

25. Pensions and other post-retirement benefits

All of our employees are eligible to participate in a pension plan. We have defined benefit (DB) and defined contribution (DC) pension plans. In the US we also provide healthcare and life insurance benefits to eligible employees, post-retirement. The fair value of associated scheme assets and present value of DB obligations are updated annually in accordance with IAS 19 (revised). We separately present our UK and US pension schemes to show geographical split. Below we provide a more detailed analysis of the amounts recorded in the primary financial statements and the actuarial assumptions used to value the DB obligations.

Defined contribution plans

All of our employees are eligible to participate in a pension plan in the UK or US. These plans are designed to provide members with a pension pot for their retirement. The risks associated with these plans are assumed by the member.

Payments to these DC plans are charged as an expense as they fall due. There is no legal or constructive obligation on National Grid to pay additional contributions into a DC plan if the fund has insufficient assets to pay all employees' benefits relating to employee service in the current and prior periods.

Defined benefit schemes

The principal UK schemes are the National Grid UK Pension Scheme (NGUKPS) and the National Grid Electricity Group of the Electricity Supply Pension Scheme (NGEG of ESPS). In the US, we have four plans and a number of healthcare and life insurance plans.

On retirement, members of DB schemes receive benefits whose value is dependent on factors such as salary and length of pensionable service. National Grid's obligation in respect of DB pension schemes is calculated separately for each DB scheme by projecting the estimated amount of future benefit payments that employees have earned for their pensionable service in the current and prior periods. These future benefit payments are discounted to determine the present value of the liabilities. Current service cost and any unrecognised past service cost are recognised immediately. The discount rate used is the yield at the valuation date on high-quality corporate bonds.

Advice is taken from independent actuaries relating to the appropriateness of the key assumptions applied, including life expectancy, expected salary and pension increases, and inflation. Comparatively small changes in the assumptions used may have a significant effect on the amounts recognised in the consolidated income statement, the consolidated statement of other comprehensive income and the net liability recognised in the consolidated statement of financial position.

Remeasurements of pension assets and post-retirement benefit obligations are recognised in full in the period in which they occur in the consolidated statement of other comprehensive income.

UK defined benefit plans and Guaranteed Minimum Pension (GMP) equalisation

In the UK, GMPs were intended to broadly replace State Earnings Related Pension Scheme (SERPS) benefits for members of contracted-out occupational pension schemes from April 1978 to April 1997. Inequalities in GMP stemmed from the statutory definition of GMP, resulting in benefits accruing at different rates between male and female members.

A High Court judgement in October 2018 confirmed that GMP benefits need to be equalised between men and women, and importantly also provided alternative prescribed methods of equalisation. This provides much-needed clarity, as there has been uncertainty in pensions law as it pertains to GMP equalisation.

However, schemes cannot directly equalise the GMPs, but need to adjust other benefits in order to achieve this, through correcting the ongoing position and making back-payments to affected members. This is a highly complex issue that will have a significant effect on the eventual cost of providing benefits, as well as significant cost implications in the calculation and implementation of the equalisation method. Under IAS 19 we have estimated the cost of equalising for the impact of GMP under the most cost-effective permissible method to be:

- Section A of NGUKPS – £17 million;
- Section B of NGUKPS – £12 million; and
- NGEG of ESPS – £5 million.

These amounts have been recognised in the consolidated income statement as past service costs.

The key drivers of these costs are the schemes' benefit structures, the membership profile and retirement choices made by members. National Grid will continue to work closely with the Trustees of NGUKPS and NGEG of ESPS, the actuaries and legal advisors to implement and administer GMP equalisation, which is expected to take some years. Future administration costs related to this process will be expensed as incurred.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

25. Pensions and other post-retirement benefits continued

UK pension plans

Defined contribution

The National Grid YouPlan

National Grid pays contributions into YouPlan to provide DC benefits on behalf of employees. National Grid provides a double match of member contributions, up to a maximum of 6% of member salary.

YouPlan was established in 2013 and is the qualifying scheme that is typically used for automatic enrolment of new hires. Previous DC benefits were transferred to YouPlan in 2013.

Defined benefit

National Grid's DB pension arrangements are held in separate Trustee-administered funds. The arrangements are managed by Trustee companies with boards consisting of company- and member-appointed directors.

The arrangements are subject to independent actuarial funding valuations at least every three years, and following consultation and agreement with us, the qualified actuary certifies the employers' contributions, which, together with the specified contributions payable by the employees and proceeds from the plans' assets, are expected to be sufficient to fund the benefits payable.

The results of the most recent actuarial valuations are shown below. See page 147 for the assumptions used for IAS 19 (revised) purposes. Actuarial valuations for all the schemes are currently being performed as at 31 March 2019.

	Section A of NGUKPS	Section B of NGUKPS	NGEG of ESPS
Latest full actuarial valuation	31 March 2017	31 March 2017	31 March 2016
Actuary	Willis Towers Watson	Willis Towers Watson	Aon Hewitt
Market value of scheme assets at latest valuation	£6,716m	£5,849m	£2,553m
Actuarial value of benefits due to members	£6,627m	£6,057m	£3,053m
Market value as percentage of benefits	101%	97%	84%
Funding surplus/(deficit)	£89m	(£208m)	(£500m)
Funding surplus/(deficit) net of tax	£74m	(£173m)	(£415m)

National Grid UK Pension Scheme

NGUKPS consists of three sections, each legally and actuarially separate. Sections A and B are supported by companies within the Group, while Section C is supported by Cadent Gas Limited. The scheme closed to new hires on 1 April 2002.

Section A

Following the last actuarial valuation, Section A was in surplus, and currently no deficit funding contributions are being made to the section. National Grid and the Trustees have agreed a schedule of contributions whereby the employers will contribute 51.8% of pensionable salary, less member contributions, in respect of ongoing service costs. This rate is deemed to be sufficient to meet the statutory funding objective during the period for which it is in force.

As part of the sectionalisation of NGUKPS on 1 January 2017, a guarantee of £1 billion has been provided to Section A. This payment is contingent on insolvency or on failure to pay pension obligations to Section A and can be claimed against National Grid plc, National Grid Holdings One plc or Lattice Group Limited (up to £1 billion in total).

Section B

The last actuarial valuation determined that Section B was in deficit. National Grid and the Trustees agreed on a schedule of contributions, whereby deficit funding of approximately £32 million is payable by 30 September each year from 2017 until 2022, with an additional £8 million payable by 30 September 2023. All deficit funding amounts due will be adjusted for changes in the Retail Price Index (RPI). The funding shortfall is expected to be eliminated by September 2023. The employer also contributes 51.4% of pensionable salary, less member contributions, in respect of the ongoing service cost.

National Grid Electricity Group of the Electricity Supply Pension Scheme

The last full actuarial valuation for the NGEG of the ESPS determined that the scheme was in deficit. National Grid and the Trustees agreed on a schedule of contributions, whereby deficit funding of £48 million is payable each year from 2016 to 2027, which should lead to the elimination of the funding shortfall by March 2027. All deficit funding amounts due will be adjusted for changes in the RPI. In addition, National Grid contributes 40.7% of pensionable salary, less member contributions, in respect of the ongoing service cost. The scheme closed to new hires from 1 April 2006.

The scheme holds a longevity insurance contract which covers improvements in longevity, providing long-term protection to the scheme, should members live longer than currently expected.

National Grid is also responsible for the costs of administration and the Pension Protection Fund (PPF) levies for both Sections A and B of NGUKPS, and NGEG of ESPS.

Security arrangements

National Grid has also established security arrangements with charges in favour of the Trustees.

	Section A of NGUKPS	Section B of NGUKPS	NGEG of ESPS
Value of security arrangements at 31 March 2019	£315m	£179m	£250m
Principal supporting employers	National Grid plc and National Grid UK Limited	National Grid Gas plc (NGG)	National Grid Electricity Transmission plc (NGET)
Additional amounts payable[1]	£72m	A maximum of £280m	A maximum of £500m

1. These amounts are payable if certain trigger events occur which have been individually agreed between the schemes and their relevant supporting employers.

The majority of the security is provided in the form of letters of credit with the remainder in surety bonds. The assets held in security will be paid to the respective section or scheme in the event that the relevant supporting employer is subject to an insolvency event or fails to make the required contributions. The assets will also be paid to the relevant section or scheme where either NGG or NGET loses its licence to operate under relevant legislation. Counter indemnities have also been taken out to ensure the obligations will be fulfilled.

25. Pensions and other post-retirement benefits continued

US pension plans

National Grid has multiple DC pension plans, primarily comprised of employee savings and Company matching contributions. Non-union employees hired after 1 January 2011, as well as new hires in the majority of represented union employees, receive a core contribution into the DC plan, irrespective of the employee's contribution into the plan.

National Grid also sponsors four non-contributory DB pension plans. The DB plans provide retirement benefits to vested union employees, as well as vested non-union employees hired before 1 January 2011. Benefits under these plans generally reflect age, years of service and compensation and are paid in the form of an annuity or lump sum. An independent actuary performs valuations annually. The Company funds the DB plans by contributing no less than the minimum amount required, but no more than the maximum tax-deductible amount allowed under US Internal Revenue Service regulations. The range of contributions determined under these regulations can vary significantly depending upon the funded status of the plans. At present, there is some flexibility in the amount that is contributed on an annual basis. In general, the Company's policy for funding the US pension plans is to contribute the amounts collected in rates and capitalised in the rate base during the year, to the extent that the funding is no less than the minimum amount required. For the current financial year, these contributions amounted to approximately £231 million.

The assets of the plans are held in trusts and administered by the Retirement Plans Committee comprised of appointed employees of the Company.

US retiree healthcare and life insurance plans

National Grid provides healthcare and life insurance benefits to eligible employees, post-retirement. Eligibility is based on certain age and length of service requirements, and in most cases retirees contribute to the cost of their healthcare coverage. In the US, there is no governmental requirement to pre-fund post-retirement healthcare and life insurance plans. However, in general, the Company's policy for funding the US retiree healthcare and life insurance plans is to contribute amounts collected in rates and capitalised in the rate base during the year. For the current financial year, these contributions amounted to £14 million.

Actuarial assumptions

The Company has applied the following financial assumptions in assessing DB liabilities.

	UK pensions		
	2019 %	2018 %	2017 %
Discount rate – past service	**2.40**	2.60	2.40
Discount rate – future service	**2.45**	2.65	2.65
Salary increases	**3.50**	3.40	3.50
Rate of increase in RPI – past service	**3.25**	3.15	3.20
Rate of increase in RPI – future service	**3.20**	3.10	3.15

The discount rates for UK pension liabilities have been determined by reference to appropriate yields on high-quality corporate bonds prevailing in the UK debt markets at the reporting date. Since 2018, we have adopted different discount rates for future and past service based on the duration of future and past service plan liabilities. The rate of increase in salaries has been set using a promotional scale where appropriate. The rates of increases stated are not indicative of historical increases awarded or a guarantee of future increase, but merely an appropriate assumption used in assessing DB liabilities. Retail Price Index (RPI) is the key assumption that determines assumed increases in pensions in payment and deferment in the UK only. Consistent with the derivation of the discount rate, the RPI assumption reflects the duration of the active liabilities to be adopted in the calculation of the future service obligations.

	US pensions			US other post-retirement benefits		
	2019 %	2018 %	2017 %	**2019 %**	2018 %	2017 %
Discount rate	**3.95**	4.00	4.25	**3.95**	4.00	4.25
Salary increases	**3.50**	3.50	3.50	**3.50**	3.50	3.50
Initial healthcare cost trend rate	**n/a**	n/a	n/a	**7.25**	7.50	7.00
Ultimate healthcare cost trend rate	**n/a**	n/a	n/a	**4.50**	4.50	4.50

Discount rates for US pension liabilities have been determined by reference to appropriate yield on high-quality corporate bonds prevailing in the US debt markets at the reporting date based on the duration of plan liabilities. The healthcare cost trend rate is expected to reach the ultimate trend rate by 2028 (2018 and 2017: 2028).

	2019		2018		2017	
	UK years	**US years**	UK years	US years	UK years	US years
Assumed life expectations for a retiree age 65						
Males	**22.0**	**22.1**	22.3	22.0	22.9	21.9
Females	**23.6**	**24.2**	23.9	24.2	24.7	24.1
In 20 years:						
Males	**23.3**	**23.7**	23.7	23.6	25.1	23.6
Females	**25.2**	**25.9**	25.5	25.8	27.1	25.7

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

25. Pensions and other post-retirement benefits continued

Maturity profile of DB obligations

The weighted average duration of the DB obligation for each category of scheme is 15 years for UK pension schemes; 13 years for US pension schemes and 16 years for US other post-retirement benefits.

As at the reporting date, the present value of the funded obligations split according to member status was approximately:

- UK pensions: 10% active members (2018: 10%; 2017: 12%); 16% deferred members (2018: 18%; 2017: 19%); 74% pensioner members (2018: 72%; 2017: 69%);
- US pensions: 37% active members (2018: 38%; 2017: 38%); 9% deferred members (2018: 8%; 2017: 9%); 54% pensioner members (2018: 54%; 2017: 53%); and
- US other post-retirement benefits: 39% active members (2018: 38%; 2017: 39%); 0% deferred members (2018: 0%; 2017: 0%); 61% pensioner members (2018: 62%; 2017: 61%).

For sensitivity analysis see note 35.

Amounts recognised in the consolidated statement of financial position

	2019 £m	2018 £m	2017 £m
Present value of funded obligations	(24,609)	(23,747)	(25,890)
Fair value of plan assets	24,793	23,858	24,375
	184	111	(1,515)
Present value of unfunded obligations	(330)	(307)	(340)
Other post-employment liabilities	(72)	(67)	(78)
Net defined benefit liability	(218)	(263)	(1,933)
Represented by:			
Liabilities	(1,785)	(1,672)	(2,536)
Assets	1,567	1,409	603
	(218)	(263)	(1,933)

The geographical split of pensions and other post-retirement benefits is as shown below:

	UK Pensions			US Pensions			US other post-retirement benefits		
	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m
Present value of funded obligations	(14,200)	(14,152)	(15,565)	(6,901)	(6,349)	(6,790)	(3,508)	(3,246)	(3,535)
Fair value of plan assets	15,507	15,330	15,489	6,646	6,030	6,322	2,640	2,498	2,564
	1,307	1,178	(76)	(255)	(319)	(468)	(868)	(748)	(971)
Present value of unfunded obligations	(76)	(74)	(80)	(254)	(233)	(260)	–	–	–
Other post-employment liabilities	–	–	–	–	–	–	(72)	(67)	(78)
Net defined benefit asset/(liability)	1,231	1,104	(156)	(509)	(552)	(728)	(940)	(815)	(1,049)
Represented by:									
Liabilities	(76)	(74)	(536)	(769)	(783)	(951)	(940)	(815)	(1,049)
Assets	1,307	1,178	380	260	231	223	–	–	–
	1,231	1,104	(156)	(509)	(552)	(728)	(940)	(815)	(1,049)

The recognition of the pension assets in both the UK in relation to the NGUKPS, the NGEG of ESPS and the Niagara Mohawk Plan in the US reflect legal and actuarial advice that we have taken regarding recognition of surpluses under IFRIC 14. In all three cases we have concluded that the Group has an unconditional right to a refund from the individual plans, including from each Section of the NGUKPS and the NGEG of ESPS, in the event of a winding-up. In the UK, the Trustees must seek the agreement of the Company to any benefit augmentation beyond the provisions set out in the Scheme Rules. In the US, the surplus assets may be used to pay benefits under other Plans, thereby allowing the Company to settle other liabilities under other Plans.

25. Pensions and other post-retirement benefits continued

Amounts recognised in the income statement and statement of other comprehensive income

	2019 £m	2018 £m	2017 £m
Included within operating costs			
Administration costs	**14**	16	16
Included within payroll costs			
Defined benefit scheme costs:			
Current service cost	**193**	193	232
Past service cost – augmentations	**5**	1	1
Past service credit – redundancies	**(7)**	(1)	(1)
Special termination benefit cost – redundancies	**55**	9	7
Past service cost – plan amendments	**34**	–	–
	280	202	239
Included within finance income and costs			
Net interest cost	**22**	65	105
Included within gain on disposal of discontinued operations			
Administration costs	**–**	–	5
Disposal of UK Gas Distribution	**–**	–	34
	–	–	39
Total included in income statement[1,2]	**316**	283	399
Remeasurement gains of pension assets and post-retirement benefit obligations	**68**	1,313	348
Exchange adjustments	**(101)**	175	(345)
Total included in the statement of other comprehensive income[2]	**(33)**	1,488	3

1. Amounts recognised in the income statement include operating costs of £nil (2018: £nil; 2017: £1 million); payroll costs of £nil (2018: £nil; 2017: £35 million); and net interest of £nil (2018: £nil; 2017: £2 million income) presented within profit from discontinued operations. These amounts all relate to UK pensions. In addition there is a net charge of £52 million (2018: £nil; 2017: £nil) relating to redundancy pension costs in respect of the UK cost efficiency and restructuring programme included within exceptional items.
2. Amounts recognised in the statement of other comprehensive income include remeasurements of pension assets and post-retirement benefit obligations of £nil (2018: £nil; 2017: £75 million loss) presented within discontinued operations. These amounts all relate to UK pensions.

The geographical split of pensions and other post-retirement benefits is as shown below:

	UK Pensions			US Pensions			US other post-retirement benefits		
	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m
Included within operating costs									
Administration costs	**6**	6	6	**7**	9	9	**1**	1	1
Included within payroll costs									
Defined benefit scheme costs:									
Current service cost	**41**	49	76	**104**	98	103	**48**	46	53
Past service cost – augmentations	**5**	1	1	**–**	–	–	**–**	–	–
Past service credit – redundancies	**(7)**	(1)	(1)	**–**	–	–	**–**	–	–
Special termination benefit cost – redundancies	**55**	9	7	**–**	–	–	**–**	–	–
Past service cost – plan amendments	**34**	–	–	**–**	–	–	**–**	–	–
	128	58	83	**104**	98	103	**48**	46	53
Included within finance income and costs									
Net interest cost	**(31)**	3	–	**21**	27	43	**32**	35	62
Included within gain on disposal of discontinued operations									
Administration costs	**–**	–	5	**–**	–	–	**–**	–	–
Disposal of UK Gas Distribution	**–**	–	34	**–**	–	–	**–**	–	–
	–	–	39	**–**	–	–	**–**	–	–
Total included in income statement	**103**	67	128	**132**	134	155	**81**	82	116
Remeasurement gains/(losses) of pension assets and post-retirement benefit obligations	**57**	1,177	(541)	**(14)**	27	319	**25**	109	570
Exchange adjustments	**–**	–	–	**(42)**	75	(140)	**(59)**	100	(205)
Total included in the statement of other comprehensive income	**57**	1,177	(541)	**(56)**	102	179	**(34)**	209	365

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

25. Pensions and other post-retirement benefits continued

Reconciliation of the net defined benefit liability

	2019 £m	2018 £m	2017 £m
Opening net defined benefit liability	**(263)**	(1,933)	(2,585)
Cost recognised in the income statement	**(316)**	(283)	(399)
Remeasurement and foreign exchange effects recognised in the statement of other comprehensive income	**(33)**	1,488	3
Employer contributions	**419**	475	1,073
Other movements	**(25)**	(10)	(25)
Closing net defined benefit liability	**(218)**	(263)	(1,933)

The geographical split of pensions and other post-retirement benefits is as shown below:

	UK pensions			US pensions			US other post-retirement benefits		
	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m
Opening net defined benefit asset/(liability)	**1,104**	(156)	(15)	**(552)**	(728)	(1,009)	**(815)**	(1,049)	(1,561)
Cost recognised in the income statement	**(103)**	(67)	(128)	**(132)**	(134)	(155)	**(81)**	(82)	(116)
Remeasurement and foreign exchange effects recognised in the statement of other comprehensive income	**57**	1,177	(541)	**(56)**	102	179	**(34)**	209	365
Employer contributions	**174**	150	528	**231**	208	257	**14**	117	288
Other movements	**(1)**	—	—	**—**	—	—	**(24)**	(10)	(25)
Closing net defined benefit asset/(liability)	**1,231**	1,104	(156)	**(509)**	(552)	(728)	**(940)**	(815)	(1,049)

25. Pensions and other post-retirement benefits continued

Changes in the present value of defined benefit obligations (including unfunded obligations)

	2019 £m	2018 £m	2017 £m
Opening defined benefit obligations	(24,054)	(26,230)	(28,952)
Current service cost	(193)	(193)	(232)
Interest cost	(771)	(775)	(1,057)
Actuarial (losses)/gains – experience	(69)	(100)	166
Actuarial gains – demographic assumptions	266	671	225
Actuarial (losses)/gains – financial assumptions	(619)	174	(3,377)
Past service credit – redundancies	7	1	1
Special termination benefit cost – redundancies	(55)	(9)	(7)
Past service cost – augmentations	(5)	(1)	(1)
Past service cost – plan amendments	(34)	–	–
Medicare subsidy received	(19)	(21)	(14)
Obligations transferred on disposal of UK Gas Distribution	–	–	6,970
Employee contributions	(1)	(1)	(1)
Benefits paid	1,376	1,285	1,443
Exchange adjustments	(768)	1,145	(1,394)
Closing defined benefit obligations	**(24,939)**	(24,054)	(26,230)

The geographical split of pensions and other post-retirement benefits is as shown below:

	UK pensions			US pensions			US other post-retirement benefits		
	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m
Opening defined benefit obligations	(14,226)	(15,645)	(19,416)	(6,582)	(7,050)	(6,145)	(3,246)	(3,535)	(3,391)
Current service cost	(41)	(49)	(76)	(104)	(98)	(103)	(48)	(46)	(53)
Interest cost	(358)	(366)	(615)	(277)	(273)	(285)	(136)	(136)	(157)
Actuarial (losses)/gains – experience	(56)	(95)	106	(52)	(38)	(2)	39	33	62
Actuarial gains – demographic assumptions	224	565	214	–	30	2	42	76	9
Actuarial (losses)/gains – financial assumptions	(568)	604	(3,751)	(24)	(279)	37	(27)	(151)	337
Past service credit – redundancies	7	1	1	–	–	–	–	–	–
Special termination benefit cost – redundancies	(55)	(9)	(7)	–	–	–	–	–	–
Past service cost – augmentations	(5)	(1)	(1)	–	–	–	–	–	–
Past service cost – plan amendments	(34)	–	–	–	–	–	–	–	–
Medicare subsidy received	–	–	–	–	–	–	(19)	(21)	(14)
Obligations transferred on disposal of UK Gas Distribution	–	–	6,970	–	–	–	–	–	–
Employee contributions	(1)	(1)	(1)	–	–	–	–	–	–
Benefits paid	837	770	931	398	362	349	141	153	163
Exchange adjustments	–	–	–	(514)	764	(903)	(254)	381	(491)
Closing defined benefit obligations	**(14,276)**	(14,226)	(15,645)	**(7,155)**	(6,582)	(7,050)	**(3,508)**	(3,246)	(3,535)

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

25. Pensions and other post-retirement benefits continued

Changes in the value of plan assets

	2019 £m	2018 £m	2017 £m
Opening fair value of plan assets	**23,858**	24,375	26,434
Interest income	**749**	710	952
Return on plan assets in excess of interest	**490**	568	3,334
Administration costs	**(14)**	(16)	(21)
Employer contributions	**419**	475	1,073
Employee contributions	**1**	1	1
Benefits paid	**(1,377)**	(1,285)	(1,443)
Exchange adjustments	**667**	(970)	1,049
Assets transferred on disposal of UK Gas Distribution	**–**	–	(7,004)
Closing fair value of plan assets	**24,793**	23,858	24,375
Actual return on plan assets	**1,239**	1,278	4,286
Expected contributions to plans in the following year	**307**	363	491

The geographical split of pensions and other post-retirement benefits is as shown below:

	UK pensions			US pensions			US other post-retirement benefits		
	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m	2019 £m	2018 £m	2017 £m
Opening fair value of plan assets	**15,330**	15,489	19,401	**6,030**	6,322	5,136	**2,498**	2,564	1,897
Interest income	**389**	363	615	**256**	246	242	**104**	101	95
Return on plan assets in excess of/(less than) interest	**457**	103	2,890	**62**	314	282	**(29)**	151	162
Administration costs	**(6)**	(6)	(11)	**(7)**	(9)	(9)	**(1)**	(1)	(1)
Employer contributions	**174**	150	528	**231**	208	257	**14**	117	288
Employee contributions	**1**	1	1	**–**	–	–	**–**	–	–
Benefits paid	**(838)**	(770)	(931)	**(398)**	(362)	(349)	**(141)**	(153)	(163)
Exchange adjustments	**–**	–	–	**472**	(689)	763	**195**	(281)	286
Assets transferred on disposal of UK Gas Distribution	**–**	–	(7,004)	**–**	–	–	**–**	–	–
Closing fair value of plan assets	**15,507**	15,330	15,489	**6,646**	6,030	6,322	**2,640**	2,498	2,564
Actual return on plan assets	**846**	466	3,505	**318**	560	524	**75**	252	257
Expected contributions to plans in the following year	**148**	140	128	**150**	221	229	**9**	2	134

Asset allocation strategy

Each plan's investment strategy is formulated specifically in order to target specific asset allocations and returns, and to manage risk. The asset allocation of the plans as at 31 March 2019 is as follows:

	UK pensions %	US pensions %	US other post-retirement benefits %
Equities	12.7	40.8	60.2
Corporate bonds	23.4	26.4	0.7
Government securities	39.4	16.0	20.6
Property	5.5	4.7	–
Diversified alternatives	5.0	10.1	12.9
Liability matching assets	11.1	–	–
Infrastructure	–	1.5	–
Cash and cash equivalents	1.9	0.3	–
Other	1.0	0.2	5.6
	100.0	100.0	100.0

25. Pensions and other post-retirement benefits continued

Defined benefit investment strategies and risks

DB pension schemes can pose a significant risk to future cash flows, as National Grid underwrites the financial and demographic risks associated with these plans. Although the governing bodies have sole responsibility for setting investment strategies and managing risks, National Grid closely works with and supports the governing bodies of each scheme, to assist them in mitigating the risks associated with their schemes and to ensure that the schemes are funded to meet their obligations.

In the UK, each scheme has a Trustee that is the governing body. The Trustees' responsibilities are set out in the Trust Deed and Rules. In the US, the fiduciary committee for all the retirement plans is the Retirement Plan Committee (RPC). The RPC is structured in accordance with US laws governing retirement plans under the Employee Retirement Income Security Act (ERISA).

The Trustees and RPC, after taking advice from professional investment advisors and in consultation with National Grid, set the key principles, including expected returns, risk and liquidity requirements. In setting these they take into account expected contributions, maturity of the pension liabilities, and in the UK, the strength of the covenant. The Trustees and RPC formulate an investment strategy to manage risk through diversification, including the use of liability-matching assets, which move in line with the long-term liabilities of the scheme, and return-seeking assets, some of which are designed to mitigate downside risk. Where appropriate, the strategies may include interest rate and inflation hedging instruments, and currency hedging to hedge overseas holdings.

Investments are usually grouped into:

- Return-seeking assets: equities, property and diversified funds where the objective is to achieve growth within the constraints of the schemes' risk profiles. These assets should produce returns greater than the liability increase, so improving the funding position, and are assessed by reference to benchmarks and performance targets agreed with the investment managers; and
- Liability-matching assets: liability-driven investment (LDI) funds and swaps, where the objective is to secure fixed or inflation-adjusted cash flows in future. These investments are generally expected to match the change in liability valuation, so protecting the funding position. Bonds and securities are also measured against certain market benchmarks.

Investments are predominantly made in assets considered to be of investment grade. Where investments are made in non-investment grade assets, the higher volatility involved is carefully judged and balanced against the expected higher returns. Similarly, investments are made predominantly in regulated markets. Where investments are made either in non-investment grade assets or outside of regulated markets, investment levels are kept to prudent levels and subject to agreed control ranges, to control the risk. Should these investments fall outside the pre-agreed ranges, corrective actions and timescales are agreed with the investment manager to remedy the position.

The governing bodies ensure that the performance of investment managers is regularly reviewed against measurable objectives, consistent with each scheme's long-term objectives and accepted risk levels. Where required, the portfolios are amended, or investment managers changed.

The Trustees and RPC can generally delegate responsibility for the selection of specific bonds, securities and other investments to appointed investment managers. Investment managers are selected based on the required skills, expertise of those markets, process and financial security to manage the investments. The investment managers use their skill and expertise to manage the investments competently. In some cases they may further delegate this responsibility, through appointing sub-managers.

The schemes hold sufficient cash to meet benefit requirements, with other investments being held in liquid or realisable assets to meet unexpected cash flow requirements. The schemes do not borrow money, or act as guarantor, to provide liquidity (unless it is temporary).

The NGUKPS Trustee believes that long-term shareholder value and financial success can be protected and enhanced by a responsible environmental, social and corporate governance (ESG) policy. As such, the NGUKPS' appointed investment managers are expected to be mindful of ESG issues when managing the scheme's assets. Day-to-day stewardship (voting and engagement) is delegated to the investment managers and they are encouraged to adhere to the UK Stewardship Code.

The most significant risks associated with the DB plans are:

- Asset volatility – the schemes invest in a variety of asset classes, but principally in equities, government securities, corporate bonds and property. Consequently actual returns will differ from the underlying discount rate adopted, impacting on the funding position of the scheme through the net balance sheet asset or liability. Each scheme seeks to balance the level of investment return required with the risk that it can afford to take, to design the most appropriate investment portfolio. Volatility will be controlled through using liability-matching asset strategies, interest rate hedging and management of foreign exchange exposure, as well as diversification of the return-seeking assets;
- Changes in bond yields – liabilities are calculated using discount rates set with reference to the yields in high-quality corporate bonds prevailing in the UK and US debt markets and will fluctuate as yields change;
- Member longevity – longevity is a key driver of liabilities and changes in expected mortality have a direct impact on liabilities. In aggregate, the liabilities are relatively mature, which mitigates the risk to a certain extent. The NGEG of ESPS holds a longevity insurance contract (swap) which covers exposure to improvement in longevity, providing long-term protection to the scheme in the event that members live longer than expected at the time the swap was entered into;
- Deficit risk – the risk that the increase in the liability will outpace the growth in assets is managed through assessing the progress of the actual growth of the liabilities relative to the selected investment policy and adjusting the policy as required;
- Manager risk – expected deviation of the return, relative to the benchmark, is carefully monitored, as is the process, team and expertise of the manager. Where appropriate, the Trustee or RPC will move assets under management to a more robust manager, whom they consider will have a better expectation of performing well in the future;
- Currency risk – fluctuations in the value of foreign denominated assets due to exposure to currency exchange rates is managed through a combination of segregated currency hedging overlay and currency hedging carried out by some of the investment managers;

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

25. Pensions and other post-retirement benefits continued

Defined benefit investment strategies and risks continued

- Interest rate and inflation risk – changes in inflation will affect the current and future pensions but are partially mitigated through investing in inflation-matching assets and hedging instruments;
- Investment funds – the credit risk arising from investing in investment funds is mitigated by the underlying assets of the investment funds being ring-fenced from the fund managers, the regulatory environments in which the fund managers operate and diversification of investments among investment fund arrangements;
- Political risk – an adverse influence on asset values arising from political intervention in a specific country or region is managed through regular review of the asset distribution and through ensuring geographical diversification of investments within the managers;
- Counterparty risk – is managed by having a diverse range of counterparties and through having a strong collateralisation process. Measurement and management of counterparty risk is delegated to the relevant investment managers; and
- Custodian risk – the creditworthiness and ability of the custodians to settle trades on time and provide secure safekeeping of the assets under custody is managed by ongoing monitoring of the custodial arrangements against pre-agreed service levels and credit ratings.

Asset allocations

Within the asset allocations below, there is significant diversification across regions, asset managers, currencies and bond categories.

UK pensions

	2019			2018			2017		
	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m
Equities[1]	1,181	784	1,965	1,420	813	2,233	2,624	596	3,220
Corporate bonds	3,625	–	3,625	3,949	–	3,949	3,526	–	3,526
Government securities	6,114	–	6,114	5,629	–	5,629	5,406	–	5,406
Property	108	749	857	129	834	963	90	708	798
Diversified alternatives	–	771	771	99	690	789	250	628	878
Liability-matching assets	1,751	(35)[2]	1,716	1,174	–	1,174	1,162	–	1,162
Cash and cash equivalents	40	259	299	211	215	426	211	412	623
Other (including net current assets and liabilities)	–	160	160	–	167	167	(148)	24	(124)
	12,819	2,688	15,507	12,611	2,719	15,330	13,121	2,368	15,489

1. Included within equities at 31 March 2019 were ordinary shares of National Grid plc with a value of £nil (2018: £nil; 2017: £2 million).
2. Comprises the longevity insurance contract within the NGEG of the ESPS.

US pensions

	2019			2018			2017		
	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m
Equities	533	2,178	2,711	577	1,954	2,531	698	1,915	2,613
Corporate bonds	1,329	425	1,754	1,085	413	1,498	1,130	537	1,667
Government securities	422	640	1,062	414	565	979	872	71	943
Property	–	316	316	–	279	279	–	335	335
Diversified alternatives	183	487	670	198	421	619	209	433	642
Infrastructure	–	99	99	–	77	77	–	79	79
Cash and cash equivalents	21	–	21	14	–	14	28	–	28
Other (including net current assets and liabilities)	(8)	21	13	6	27	33	3	12	15
	2,480	4,166	6,646	2,294	3,736	6,030	2,940	3,382	6,322

US other post-retirement benefits

	2019			2018			2017		
	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m
Equities	404	1,184	1,588	412	1,110	1,522	405	1,162	1,567
Corporate bonds	19	–	19	24	–	24	19	–	19
Government securities	540	3	543	508	2	510	520	1	521
Diversified alternatives	175	166	341	161	144	305	166	149	315
Other[1]	–	149	149	–	137	137	–	142	142
	1,138	1,502	2,640	1,105	1,393	2,498	1,110	1,454	2,564

1. Other primarily comprises insurance contracts.

26. Provisions

We make provisions when an obligation exists resulting from a past event, and it is probable that cash will be paid to settle it, but the exact amount of cash required can only be estimated.

The main estimates relate to environmental remediation and decommissioning costs for various sites we own or have owned and other provisions, including restructuring plans and lease contracts we have entered into that are now loss making. The evaluation of the likelihood of the contingent events has required best judgement by management regarding the probability of exposure to potential loss. Should circumstances change following unforeseeable developments, the likelihood could alter.

In the current year we recognised a charge to restructuring provisions, reflecting the review and reorganisation of our core regulated businesses in both the UK and US.

Provisions are recognised where a legal or constructive obligation exists at the reporting date, as a result of a past event, where the amount of the obligation can be reliably estimated and where the outflow of economic benefit is probable.

Provision is made for decommissioning and environmental costs, based on future estimated expenditures, discounted to present values. An initial estimate of decommissioning and environmental costs attributable to property, plant and equipment is recorded as part of the original cost of the related property, plant and equipment.

Changes in the provision arising from revised estimates or discount rates or changes in the expected timing of expenditures that relate to property, plant and equipment are recorded as adjustments to their carrying value and depreciated prospectively over their remaining estimated useful economic lives; otherwise such changes are recognised in the income statement.

The unwinding of the discount is included within the income statement as finance costs.

	Environmental £m	Decommissioning £m	Restructuring £m	Emissions £m	Other £m	Total provisions £m
At 1 April 2017	1,721	221	17	32	597	2,588
Exchange adjustments	(158)	(9)	—	(2)	(26)	(195)
Additions	27	2	10	12	23	74
Unused amounts reversed[1]	(45)	(19)	(6)	—	(37)	(107)
Unwinding of discount	61	5	1	—	8	75
Utilised[2]	(75)	(6)	(7)	(34)	(146)	(268)
Transfers[3]	—	—	(12)	—	(103)	(115)
At 31 March 2018	1,531	194	3	8	316	2,052
Exchange adjustments	103	7	—	—	14	124
Additions	32	18	125	16	35	226
Unused amounts reversed[1]	(36)	(10)	(3)	(6)	(10)	(65)
Unwinding of discount	62	5	—	—	7	74
Utilised[2]	(53)	(26)	(42)	(9)	(79)	(209)
Transfers[3]	—	—	—	—	(3)	(3)
At 31 March 2019	**1,639**	**188**	**83**	**9**	**280**	**2,199**

	2019 £m	2018 £m
Current	**316**	273
Non-current	**1,883**	1,779
	2,199	2,052

1. Unused amounts reversed from other provisions include £nil (2018: £16 million) in relation to discontinued operations.
2. Utilised amounts for other provisions include £20 million (2018: £77 million) in relation to discontinued operations.
3. Represents net amounts transferred to trade and other payables (see note 22) of £3 million (2018: £115 million).

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

26. Provisions continued

Environmental provisions

The environmental provision represents the estimated restoration and remediation costs relating to a number of sites owned and managed by subsidiary undertakings, together with certain US sites that National Grid no longer owns. The environmental provision is as follows:

	2019			2018		
	Discounted £m	**Undiscounted £m**	**Real discount rate**	Discounted £m	Undiscounted £m	Real discount rate
UK sites	**189**	**210**	**1%**	213	235	1%
US sites	**1,450**	**1,555**	**1%**	1,318	1,410	1%
	1,639	**1,765**		1,531	1,645	

The remediation expenditure in the UK relates to old gas manufacturing sites and also to electricity transmission sites. Cash flows are expected to be incurred until 2076 although the weighted average duration of the cash flows is 12 years. A number of estimation uncertainties affect the calculation of the provision, including the impact of regulation, the accuracy of site surveys, unexpected contaminants, transportation costs, the impact of alternative technologies and changes in the real discount rate. This provision incorporates our best estimate of the financial effect of these uncertainties, but future changes in any of the assumptions could materially impact the calculation of the provision. The undiscounted amount is the undiscounted best estimate of the liability having regard to these uncertainties.

The remediation expenditure in the US is expected to be incurred until 2069. The weighted average duration of the cash flows is nine years. The uncertainties regarding the calculation of this provision are similar to those considered in respect of UK sites. This expenditure is expected to be largely recoverable from ratepayers under the terms of various rate agreements in the US.

Decommissioning provisions

The decommissioning provision represents £80 million (2018: £71 million) of expenditure relating to asset retirement obligations estimated to be incurred until 2115, and £90 million (2018: £104 million) of expenditure relating to the demolition of gas holders estimated to be incurred until 2026. It also includes the net present value of the estimated expenditure (discounted at a real rate of 1%) expected to be incurred until 2044 in respect of the decommissioning of certain US nuclear generating units that National Grid no longer owns.

Restructuring provisions

During the year, a cost-efficiency and restructuring programme was undertaken in both our UK and US businesses, as detailed in note 5. This resulted in the recognition of a £125 million charge in the year and a closing provision of £83 million. We expect the majority of the provision to be utilised within one year.

Other provisions

Included within other provisions at 31 March 2019 are the following amounts:

- £30 million (2018: £50 million) in respect of legacy provisions recognised following the sale of UK Gas Distribution;
- £29 million (2018: £48 million) in respect of onerous lease commitments and rates payable on surplus properties with expenditure expected to be incurred until 2039;
- £164 million (2018: £152 million) of estimated liabilities in respect of past events insured by insurance subsidiary undertakings, including employer liability claims. In accordance with insurance industry practice, these estimates are based on experience from previous years and there is, therefore, no identifiable payment date; and
- £13 million (2018: £13 million) in respect of obligations associated with investments in joint ventures and associates.

27. Share capital

Ordinary share capital represents the total number of shares issued which are publicly traded. We also disclose the number of treasury shares the Company holds, which are shares that the Company has bought itself, predominately to actively manage scrip issuances and settle employee share option and reward plan liabilities.

Share capital is accounted for as an equity instrument. An equity instrument is any contract that includes a residual interest in the consolidated assets of the Company after deducting all its liabilities and is recorded at the proceeds received, net of direct issue costs, with an amount equal to the nominal amount of the shares issued included in the share capital account and the balance recorded in the share premium account.

	Allotted, called-up and fully paid	
	million	£m
At 1 April 2017	3,943	449
Effect of share consolidation[1]	(328)	—
Issued during the year in lieu of dividends[2]	23	3
At 31 March 2018	3,638	452
Issued during the year in lieu of dividends[2]	49	6
At 31 March 2019	**3,687**	**458**

1. On 22 May 2017 the ordinary share capital was consolidated with 11 new ordinary shares of $12\frac{204}{473}$ pence nominal value issued for every 12 existing ordinary shares of $11\frac{17}{43}$ pence nominal value. This consolidation was completed to maintain the comparability of the Company's share price before and after the special dividend.
2. The issue of shares under the scrip dividend programme is considered to be a bonus issue under the terms of the Companies Act 2006, and the nominal value of the shares is charged to the share premium account.

The share capital of the Company consists of ordinary shares of $12\frac{204}{473}$ pence nominal value each including ADSs. The ordinary shares and ADSs allow holders to receive dividends and vote at general meetings of the Company. The Company holds treasury shares but may not exercise any rights over these shares including the entitlement to vote or receive dividends. There are no restrictions on the transfer or sale of ordinary shares.

In line with the provisions of the Companies Act 2006, the Company has amended its Articles of Association and ceased to have authorised share capital.

Treasury shares

At 31 March 2019, the Company held 277 million (2018: 283 million) of its own shares. The market value of these shares as at 31 March 2019 was £2,359 million (2018: £2,270 million).

The Company made the following transactions in respect of its own shares during the year ended 31 March 2019:

i) During the year, 3 million (2018: 3 million) treasury shares were gifted to National Grid Employee Share Trusts and 3 million (2018: 5 million) treasury shares were re-issued in relation to employee share schemes, in total representing approximately 0.2% (2018: 0.2%) of the ordinary shares in issue as at 31 March 2019. The nominal value of these shares was £1 million (2018: £1 million) and the total proceeds received were £18 million (2018: £33 million).

ii) During the year, the Company made payments totalling £2 million (2018: £5 million) to National Grid Employee Share Trusts to enable the trustees to make purchases of National Grid plc shares in order to satisfy the requirements of employee share option and reward plans.

During the prior year, the Company completed a share repurchase programme as part of the return of cash to shareholders following the sale of UK Gas Distribution in addition to the management of the dilutive effect of share issuances under the scrip dividend programme. As a result the Company repurchased 114 million ordinary shares for aggregate consideration of £1,017 million including transaction costs. The shares repurchased had a nominal value of £14 million and represented approximately 3.1% of the ordinary shares in issue as at 31 March 2018.

The maximum number of ordinary shares held in treasury during the year was 283 million (2018: 283 million) representing approximately 7.7% (2018: 7.8%) of the ordinary shares in issue as at 31 March 2019 and having a nominal value of £35 million (2018: £35 million).

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

28. Other equity reserves

Other equity reserves are different categories of equity as required by accounting standards and represent the impact of a number of our historical transactions.

Other equity reserves comprise the translation reserve (see accounting policy D in note 1), cash flow hedge reserve and the cost of hedging reserve (see note 32), available-for-sale reserve, debt instruments at fair value through other comprehensive income reserve (FVOCI debt) and equity investments at fair value through other comprehensive income reserve (FVOCI equity) (see note 15), the capital redemption reserve and the merger reserve. The merger reserve arose as a result of the application of merger accounting principles under the then prevailing UK GAAP, which under IFRS 1 was retained for mergers that occurred prior to the IFRS transition date. Under merger accounting principles, the difference between the carrying amount of the capital structure of the acquiring vehicle and that of the acquired business was treated as a merger difference and included within reserves. The cash flow hedge reserve will amortise as the committed future cash flows from borrowings are paid or capitalised in fixed assets (as described in note 32). Cost of hedging, FVOCI debt, and FVOCI equity reserves arose as a result of the adoption of IFRS 9 on 1 April 2018. See note 15 for further detail on FVOCI debt and FVOCI equity reserves and note 32 in respect of cost of hedging reserve.

As the amounts included in other equity reserves are not attributable to any of the other classes of equity presented, they have been disclosed as a separate classification of equity.

	Translation £m	Cash flow hedge £m	Cost of hedging £m	Available-for-sale £m	FVOCI equity £m	FVOCI debt £m	Own credit £m	Capital redemption £m	Merger £m	Total £m
At 1 April 2016	548	(45)	—	120	—	—	—	19	(5,165)	(4,523)
Exchange adjustments[1]	346	—	—	—	—	—	—	—	—	346
Net (losses)/gains taken to equity	—	(36)	—	81	—	—	—	—	—	45
Transferred to/(from) profit or loss	—	227	—	(25)	—	—	—	—	—	202
Tax	—	(43)	—	(14)	—	—	—	—	—	(57)
At 31 March 2017	894	103	—	162	—	—	—	19	(5,165)	(3,987)
Exchange adjustments[1]	(504)	—	—	—	—	—	—	—	—	(504)
Net gains/(losses) taken to equity	—	19	—	(30)	—	—	—	—	—	(11)
Share of net gains of associates taken to equity	—	5	—	—	—	—	—	—	—	5
Transferred from profit or loss	—	(3)	—	(73)	—	—	—	—	—	(76)
Tax	—	4	—	29	—	—	—	—	—	33
At 31 March 2018 (as previously reported)	390	128	—	88	—	—	—	19	(5,165)	(4,540)
Transfer on transition to IFRS 9	—	(3)	76	(88)	34	46	7	—	—	72
At 1 April 2018 (as restated)	390	125	76	—	34	46	7	19	(5,165)	(4,468)
Exchange adjustments[1]	346	—	—	—	—	—	—	—	—	346
Net (losses)/gains taken to equity	—	(40)	(107)	—	—	2	7	—	—	(138)
Share of net gains of associates taken to equity	—	1	—	—	—	—	—	—	—	1
Transferred to profit or loss	—	—	41	—	—	—	—	—	—	41
Net losses in respect of cash flow hedging of capital expenditure	—	(13)	—	—	—	—	—	—	—	(13)
Tax	—	6	7	—	—	—	(1)	—	—	12
Cash flow hedges transferred to the statement of financial position, net of tax	—	(18)	—	—	—	—	—	—	—	(18)
At 31 March 2019	**736**	**61**	**17**	**—**	**34**	**48**	**13**	**19**	**(5,165)**	**(4,237)**

1. The exchange adjustments recorded in the translation reserve comprise a gain of £896 million (2018: loss of £1,304 million; 2017: gain of £1,364 million) relating to the translation of foreign operations offset by a loss of £550 million (2018: gain of £800 million; 2017: loss of £1,018 million) relating to borrowings, cross-currency swaps and foreign exchange forward contracts used to hedge the net investment in the non-sterling denominated subsidiaries.

The merger reserve represents the difference between the carrying value of subsidiary undertaking investments and their respective capital structures following the Lattice demerger from BG Group plc and the 1999 Lattice refinancing.

29. Net debt

Net debt represents the amount of borrowings and overdrafts less cash, current financial investments and related financing derivatives.

Funding and liquidity risk management is carried out by the treasury function under policies and guidelines approved by the Finance Committee of the Board. The Finance Committee is responsible for the regular review and monitoring of treasury activity and for the approval of specific transactions, the authority for which fall outside the delegation of authority to management.

The primary objective of the treasury function is to manage our funding and liquidity requirements. A further important objective is to manage the associated financial risks, in the form of interest rate risk and foreign exchange risk, to within pre-authorised parameters. Details of the main risks arising from our financing and commodity hedging activities can be found in the risk factors discussion starting on page 212 and in note 32 to the consolidated financial statements.

Investment of surplus funds, usually in short-term fixed deposits or placements with money market funds that invest in highly liquid instruments of high credit quality, is subject to our counterparty risk management policy.

(a) Reconciliation of net cash flow to movement in net debt

	2019 £m	2018 £m	2017 £m
(Decrease)/increase in cash and cash equivalents	**(80)**	(807)	984
(Decrease)/increase in financial investments	**(822)**	(5,953)	5,675
(Increase)/decrease in borrowings and related derivatives[1]	**(708)**	1,209	(3,715)
Net interest paid on the components of net debt[2]	**866**	808	1,955
Change in debt resulting from cash flows	**(744)**	(4,743)	4,899
Changes in fair value of financial assets and liabilities and exchange movements	**(1,648)**	2,098	(2,273)
Net interest charge on the components of net debt	**(1,076)**	(1,017)	(2,401)
Disposal of UK Gas Distribution	**–**	–	5,890
Other non-cash movements	**(27)**	(66)	(64)
Movement in net debt (net of related derivative financial instruments) in the year	**(3,495)**	(3,728)	6,051
Net debt (net of related derivative financial instruments) at start of year	**(23,002)**	(19,274)	(25,325)
Impact of transition to IFRS 9	**(32)**	–	–
Net debt (net of related derivative financial instruments) at end of year	**(26,529)**	(23,002)	(19,274)

Composition of net debt

Net debt is made up as follows:

	2019 £m	2018 £m	2017 £m
Cash, cash equivalents and financial investments	**2,233**	3,023	9,880
Borrowings and bank overdrafts	**(28,730)**	(26,625)	(28,638)
Financing derivatives[1]	**(32)**	600	(516)
	(26,529)	(23,002)	(19,274)

1. The financing derivatives balance included in net debt excludes the commodity derivatives (see note 17).
2. Excludes £23 million (2018: £27 million; 2017: £nil) cash interest from the Quadgas shareholder loan included within discontinued operations in the cash flow statement.

Notes to the consolidated financial statements
– analysis of items in the primary statements continued

29. Net debt continued

(b) Analysis of changes in net debt

	Cash and cash equivalents £m	Bank overdrafts £m	Net cash and cash equivalents £m	Financial investments £m	Borrowings £m	Financing derivatives £m	Total[1] £m
At 1 April 2016	127	(3)	124	2,998	(28,341)	(106)	(25,325)
Cash flow[2]	1,001	(17)	984	5,624	(2,196)	487	4,899
Fair value gains and losses and exchange movements	16	—	16	141	(1,527)	(903)	(2,273)
Interest income/(charges)[3]	—	—	—	53	(2,221)	(233)	(2,401)
Other non-cash movements	—	—	—	—	(294)	230	(64)
Disposal	(5)	20	15	(75)	5,941	9	5,890
At 1 April 2017	1,139	—	1,139	8,741	(28,638)	(516)	(19,274)
Cash flow[2]	(807)	—	(807)	(5,983)	2,108	(61)	(4,743)
Fair value gains and losses and exchange movements	(3)	—	(3)	(149)	1,088	1,162	2,098
Interest income/(charges)[3]	—	—	—	85	(1,117)	15	(1,017)
Other non-cash movements	—	—	—	—	(66)	—	(66)
At 31 March 2018	329	—	329	2,694	(26,625)	600	(23,002)
Impact of transition to IFRS 9	—	—	—	—	(32)	—	(32)
At 1 April 2018 (as restated)	329	—	329	2,694	(26,657)	600	(23,034)
Cash flow[2]	(80)	—	(80)	(846)	(240)	422	(744)
Fair value gains and losses and exchange movements	3	—	3	93	(733)	(1,011)	(1,648)
Interest income/(charges)[3]	—	—	—	29	(1,062)	(43)	(1,076)
Other non-cash movements	—	—	—	11	(38)	—	(27)
At 31 March 2019	**252**	**—**	**252**	**1,981**	**(28,730)**	**(32)**	**(26,529)**
Balances at 31 March 2019 comprise:							
Non-current assets	—	—	—	—	—	996	996
Current assets	252	—	252	1,981	—	56	2,289
Current liabilities	—	—	—	—	(4,472)	(282)	(4,754)
Non-current liabilities	—	—	—	—	(24,258)	(802)	(25,060)
	252	**—**	**252**	**1,981**	**(28,730)**	**(32)**	**(26,529)**

1. Includes accrued interest at 31 March 2019 of £223 million (2018: £197 million; 2017: £210 million).
2. Cash flow from financing activities relating to financing liabilities (proceeds and repayment of loans, net movement in short-term borrowings and derivatives and interest paid) includes cash outflow on non-debt-related items of £24 million (2018: £12 million; 2017: £nil) and excludes derivative cash inflow in relation to capital expenditure of £13 million (2018: £12 million; 2017: £18 million) and items relating to discontinued operations of £nil (2018: £231 million; 2017: £(1,611) million).
3. An exceptional income of £nil (2018: £3 million income; 2017: £1,313 million expense) is included in net interest charge on the components of net debt.

Notes to the consolidated financial statements
– supplementary information

This section includes information that is important to enable a full understanding of our financial position, particularly areas of potential uncertainty that could affect us in the future.

We also include specific disclosures for Niagara Mohawk Power Corporation in accordance with various rules including Rule 3-10 of Regulation S-X (a US SEC requirement), as they have issued public debt securities which have been guaranteed by National Grid plc. Additional disclosures have also been included in respect of the guarantor company. These disclosures are in lieu of publishing separate financial statements for these companies (see note 36 for further information).

30. Commitments and contingencies

Commitments are those amounts that we are contractually required to pay in the future as long as the other party meets its obligations. These commitments primarily relate to operating lease rentals, energy purchase agreements and contracts for the purchase of assets which, in many cases, extend over a long period of time. We also disclose any contingencies, which include guarantees that companies have given, where we pledge assets against current obligations that will remain for a specific period.

	2019 £m	2018 £m
Future capital expenditure		
Contracted for but not provided	**1,973**	1,843
Operating lease commitments[1]		
Less than 1 year	**43**	42
In 1 to 2 years	**39**	37
In 2 to 3 years	**34**	33
In 3 to 4 years	**35**	30
In 4 to 5 years	**27**	28
More than 5 years	**123**	122
	301	292
Energy purchase commitments[2]		
Less than 1 year	**1,353**	1,237
In 1 to 2 years	**779**	700
In 2 to 3 years	**651**	563
In 3 to 4 years	**827**	449
In 4 to 5 years	**862**	410
More than 5 years	**11,237**	1,969
	15,709	5,328
Guarantees[3]		
Guarantee of sublease for US property (expires 2040)	**173**	178
Guarantees of certain obligations of Grain LNG (expire up to 2025)	**39**	46
Guarantees of certain obligations for construction of HVDC West Coast Link (expires 2019)	**139**	213
Guarantees of certain obligations of Nemo Link Limited (various expiry dates)	**19**	63
Guarantees of certain obligations of National Grid North Sea Link Limited (various expiry dates)[3]	**865**	1,009
Guarantees of certain obligations of St William Homes LLP (various expiry dates)[4]	**22**	98
Guarantees of certain obligations for construction of IFA 2 (expected expiry 2021)[3]	**505**	729
Guarantees of certain obligations of National Grid Viking Link Limited (expected expiry 2024)	**872**	–
Other guarantees and letters of credit (various expiry dates)	**341**	333
	2,975	2,669

1. Following a review during the year, the comparatives have been refined to provide consistency with the current year.
2. Energy purchase commitments relate to contractual commitments to purchase electricity or gas that are used to satisfy physical delivery requirements to our customers or for energy that we use ourselves (i.e. normal purchase, sale or usage) and hence are accounted for as ordinary purchase contracts (see note 32(f)). Details of commodity contract derivatives that do not meet the normal purchase, sale or usage criteria, and hence are accounted for as derivative contracts, are shown in note 17(b).
3. Included within total guarantees are guarantees to both joint ventures and Engineering, Procurement and Construction contractors regarding the construction of interconnectors of £470 million (2018: £739 million).
4. Includes guarantees to related parties.

The total of future minimum sublease payments expected to be received under non-cancellable sub-leases is £86 million (2018: £42 million).

Through the ordinary course of our operations, we are party to various litigation, claims and investigations. We do not expect the ultimate resolution of any of these proceedings to have a material adverse effect on our results of operations, cash flows or financial position.

Notes to the consolidated financial statements – supplementary information continued

31. Related party transactions

Related parties include joint ventures, associates, investments and key management personnel.

The following significant transactions with related parties were in the normal course of business. Amounts receivable from and payable to related parties are due on normal commercial terms:

	2019 £m	2018 £m	2017 £m
Sales: Goods and services supplied to a pension plan	**5**	3	3
Sales: Goods and services supplied to joint ventures[1]	**151**	14	78
Sales: Goods and services supplied to associates[2]	**192**	220	—
Purchases: Goods and services received from joint ventures[3]	**26**	135	168
Purchases: Goods and services received from associates[3]	**141**	160	169
Receivable from joint ventures[4]	**584**	160	64
Receivable from associates[4]	**368**	376	457
Payable to joint ventures[5]	**8**	—	84
Payable to associates	**12**	17	27
Interest income from joint ventures	**5**	4	—
Interest income from associates	**23**	27	—
Dividends received from joint ventures[6]	**30**	43	75
Dividends received from associates[7]	**171**	170	24

1. During the year, £139 million (2018: £5 million) of property sites were sold to joint venture St William Homes LLP.
2. Sales in the year relate to transactions with Quadgas. Within this is other income of £52 million (2018: £54 million) relating to a Transitional Service Agreement following the sale of the UK Gas Distribution business to Quadgas.
3. During the year, the Group received goods and services from a number of US associates, both for the transportation of gas and for pipeline services in the US. Additionally, in 2018, goods and services were received from UK joint ventures for the construction of an electricity transmission link in the UK.
4. Amounts receivable from associates includes a loan receivable balance from Quadgas of £352 million (2018: £352 million) which is classified as held for sale as at 31 March 2019, a loan receivable balance of £258 million (2018: £130 million) from Nemo Link Limited (a joint venture) and £325 million (2018: £24 million) in relation to St William Homes LLP (a joint venture).
5. In previous years the amounts payable to joint ventures include deposits received for National Grid property sites from St William Homes LLP which have been settled during the year.
6. Dividends in respect of joint ventures were received from BritNed Development Limited.
7. Includes £133 million (2018: £144 million) of dividend income from Quadgas.

Details of investments in principal subsidiary undertakings, joint ventures and associates are disclosed in note 34, and information relating to pension fund arrangements is disclosed in note 25. For details of Directors' and key management remuneration, refer to the Directors' Remuneration Report on pages 69 - 90 and note 4(c).

32. Financial risk management

Our activities expose us to a variety of financial risks including credit risk, liquidity risk, capital risk, currency risk, interest rate risk, inflation risk and commodity price risk. Our risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential volatility of financial performance from these risks. We use financial instruments, including derivative financial instruments, to manage these risks.

Risk management related to financing activities is carried out by a central treasury department under policies approved by the Finance Committee of the Board. The objective of the treasury department is to manage funding and liquidity requirements, including managing associated financial risks, to within acceptable boundaries. The Finance Committee provides written principles for overall risk management, as well as written policies covering specific areas such as foreign exchange risk, interest rate risk, credit risk, liquidity risk, use of derivative financial instruments and non-derivative financial instruments, and investment of excess liquidity. The Finance Committee has delegated authority to administer the commodity price risk policy and credit policy for US-based commodity transactions to the Energy Procurement Risk Management Committee and the National Grid USA Board of Directors. Details of key activities in the current year are set out in the Finance Committee report on page 63.

We have exposure to the following risks, which are described in more detail below:

- credit risk;
- liquidity risk;
- currency risk;
- interest rate risk;
- commodity price risk; and
- capital risk.

Where appropriate, derivatives and other financial instruments used for hedging currency and interest rate risk exposures are formally designated as fair value, cash flow or net investment hedges as defined in IFRS 9. Hedge accounting allows the timing of the profit or loss impact of qualifying hedging instruments to be recognised in the same reporting period as the corresponding impact of hedged exposures. To qualify for hedge accounting, documentation is prepared specifying the risk management objective and strategy, the component transactions and methodology used for measurement of effectiveness.

32. Financial risk management continued

Hedge accounting relationships are designated in line with risk management activities further described below. Categories designated at National Grid are as follows:

- currency risk arising from our forecasted foreign currency transactions (capital expenditure or revenues) is designated in cash flow hedges;
- currency risk arising from our net investments in foreign operations is designated in net investment hedges; and
- currency and interest rate risk arising from borrowings are designated in cash flow or fair value hedges.

Critical terms of hedging instruments and hedged items are transacted to match on a 1:1 ratio by notional values. Hedge ineffectiveness can nonetheless arise from inherent differences between derivatives and non-derivative instruments and other market factors including credit, correlations, supply and demand, and market volatilities. Ineffectiveness is recognised in the remeasurements component of profit or loss. Hedge accounting is discontinued when a hedging relationship no longer qualifies for hedge accounting.

The Group adopted IFRS 9 with effect from 1 April 2018. The comparatives are not required to be restated and are accounted for in accordance with IAS 39. As a result of adoption, certain hedging instrument components are now treated separately as costs of hedging. Cost of hedging gains and losses are deferred in a newly established component of other equity reserves and released systematically into profit or loss to correspond with the timing of hedged exposures. The impact of adopting IFRS 9 is described in note 37.

2018

Under IAS 39, hedging instruments were designated for hedge accounting in their entirety or, where qualifying forward points were excluded from hedging relationships, unrealised gains and losses on excluded components were recognised in the income statement.

Refer to sections (c) currency risk and (d) interest rate risk below for further details about hedge accounting.

(a) Credit risk

We are exposed to the risk of loss resulting from counterparties' default on their commitments including failure to pay or make a delivery on a contract. This risk is inherent in our commercial business activities. We are exposed to credit risk on our derivative financial instruments, deposits with banks and financial institutions, as well as credit exposures to wholesale and retail customers, primarily trade receivables and committed transactions.

Treasury credit risk

Counterparty risk arises from the investment of surplus funds and from the use of derivative financial instruments. As at 31 March 2019, the following limits were in place for investments held with banks and financial institutions:

	Maximum limit £m	Long-term limit £m
Triple 'A' G7 sovereign entities (AAA)	1,853	927
Triple 'A' vehicles (AAA)	500	—
Triple 'A' range institutions and non-G7 sovereign entities (AAA)	1,011	506
Double 'A+' G7 sovereign entities (AA+)	1,685	843
Double 'A' range institutions (AA)	674 to 843	337 to 421
Single 'A' range institutions (A)	236 to 337	118 to 169

The maximum limit applies to all transactions, including long-term transactions. The long-term limit applies to transactions which mature in more than 12 months' time.

As at 31 March 2019 and 2018, we had a number of exposures to individual counterparties. In accordance with our treasury policies, counterparty credit exposure utilisations are monitored daily against the counterparty credit limits. Counterparty credit ratings and market conditions are reviewed continually with limits being revised and utilisation adjusted, if appropriate. Management does not expect any significant losses from non-performance by these counterparties.

Commodity credit risk

The credit policy for US-based commodity transactions is owned by the Finance Committee to the Board, which establishes controls and procedures to determine, monitor and minimise the credit exposure to counterparties.

Wholesale and retail credit risk

Our principal commercial exposure in the UK is governed by the credit rules within the regulated codes: Uniform Network Code and Connection and Use of System Code. These set out the level of credit relative to the RAV for each credit rating. In the US, we are required to supply electricity and gas under state regulations. Our credit policies and practices are designed to limit credit exposure by collecting security deposits prior to providing utility services, or after utility service has commenced if certain applicable regulatory requirements are met. Collection activities are managed on a daily basis. Sales to retail customers are usually settled in cash, cheques, electronic bank payments or by using major credit cards. We are committed to measuring, monitoring, minimising and recording counterparty credit risk in our wholesale business. The utilisation of credit limits is regularly monitored and collateral is collected against these accounts when necessary. Management does not expect any significant losses of receivables that have not been provided for as shown in note 19.

Notes to the consolidated financial statements – supplementary information continued

32. Financial risk management continued

(a) Credit risk continued

Offsetting financial assets and liabilities

The following tables set out our financial assets and liabilities which are subject to offset and to enforceable master netting arrangements or similar agreements. The tables show the amounts which are offset and reported net in the statement of financial position. Amounts which cannot be offset under IFRS, but which could be settled net under terms of master netting arrangements if certain conditions arise, and with collateral received or pledged, are shown to present National Grid's net exposure.

Financial assets and liabilities on different transactions are only reported net if the transactions are with the same counterparty, a currently enforceable legal right of offset exists, and the cash flows are intended to be settled on a net basis.

Amounts which do not meet the criteria for offsetting on the statement of financial position, but could be settled net in certain circumstances, principally relate to derivative transactions under ISDA agreements where each party has the option to settle amounts on a net basis in the event of default of the other party.

Commodity contract derivatives that have not been offset on the balance sheet may be settled net in certain circumstances under ISDA or North American Energy Standards Board (NAESB) agreements.

For bank account balances and bank overdrafts, the 'Gross amounts offset' under cash pooling arrangements is £19 million as at 31 March 2019 (2018: £34 million). Our UK bank accounts for National Grid subsidiaries participate in GBP, EUR and USD Composite Accounting System overdraft facilities subject to offsetting gross and net overdraft limits. In the US, no offsetting arrangements exist, and cash transactions are settled through Service Company bank accounts with subsequent intercompany payables and receivables reported by subsidiaries with the Service Company.

The gross amounts offset for trade payables and receivables, which are subject to general terms and conditions, are insignificant.

				Related amounts available to be offset but not offset in statement of financial position		
At 31 March 2019	**Gross carrying amounts £m**	**Gross amounts offset £m**	**Net amount presented in statement of financial position £m**	**Financial instruments £m**	**Cash collateral received/ pledged £m**	**Net amount £m**
Assets						
Financing derivatives	**1,052**	**–**	**1,052**	**(299)**	**(551)**	**202**
Commodity contract derivatives	**101**	**–**	**101**	**29**	**–**	**130**
	1,153	**–**	**1,153**	**(270)**	**(551)**	**332**
Liabilities						
Financing derivatives	**(1,084)**	**–**	**(1,084)**	**299**	**615**	**(170)**
Commodity contract derivatives	**(99)**	**–**	**(99)**	**(29)**	**–**	**(128)**
	(1,183)	**–**	**(1,183)**	**270**	**615**	**(298)**
	(30)	**–**	**(30)**	**–**	**64**	**34**

				Related amounts available to be offset but not offset in statement of financial position		
At 31 March 2018	Gross carrying amounts £m	Gross amounts offset £m	Net amount presented in statement of financial position £m	Financial instruments £m	Cash collateral received/ pledged £m	Net amount £m
Assets						
Financing derivatives	1,545	–	1,545	(523)	(772)	250
Commodity contract derivatives	69	–	69	(16)	–	53
Further acquisition agreement derivative[1]	110	–	110	–	–	110
	1,724	–	1,724	(539)	(772)	413
Liabilities						
Financing derivatives	(945)	–	(945)	523	326	(96)
Commodity contract derivatives	(116)	–	(116)	16	7	(93)
	(1,061)	–	(1,061)	539	333	(189)
	663	–	663	–	(439)	224

1. The Group is party to the Further Acquisition Agreement (FAA) and Remaining Acquisition Agreement (RAA) which contain put and call options over 14% and 25% respectively, of the equity and loan balances it holds in Cadent (through its investment in Quadgas). These are classified within the disposal group as at 31 March 2019 (see note 10).

32. Financial risk management continued

(b) Liquidity risk

Our policy is to determine our liquidity requirements by the use of both short-term and long-term cash flow forecasts. These forecasts are supplemented by a financial headroom analysis which is used to assess funding requirements for at least a 24-month period and maintain adequate liquidity for a continuous 12-month period.

We believe our contractual obligations, including those shown in commitments and contingencies in note 30, can be met from existing cash and investments, operating cash flows and other financings that we reasonably expect to be able to secure in the future, together with the use of committed facilities if required.

Our debt agreements and banking facilities contain covenants, including those relating to the periodic and timely provision of financial information by the issuing entity and financial covenants such as restrictions on the level of subsidiary indebtedness. Failure to comply with these covenants, or to obtain waivers of those requirements, could in some cases trigger a right, at the lender's discretion, to require repayment of some of our debt and may restrict our ability to draw upon our facilities or access the capital markets.

The following is a maturity profile of our financial liabilities and derivatives as at the reporting date:

At 31 March 2019	Less than 1 year £m	1 to 2 years £m	2 to 3 years £m	More than 3 years £m	Total £m
Non-derivative financial liabilities					
Borrowings, excluding finance lease liabilities	(4,129)	(2,348)	(1,998)	(19,673)	(28,148)
Interest payments on borrowings[1]	(800)	(733)	(721)	(13,465)	(15,719)
Finance lease liabilities	(72)	(63)	(52)	(123)	(310)
Other non-interest-bearing liabilities	(3,306)	(340)	–	–	(3,646)
Derivative financial liabilities					
Derivative contracts – receipts[2]	3,045	1,703	163	2,560	7,471
Derivative contracts – payments[2]	(3,421)	(2,029)	(223)	(3,276)	(8,949)
Commodity contract derivatives	(73)	(19)	(2)	(1)	(95)
Derivative financial assets					
Derivative contracts – receipts[2]	1,928	561	863	1,112	4,464
Derivative contracts – payments[2]	(1,251)	(459)	(783)	(875)	(3,368)
	(8,079)	(3,727)	(2,753)	(33,741)	(48,300)

At 31 March 2018[3]	Less than 1 year £m	1 to 2 years £m	2 to 3 years £m	More than 3 years £m	Total £m
Non-derivative financial liabilities					
Borrowings, excluding finance lease liabilities	(4,099)	(1,642)	(2,325)	(18,023)	(26,089)
Interest payments on borrowings[1]	(730)	(692)	(629)	(12,897)	(14,948)
Finance lease liabilities	(60)	(60)	(45)	(148)	(313)
Other non-interest-bearing liabilities	(2,840)	(359)	–	–	(3,199)
Derivative financial liabilities					
Derivative contracts – receipts[2]	1,111	424	441	268	2,244
Derivative contracts – payments[2]	(1,468)	(608)	(547)	(704)	(3,327)
Commodity contract derivatives	(80)	(33)	(26)	1	(138)
Derivative financial assets					
Derivative contracts – receipts[2]	6,536	2,225	1,726	3,134	13,621
Derivative contracts – payments[2]	(6,000)	(1,703)	(1,678)	(2,977)	(12,358)
	(7,630)	(2,448)	(3,083)	(31,346)	(44,507)

1. The interest on borrowings is calculated based on borrowings held at 31 March without taking account of future issues. Floating rate interest is estimated using a forward interest rate curve as at 31 March. Payments are included on the basis of the earliest date on which the Company can be required to settle.
2. The financial derivative payments and receipts include the gross undiscounted cash flows for interest rate and cross currency derivatives. The cash flows for these derivatives are presented as gross payments and receipts where the cash flows are not net settled either due to timing or currency.
3. The comparatives have been refined to provide consistency with the current period.

Notes to the consolidated financial statements – supplementary information continued

32. Financial risk management continued

(c) Currency risk

National Grid operates internationally with mainly the pound sterling as the functional currency for the UK companies and the US dollar as that of the US businesses. Currency risk arises from three major areas: funding activities, capital investment and related revenues, and holdings in foreign operations. This risk is managed using financial instruments including derivatives as approved by policy, typically cross-currency interest rate swaps, foreign exchange swaps and forwards.

Funding activities – our policy is to borrow in the most advantageous market available. Foreign currency funding gives rise to risk of volatility in the amount of functional currency cash to be repaid. This risk is reduced by swapping principal and interest back into the functional currency of the issuer. All foreign currency debt and transactions are hedged except where they provide a natural offset to assets elsewhere in the Group.

Capital investment and related revenues – capital projects often incur costs or generate revenues in a foreign currency, most often euro transactions done by the UK business. Our policy for managing foreign exchange transaction risk is to hedge contractually committed foreign currency cash flows over a prescribed minimum size, typically by buying euro forwards to hedge future expenditure, and selling euro forwards to hedge future revenues. For hedges of forecast cash flows our policy is to hedge a proportion of highly probable cash flows.

Holdings in foreign operations – we are exposed to fluctuations on the translation into pounds sterling of our foreign operations. The policy for managing this translation risk is to issue foreign currency debt or to replicate foreign debt using derivatives that pay cash flows in the currency of the foreign operation. The primary managed exposure arises from dollar denominated assets and liabilities held by our US operations, with a smaller euro exposure in respect of joint venture investments.

During 2019 and 2018, derivative financial instruments were used to manage foreign currency risk as follows:

	2019					2018				
	Sterling £m	**Euro £m**	**Dollar £m**	**Other £m**	**Total £m**	Sterling £m	Euro £m	Dollar £m	Other £m	Total £m
Cash and cash equivalents	**97**	**2**	**153**	**–**	**252**	294	2	33	–	329
Financial investments	**965**	**–**	**1,016**	**–**	**1,981**	1,471	69	1,125	29	2,694
Borrowings	**(10,591)**	**(4,787)**	**(12,126)**	**(1,226)**	**(28,730)**	(10,912)	(3,794)	(11,068)	(851)	(26,625)
Pre-derivative position	**(9,529)**	**(4,785)**	**(10,957)**	**(1,226)**	**(26,497)**	(9,147)	(3,723)	(9,910)	(822)	(23,602)
Derivative effect	**(1,055)**	**4,803**	**(5,245)**	**1,465**	**(32)**	3,748	3,793	(7,992)	1,051	600
Net debt position	**(10,584)**	**18**	**(16,202)**	**239**	**(26,529)**	(5,399)	70	(17,902)	229	(23,002)

The exposure to dollars largely relates to our net investment hedge activities; exposure to euros largely relates to hedges for our future non-sterling capital expenditure.

The currency exposure on other financial instruments is as follows:

	2019					2018				
	Sterling £m	**Euro £m**	**Dollar £m**	**Other £m**	**Total £m**	Sterling £m	Euro £m	Dollar £m	Other £m	Total £m
Trade and other receivables	**398**	**–**	**1,635**	**–**	**2,033**	253	–	1,528	–	1,781
Trade and other payables	**(1,221)**	**–**	**(2,085)**	**–**	**(3,306)**	(1,124)	–	(1,793)	–	(2,917)
Other non-current liabilities	**(93)**	**–**	**(247)**	**–**	**(340)**	(144)	–	(254)	–	(398)

The carrying amounts of other financial instruments are denominated in the above currencies, which in most instances are the functional currency of the respective subsidiaries. Our exposure to dollars is due to activities in our US subsidiaries. We do not have any other significant exposure to currency risk on these balances.

Hedge accounting for currency risk

Where available, derivatives transacted for hedging are designated for hedge accounting. Economic offset is qualitatively determined because the critical terms (currency and volume) of the hedging instrument match the hedged exposure. If a forecast transaction was no longer expected to occur, the cumulative gain or loss previously reported in equity would be transferred to the income statement. This has not occurred in the current or comparative years.

Cash flow hedging of currency risk of capital expenditure and revenues is designated as hedging the exposure to movements in the spot translation rates only; the timing of forecasted transactions is not designated as a hedged risk. Gains and losses on hedging instruments arising from forward points and foreign currency basis spreads are excluded from designation and are recognised immediately in profit or loss, along with any hedge ineffectiveness. On recognition of the hedged purchase or sale in the financial statements, the associated hedge gains and losses, deferred in the cash flow hedge reserve in other equity reserves, are transferred out of reserves and included with the recognition of the underlying transaction. Where a non-financial asset or a non-financial liability results from a forecast transaction or firm commitment being hedged, the amounts deferred in reserves are included directly in the initial measurement of that asset or liability.

Net investment hedging is also designated as hedging the exposure to movements in spot translation rates only: spot-related gains and losses on hedging instruments are presented in the cumulative translation reserve within other equity reserves to offset gains or losses on translation of the hedged balance sheet exposure. Any ineffectiveness is recognised immediately in the income statement. Gains and losses arising from forward points and foreign currency basis spreads are excluded from designation and are treated as a cost of hedging, deferred initially in other equity reserves and released into profit or loss over the life of the hedging relationship. Amounts deferred in the cumulative translation reserve with respect to net investment hedges are subsequently recognised in the income statement in the event of disposal of the overseas operations concerned. Any remaining amounts deferred in the cost of hedging reserve are also released to the income statement.

Hedges of foreign currency funding are designated as cash flow hedges or fair value hedges of forward exchange risk (hedging both currency and interest rate risk together, where applicable). Hedge accounting for funding is described further in the interest rate risk section below.

32. Financial risk management continued

(d) Interest rate risk

National Grid's interest rate risk arises from our long-term borrowings. Our interest rate risk management policy is to seek to minimise total financing costs (being interest costs and changes in the market value of debt). Hedging instruments principally consist of interest rate and cross-currency swaps that are used to translate foreign currency debt into functional currency and to adjust the proportion of fixed-rate and floating-rate in the borrowings portfolio to within a range set by the Finance Committee of the Board. The benchmark interest rates hedged are currently based on Libor.

We also consider inflation risk and hold some inflation-linked borrowings. We believe that these provide a partial economic offset to the inflation risk associated with our UK inflation linked revenues.

The table in note 21 sets out the carrying amount, by contractual maturity, of borrowings that are exposed to interest rate risk before taking into account interest rate swaps.

During 2019 and 2018, net debt was managed using derivative financial instruments to hedge interest rate risk as follows:

	2019					2018				
	Fixed rate £m	Floating rate £m	Inflation linked £m	Other[1] £m	Total £m	Fixed rate £m	Floating rate £m	Inflation linked £m	Other[1] £m	Total £m
Cash and cash equivalents	59	104	–	89	252	–	302	–	27	329
Financial investments	6	1,944	–	31	1,981	31	2,625	–	38	2,694
Borrowings	(19,043)	(3,045)	(6,642)	–	(28,730)	(16,144)	(3,191)	(7,290)	–	(26,625)
Pre-derivative position	(18,978)	(997)	(6,642)	120	(26,497)	(16,113)	(264)	(7,290)	65	(23,602)
Derivative effect	1,740	(1,559)	(213)	–	(32)	1,735	(1,237)	102	–	600
Net debt position	(17,238)	(2,556)	(6,855)	120	(26,529)	(14,378)	(1,501)	(7,188)	65	(23,002)

1. Represents financial instruments which are not directly affected by interest rate risk, such as investments in equity or other similar financial instruments.

Hedge accounting for interest rate risk

Borrowings paying variable or floating-rates expose National Grid to cash flow interest rate risk, partially offset by cash held at variable rates. Where a hedging instrument results in paying a fixed-rate, it is designated as a cash flow hedge because it has reduced the cash flow volatility of the hedged borrowing. Changes in the fair value of the derivative are initially recognised in other comprehensive income as gains or losses in the cash flow hedge reserve, with any ineffective portion recognised immediately in the income statement.

Borrowings paying fixed-rates expose National Grid to fair value interest rate risk. Where the hedging instrument pays a floating-rate, it is designated as a fair value hedge because it has reduced the fair value volatility of the borrowing. Changes in the fair value of the derivative and changes in the fair value of the hedged item in relation to the risk being hedged are both adjusted on the balance sheet and offset in the income statement to the extent the fair value hedge is effective, with the residual difference remaining as ineffectiveness.

Both types of hedges are designated as hedging the currency and interest rate risk arising from changes in forward points. Amounts accumulated in the cash flow hedge reserve (cash flow hedges only) and the deferred cost of hedging reserve (both cash flow and fair value hedges) are reclassified from reserves to the income statement on a systematic basis as hedged interest expense is recognised. Adjustments made to the carrying value of hedged items in fair value hedges are similarly released to the income statement to match the timing of the hedged interest expense.

When hedge accounting is discontinued, any remaining cumulative hedge accounting balances continue to be released to the income statement to match the impact of outstanding hedged items. Any remaining amounts deferred in the cost of hedging reserve are released immediately to the income statement.

Notes to the consolidated financial statements
– supplementary information continued

32. Financial risk management continued

(e) Hedge accounting

In accordance with the requirements of IFRS 9, certain additional information about hedge accounting is disaggregated by risk type and hedge designation type in the tables below:

	Fair value hedges of foreign currency and interest rate risk £m	Cash flow hedges of foreign currency and interest rate risk £m	Cash flow hedges of foreign currency risk £m	Net investment hedges £m
Consolidated statement of comprehensive income				
Net losses in respect of:				
Cash flow hedges	—	(40)	(12)	—
Cost of hedging	(6)	(12)	—	(90)
Transferred to profit or loss in respect of:				
Cash flow hedges	—	(1)	—	—
Cost of hedging	3	—	—	39
Consolidated statement of changes in equity				
Other equity reserves – cost of hedging balances	(4)	—	—	32
Consolidated statement of financial position				
Derivatives – carrying value of hedging instruments[1]				
Assets – current	17	—	9	—
Assets – non-current	168	78	23	—
Liabilities – current	(9)	(28)	(3)	(43)
Liabilities – non-current	(25)	(134)	(4)	(249)
Profiles of the significant timing, price and rate information of hedging instruments				
Maturity range	Nov 2019 – May 2038	Aug 2019 – Feb 2039	Apr 2019 – Dec 2023	Mar 2020 – Jun 2025
Spot foreign exchange range:				
GBP:USD	1.64 – 1.65	1.52 – 1.66	1.29 – 1.41	1.49
GBP:EUR	1.19 – 1.24	1.14 – 1.24	1.07 – 1.32	1.15
EUR:USD	1.13 – 1.16	1.13 – 1.14	n/a	n/a
Interest rate range:				
GBP	Libor +30bps/+561bps	1.795% – 5.850%	n/a	n/a
USD	Libor -44bps/+115bps	1.103% – 3.864%	n/a	n/a

1. The use of derivatives may entail a derivative transaction qualifying for more than one hedge type designation under IFRS 9. Therefore, the derivative amounts in the table above are grossed up by hedge type, whereas they are presented net at an instrument level in the statement of financial position.

32. Financial risk management continued

(e) Hedge accounting continued

The following tables show the effects of hedge accounting on financial position and year-to-date performance for each type of hedge:

(i) Fair value hedges of foreign currency and interest rate risk on recognised borrowings as at 31 March 2019:

		Balance of fair value hedge adjustments in borrowings		Change in value used for calculating ineffectiveness		
	Hedging instrument notional	Continuing hedges	Discontinued hedges	Hedged item	Hedging instrument	Hedge ineffectiveness
Hedge type	£m	£m	£m	£m	£m	£m
Foreign currency and interest rate risk on borrowings[1]	(1,707)	11	(117)	11	(6)	5

1. The carrying value of the hedged borrowings is £1,810 million, of which £202 million is current and £1,608 million is non-current.

(ii) Cash flow hedges of foreign currency and interest rate risk as at 31 March 2019:

		Balance in cash flow hedge reserve		Change in value used for calculating ineffectiveness		
	Hedging instrument notional	Continuing hedges	Discontinued hedges	Hedged item	Hedging instrument	Hedge ineffectiveness
Hedge type	£m	£m	£m	£m	£m	£m
Foreign currency and interest rate risk on borrowings	(3,804)	(17)	51	39	(39)	—
Foreign currency risk on forecasted cash flows	(697)	47	—	12	(12)	—

(iii) Net investment hedges of foreign currency risk as at 31 March 2019:

		Balance in translation reserve		Change in value used for calculating ineffectiveness		
	Hedging instrument notional	Continuing hedges	Discontinued hedges	Hedged item	Hedging instrument	Hedge ineffectiveness
Hedge type	£m	£m	£m	£m	£m	£m
Currency risk on foreign operations	(2,974)	(329)	(2,502)	550	(550)	—

(f) Commodity price risk

We purchase electricity and gas to supply our customers in the US and to meet our own energy needs. Substantially all our costs of purchasing electricity and gas for supply to customers are recoverable at an amount equal to cost. The timing of recovery of these costs can vary between financial periods leading to an under- or over-recovery within any particular year that can lead to large fluctuations in the income statement. We follow approved policies to manage price and supply risks for our commodity activities.

Our energy procurement risk management policy and delegations of authority govern our US commodity trading activities for energy transactions. The purpose of this policy is to ensure we transact within pre-defined risk parameters and only in the physical and financial markets where we or our customers have a physical market requirement. In addition, state regulators require National Grid to manage commodity risk and cost volatility prudently through diversified pricing strategies. In some jurisdictions we are required to file a plan outlining our strategy to be approved by regulators. In certain cases we might receive guidance with regard to specific hedging limits.

Energy purchase contracts for the forward purchase of electricity or gas that are used to satisfy physical delivery requirements to customers, or for energy that the Group uses itself, meet the expected purchase or usage requirements of IAS 39 and IFRS 9. They are, therefore, not recognised in the financial statements until they are realised. Disclosure of commitments under such contracts is made in note 30.

US states have introduced a variety of legislative requirements with the aim of increasing the proportion of our electricity that is derived from renewable or other forms of clean energy. Annual compliance filings regarding the level of Renewable Energy Certificates (and other similar environmental certificates) are required by the relevant department of utilities. In response to the legislative requirements, National Grid has entered into long-term, typically fixed-price, energy supply contracts to purchase both renewable energy and environmental certificates. We are entitled to recover all costs incurred under these contracts through customer billing.

Under IFRS, where these supply contracts are not accounted for as finance leases, they are considered to comprise two components, being a forward purchase of power at spot prices, and a forward purchase of environmental certificates at a variable price (being the contract price less the spot power price). With respect to our current contracts, neither of these components meets the requirement to be accounted for as a derivative. The environmental certificates are currently required for compliance purposes, and at present there are no liquid markets for these attributes. Accordingly, this component meets the expected purchase or usage exemption of IFRS 9/IAS 39. We expect to enter into an increasing number of these contracts, in order to meet our compliance requirements in the short to medium term. It is possible that in future, if and when liquid markets develop, and to the extent that we are in receipt of environmental certificates in excess of our required levels, this exemption may cease to apply and we may be required to account for forward purchase commitments for environmental certificates as derivatives at fair value through profit and loss.

Notes to the consolidated financial statements – supplementary information continued

32. Financial risk management continued

(g) Fair value analysis

Included in the statement of financial position are financial instruments which are measured at fair value. These fair values can be categorised into hierarchy levels that are representative of the inputs used in measuring the fair value. The best evidence of fair value is a quoted price in an actively traded market. In the event that the market for a financial instrument is not active, a valuation technique is used.

	2019				2018			
	Level 1 £m	**Level 2 £m**	**Level 3 £m**	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Assets								
Available-for-sale investments[1]	**–**	**–**	**–**	**–**	2,406	310	5	2,721
Investments held at FVTPL[1]	**1,311**	**–**	**62**	**1,373**	–	–	–	–
Investments held at FVOCI[1]	**93**	**343**	**–**	**436**	–	–	–	–
Investments in associates[2]	**–**	**–**	**90**	**90**	–	–	79	79
Financing derivatives	**–**	**1,050**	**2**	**1,052**	–	1,544	1	1,545
Commodity contract derivatives	**–**	**33**	**68**	**101**	–	8	61	69
Further Acquisition Agreement derivative[3]	**–**	**–**	**–**	**–**	–	–	110	110
	1,404	**1,426**	**222**	**3,052**	2,406	1,862	256	4,524
Liabilities								
Financing derivatives	**–**	**(868)**	**(216)**	**(1,084)**	–	(725)	(220)	(945)
Commodity contract derivatives	**–**	**(32)**	**(67)**	**(99)**	–	(54)	(62)	(116)
Liabilities held at fair value[4]	**(667)**	**–**	**–**	**(667)**	–	–	–	–
	(667)	**(900)**	**(283)**	**(1,850)**	–	(779)	(282)	(1,061)
	737	**526**	**(61)**	**1,202**	2,406	1,083	(26)	3,463

1. The available-for-sale investments have been reclassified, with the adoption of IFRS 9 (see notes 15 and 37).
2. Our Level 3 investments include investments relating to Sunrun Neptune 2016 LLC accounted for at fair value.
3. The Group is party to the Further Acquisition Agreement (FAA) and Remaining Acquisition Agreement (RAA) which contain put and call options over the equity and loan balances it holds in Cadent (through its investment in Quadgas). These are classified within the disposal group as at 31 March 2019 (see note 10).
4. On adoption of IFRS 9 the Group elected to change the measurement basis to fair value through profit and loss (see notes 21 and 37).

Level 1: Financial instruments with quoted prices for identical instruments in active markets.

Level 2: Financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets, and financial instruments valued using models where all significant inputs are based directly or indirectly on observable market data.

Level 3: Financial instruments valued using valuation techniques where one or more significant inputs are based on unobservable market data.

Our Level 1 financial investments and liabilities held at fair value are valued using quoted prices from liquid markets.

Our Level 2 financial investments held at fair value are valued using quoted prices for similar instruments in active markets, or quoted prices for identical or similar instruments in inactive markets. Alternatively, they are valued using models where all significant inputs are based directly or indirectly on observable market data.

Our Level 2 derivative financial instruments include cross-currency, interest rate and foreign exchange derivatives. We value these derivatives by discounting all future cash flows by externally sourced market yield curves at the reporting date, taking into account the credit quality of both parties. These derivatives can be priced using liquidly traded interest rate curves and foreign exchange rates; therefore we classify our vanilla trades as Level 2 under the IFRS 13 framework.

Our Level 2 commodity derivatives include over-the-counter gas and power swaps as well as forward physical gas deals. We value our contracts based on market data obtained from the New York Mercantile Exchange (NYMEX) and the Intercontinental Exchange (ICE) where monthly prices are available. We discount based on externally sourced market yield curves at the reporting date, taking into account the credit quality of both parties and liquidity in the market. Our commodity contracts can be priced using liquidly traded swaps; therefore we classify our vanilla trades as Level 2 under the IFRS 13 framework.

Our Level 3 derivative financial instruments include cross-currency swaps, inflation linked swaps and equity options, where the market is illiquid. In valuing these instruments we use in-house valuation models and obtain external valuations to support each reported fair value.

Our Level 3 commodity contract derivatives primarily consist of our forward purchases of electricity and gas where pricing inputs are unobservable, as well as other complex transactions. Complex transactions can introduce the need for internally developed models based on reasonable assumptions. Industry-standard valuation techniques such as the Black-Scholes pricing model and Monte Carlo simulation are used for valuing such instruments. Level 3 is also applied in cases when optionality is present or where an extrapolated forward curve is considered unobservable. We consider forward curves to be unobservable if observed market transactions differ from the curve by more than 5%.

Our Level 3 investments include investments in associates relating to Sunrun Neptune Investor 2016 LLC, accounted for at fair value (see note 16), and further equity investments accounted for at fair value through profit and loss. These equity holdings are part of our corporate venture capital portfolio held by National Grid Partners and comprise a series of small minority interest unquoted investments where prices or valuation inputs are unobservable. These investments are new this year and as such the valuation is based on the latest transaction price, being the price we paid for the investments.

32. Financial risk management continued

(g) Fair value analysis continued

The changes in value of our Level 3 financial instruments are as follows:

	Financing derivatives		Commodity contract derivatives		Other[3,4]		Total	
	2019 £m	2018 £m	**2019 £m**	2018 £m	**2019 £m**	2018 £m	**2019 £m**	2018 £m
At 1 April	**(219)**	(465)	**(1)**	(16)	**194**	46	**(26)**	(435)
Net gains/(losses) for the year[1,2]	**4**	15	**(16)**	8	**15**	110	**3**	133
Purchases	**–**	–	**44**	27	**57**	41	**101**	68
Settlements	**1**	231	**(26)**	(20)	**(4)**	(3)	**(29)**	208
Reclassification to held for sale[3]	**–**	–	**–**	–	**(110)**	–	**(110)**	–
At 31 March	**(214)**	(219)	**1**	(1)	**152**	194	**(61)**	(26)

1. Gain of £4 million (2018: £15 million gain) is attributable to derivative financial instruments held at the end of the reporting period and has been recognised in finance costs in the income statement.
2. Loss of £21 million (2018: £35 million gain) is attributable to commodity contract derivative financial instruments held at the end of the reporting period.
3. The Group is party to the Further Acquisition Agreement (FAA) and Remaining Acquisition Agreement (RAA) which contain put and call options over 14% and 25% respectively, of the equity and loan balances it holds in Cadent (through its investment in Quadgas). These were classified to held for sale as at 31 March 2019 (see note 10). The fair value was £110 million as at 31 March 2018.
4. Other comprises our investments in Sunrun Neptune 2016 LLC and the investments made by the National Grid Partners accounted for at fair value through profit and loss.

The impacts on a post-tax basis of reasonably possible changes in significant Level 3 assumptions are as follows:

	Financing derivatives		Commodity contract derivatives		Other[3]	
	2019 £m	2018 £m	**2019 £m**	2018 £m	**2019 £m**	2018 £m
10% increase in commodity prices[1]	**–**	–	**(1)**	(1)	**–**	–
10% decrease in commodity prices[1]	**–**	–	**2**	3	**–**	–
+10% market area price change	**–**	–	**(10)**	(6)	**–**	–
-10% market area price change	**–**	–	**10**	5	**–**	–
+20 basis points change in Limited Price Inflation (LPI) market curve[2]	**(88)**	(84)	**–**	–	**–**	–
-20 basis points change in LPI market curve[2]	**83**	82	**–**	–	**–**	–
+50 basis points change in discount rate	**–**	–	**–**	–	**(3)**	(5)
-50 basis points change in discount rate	**–**	–	**–**	–	**3**	6

1. Level 3 commodity price sensitivity is included within the sensitivity analysis disclosed in note 35.
2. A reasonably possible change in assumption of other Level 3 derivative financial instruments is unlikely to result in a material change in fair values.
3. The investments acquired in the period were on market terms, and sensitivity is considered insignificant at 31 March 2019.

The impacts disclosed above were considered on a contract-by-contract basis with the most significant unobservable inputs identified.

Notes to the consolidated financial statements
– supplementary information continued

32. Financial risk management continued

(h) Capital risk management

The capital structure of the Group consists of shareholders' equity, as disclosed in the consolidated statement of changes in equity, and net debt (note 29). National Grid's objectives when managing capital are: to safeguard our ability to continue as a going concern; to remain within regulatory constraints of our regulated operating companies; and to maintain an efficient mix of debt and equity funding thus achieving an optimal capital structure and cost of capital. We regularly review and manage the capital structure as appropriate in order to achieve these objectives.

Maintaining appropriate credit ratings for our operating and holding companies is an important aspect of our capital risk management strategy and balance sheet efficiency. We monitor our balance sheet efficiency using several metrics including retained cash flow/net debt (RCF), regulatory gearing and interest cover. For the year ended 31 March 2019, these metrics for the Group were 9.4% (2018: 9.7%), 66% (2018: 64%) and 4.4 (2018: 4.4), respectively – see pages 26 and 229. We believe these are consistent with the current credit ratings for National Grid plc in respect of the main companies of the Group, based on guidance from the rating agencies.

We monitor the RAV gearing within NGET and the regulated transmission businesses within NGG. This is calculated as net debt expressed as a percentage of RAV, and indicates the level of debt employed to fund our UK regulated businesses. It is compared with the level of RAV gearing indicated by Ofgem as being appropriate for these businesses, at around 60% to 62.5%. We also monitor net debt as a percentage of rate base for our US operating companies, comparing this with the allowed rate base gearing inherent within each of our agreed rate plans, typically around 50%.

The majority of our regulated operating companies in the US and the UK are subject to certain restrictions on the payment of dividends by administrative order, contract and/or licence. The types of restrictions that a company may have that would prevent a dividend being declared or paid unless they are met include:

- dividends must be approved in advance by the relevant US state regulatory commission;
- the subsidiary must have at least two recognised rating agency credit ratings of at least investment grade;
- dividends must be limited to cumulative retained earnings, including pre-acquisition retained earnings;
- the securities of National Grid plc must maintain an investment grade credit rating, and if that rating is the lowest investment grade bond rating it cannot have a negative watch/review for downgrade notice by a credit rating agency;
- the subsidiary must not carry on any activities other than those permitted by the licences;
- the subsidiary must not create any cross-default obligations or give or receive any intra-group cross-subsidies; and
- the percentage of equity compared with total capital of the subsidiary must remain above certain levels.

There is a further restriction relating only to The Narragansett Electric Company, which is required to maintain its consolidated net worth above certain levels.

These restrictions are subject to alteration in the US as and when a new rate case or rate plan is agreed with the relevant regulatory bodies for each operating company and in the UK through the normal licence review process.

As most of our business is regulated, at 31 March 2019 the majority of our net assets are subject to some of the restrictions noted above. These restrictions are not considered to be significantly onerous, nor do we currently expect they will prevent the planned payment of dividends in future in line with our dividend policy.

All the above requirements are monitored on a regular basis in order to ensure compliance. The Group has complied with all externally imposed capital requirements to which it is subject.

33. Borrowing facilities

To support our liquidity requirements and provide backup to commercial paper and other borrowings, we agree loan facilities with financial institutions over and above the value of borrowings that may be required. These committed credit facilities have never been drawn, and our undrawn amounts are listed below.

At 31 March 2019, we had bilateral committed credit facilities of £5,463 million (2018: £5,438 million). In addition, we had committed credit facilities from syndicates of banks of £264 million at 31 March 2019 (2018: £245 million). All committed credit facilities were undrawn in 2019 and 2018. An analysis of the maturity of these undrawn committed facilities is shown below:

	2019 £m	2018 £m
Undrawn committed borrowing facilities expiring:		
Less than 1 year	**–**	–
In 1 to 2 years	**–**	3,910
In 2 to 3 years	**2,190**	–
In 3 to 4 years	**1,668**	–
In 4 to 5 years	**1,869**	1,773
More than 5 years	**–**	–
	5,727	5,683

Of the unused facilities at 31 March 2019, £5,463 million (2018: £5,438 million) is available for liquidity purposes, while £264 million (2018: £245 million) is available as backup to specific US borrowings. Of the £1,869 million of undrawn committed borrowings facilities due to expire within four to five years, £270 million was renegotiated before 31 March 2019, with the expiry extended by a further year, with effect from 1 June 2019.

In addition to the above, the Group has Export Credit Agreements (ECAs) totalling £859 million (2018: £797 million), of which £510 million (2018: £704 million) is undrawn. The Group has also negotiated a new facility of £550 million, with effect from 1 April 2019, for the separately regulated business of National Grid Electricity System Operator Limited. This facility is not available as Group general liquidity support.

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34. Subsidiary undertakings, joint ventures and associates

While we present consolidated results in these financial statements as if we were one company, our legal structure is such that there are a number of different operating and holding companies that contribute to the overall result. This structure has evolved through acquisitions as well as regulatory requirements to have certain activities within separate legal entities.

Subsidiary undertakings

A list of the Group's subsidiaries as at 31 March 2019 is given below. The entire share capital of subsidiaries is held within the Group except where the Group's ownership percentages are shown. These percentages give the Group's ultimate interest and therefore allow for the situation where subsidiaries are owned by partly owned intermediate subsidiaries. Where subsidiaries have different classes of shares, this is largely for historical reasons, and the effective percentage holdings given represent both the Group's voting rights and equity holding. Shares in National Grid (US) Holdings Limited, National Grid Holdings One plc and NGG Finance plc are held directly by National Grid plc. All other holdings in subsidiaries are owned by other subsidiaries within the Group. All subsidiaries are consolidated in the Group's financial statements.

Principal Group companies are identified in **bold**. These companies are incorporated and principally operate in the countries under which they are shown.

Incorporated in England and Wales
Registered office: 1 – 3 Strand, London WC2N 5EH, UK (unless stated otherwise in footnotes).

Beegas Nominees Limited
Birch Sites Limited
Carbon Sentinel Limited
Droylsden Metering Services Limited
Gridcom Limited
Icelink Interconnector Limited
Landranch Limited
Lattice Group Employee Benefit Trust Limited
Lattice Group Limited
Lattice Group Trustees Limited
Natgrid Limited
NatGrid One Limited
NatgridTW1 Limited
National Grid Belgium Limited
National Grid Blue Power Limited
National Grid Carbon Limited
National Grid Commercial Holdings Limited
National Grid Distributed Energy Limited
National Grid Electricity Group Trustee Limited
National Grid Electricity System Operator Limited
National Grid Electricity Transmission plc
National Grid Energy Metering Limited
National Grid Four Limited
National Grid Fourteen Limited
National Grid Gas Holdings Limited
National Grid Gas plc
National Grid Grain LNG Limited
National Grid Holdings Limited
National Grid Holdings One plc
National Grid IFA 2 Limited
National Grid Interconnector Holdings Limited
National Grid Interconnectors Limited
National Grid International Limited
National Grid Metering Limited
National Grid North Sea Link Limited
National Grid Offshore Limited
National Grid Partners Limited (previously National Grid Thirty Four Limited)
National Grid Property Holdings Limited
National Grid Seventeen Limited
National Grid Smart Limited
National Grid Ten
National Grid Thirty Five Limited
National Grid Thirty Six Limited
National Grid Twelve Limited
National Grid Twenty Eight Limited
National Grid Twenty-Five Limited
National Grid Twenty Seven Limited
National Grid Twenty Three Limited
National Grid UK Limited
National Grid UK Pension Services Limited
National Grid (US) Holdings Limited
National Grid (US) Investments 2 Limited
National Grid (US) Investments 4 Limited
National Grid (US) Partner 1 Limited
National Grid Ventures Limited
National Grid Viking Link Limited
National Grid William Limited
NG Nominees Limited
NG Shetland Link Limited
NGC Employee Shares Trustee Limited
NGG Finance plc
Ngrid Intellectual Property Limited
NGT Telecom No. 1 Limited
NGT Two Limited
Port Greenwich Limited
Stargas Nominees Limited
Supergrid Electricity Limited
Supergrid Energy Transmission Limited
Supergrid Limited
Thamesport Interchange Limited
The National Grid Group Quest Trustee Company Limited
The National Grid YouPlan Trustee Limited
Transco Limited
Warwick Technology Park Management Company (No 2) Limited (60.56%)[1]

1. Registered office: Shire Hall, PO Box 9, Warwick CV34 4RL, UK

34. Subsidiary undertakings, joint ventures and associates continued

Incorporated in the US
Registered office: Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808, New Castle County, USA (unless stated otherwise in footnotes).

Boston Gas Company[1]
British Transco Capital Inc.
British Transco Finance, Inc.
Broken Bridge Corp.[2]
Colonial Gas Company[1]
EUA Energy Investment Corporation[1]
Granite State Power Link LLC
GridAmerica Holdings Inc.
Grid NY LLC[3]
KeySpan CI Midstream Limited
KeySpan Energy Corporation[3]
KeySpan Energy Services Inc.
KeySpan Gas East Corporation[3]
KeySpan International Corporation
KeySpan MHK, Inc.
KeySpan Midstream Inc.
KeySpan Plumbing Solutions, Inc.[3]
KSI Contracting, LLC
KSI Electrical, LLC
KSI Mechanical, LLC
Land Management & Development, Inc.[3]
Landwest, Inc.[3]
Massachusetts Electric Company[1]
Metro Energy, LLC[3]
Metrowest Realty LLC
Mystic Steamship Corporation
Nantucket Electric Company[1]
National Grid Algonquin LLC
National Grid Connect Inc.
National Grid Development Holdings Corp.
National Grid Electric Services, LLC[3]
National Grid Energy Management, LLC
National Grid Energy Services LLC
National Grid Energy Trading Services LLC[3]
National Grid Engineering & Survey Inc.[3]
National Grid Generation LLC[3]
National Grid Generation Ventures LLC[3]
National Grid Glenwood Energy Center, LLC
National Grid Green Homes Inc.
National Grid IGTS Corp.[3]
National Grid Insurance USA Ltd[3]
National Grid Islander East Pipeline LLC
National Grid LNG GP LLC
National Grid LNG LLC
National Grid LNG LP LLC
National Grid Millennium LLC
National Grid NE Holdings 2 LLC[1]
National Grid North America Inc.
National Grid North East Ventures Inc.
National Grid Partners Inc. (previously National Grid Technologies Inc.)[3]
National Grid Port Jefferson Energy Center LLC
National Grid Services Inc.
National Grid Transmission Services Corporation[1]
National Grid US 6 LLC
National Grid US LLC
National Grid USA
National Grid USA Service Company, Inc.[3]
Nees Energy, Inc.[1]
New England Electric Transmission Corporation[2]
New England Energy Incorporated[1]
New England Hydro Finance Company, Inc. (53.704%)[1]
New England Hydro-Transmission Corporation (53.704%)[2]
New England Hydro-Transmission Electric Company Inc. (53.704%)[1]
New England Power Company[1]
Newport America Corporation[4]
NGNE LLC
NGV Emerald Acquisition Co. LLC[5]
NGV Emerald Holdings LLC[5]
Niagara Mohawk Energy, Inc.
Niagara Mohawk Holdings, Inc.[3]
Niagara Mohawk Power Corporation[3]
NM Properties, Inc.[3]
Northeast Renewable Link LLC
North East Transmission Co., Inc.
Opinac North America, Inc.
Philadelphia Coke Co., Inc.
Port of the Islands North, LLC[3]
The Brooklyn Union Gas Company[3]
The Narragansett Electric Company[4]
Transgas, Inc.[1]
Upper Hudson Development Inc.[1]
Valley Appliance and Merchandising Company[4]
Vermont Green Line Devco, LLC (90%)
Wayfinder Group, Inc.[1]

Incorporated in Australia
Registered office: Level 7, 330 Collins Street, Melbourne, VIC 3000, Australia

National Grid Australia Pty Limited

Incorporated in Canada
Registered office: 1959 Upper Water Street, Suite 800, Halifax NS, B3J 2X2, Canada

KeySpan Energy Development Co.

Incorporated in the Isle of Man
Registered office: Third Floor, St George's Court, Upper Church Street, Douglas, IM1 1EE, Isle of Man, UK

National Grid Insurance Company (Isle of Man) Limited
NGT Holding Company (Isle of Man) Limited

Incorporated in Jersey
Registered office: 44 Esplanade, St Helier, Jersey JE4 9WG, UK

National Grid Jersey Investments Limited
NG Jersey Limited

Incorporated in the Netherlands
Registered office: Westblaak 89, 3012 KG Rotterdam, PO Box 21153, 3001 AD, Rotterdam, Netherlands
British Transco International Finance B.V.

Registered office: Prins Bernhardplein 200, 1097 JB, Amsterdam, Netherlands
National Grid Holdings B.V.

Incorporated in the Republic of Ireland
Registered office: c/o Moore Stephens Nathans, Third Floor, Ulysses House, 23/24 Foley Street, Dublin 1, D01 W2T2, Ireland

National Grid Company (Ireland) Designated Activity Company (previously National Grid Insurance Company (Ireland) Designated Activity Company)*

1. Registered office: Corporation Service Company, 84 State Street, Boston MA 02109, Suffolk County, USA.
2. Registered office: Corporation Service Company, 10 Ferry Street, Suite 313, Concord NH 03301, Merrimack County, USA.
3. Registered office: Corporation Service Company, 80 State Street, Albany NY 12207-2543, Albany County, USA.
4. Registered office: Corporation Service Company, 222 Jefferson Boulevard, Suite 200, Warwick RI 02888, Kent County, USA.
5. Registered office: 404 Wyman Street, Waltham MA 02451 USA.

* In liquidation.

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34. Subsidiary undertakings, joint ventures and associates continued

Joint ventures

A list of the Group's joint ventures as at 31 March 2019 is given below. All joint ventures are included in the Group's financial statements using the equity method of accounting. Principal joint ventures are identified in **bold**.

Incorporated in England and Wales
Registered office: 1–3 Strand, London WC2N 5EH, UK (unless stated otherwise in footnotes).

BritNed Development Limited (50%)*
Joint Radio Company Limited (50%)[1]**
Nemo Link Limited (50%)
NGET/SPT Upgrades Limited (50%)†
St William Homes LLP (50%)[2]

Incorporated in the US
Registered office: Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808, New Castle County, USA (unless stated otherwise in footnotes).

Clean Energy Generation, LLC (50%)
Goldendale Energy Storage LLC (50%)
Island Park Energy Center, LLC (50%)
Islander East Pipeline Company, LLC (50%)[3]
LI Energy Storage System, LLC (50%)
LI Solar Generation, LLC (50%)
Swan Lake North Holdings LLC (50%)

Incorporated in France
Registered office: 1 Terrasse Bellini, Tour Initiale, TSA 41000 – 9291, Paris La Defense, CEDEX, France

IFA2 SAS (50%)

Associates

A list of the Group's associates as at 31 March 2019 is given below. Unless otherwise stated, all associates are included in the Group's financial statements using the equity method of accounting. Principal associates are identified in **bold**.

Incorporated in England and Wales
Registered office: Ashbrook Court, Prologis Park, Central Boulevard, Coventry CV7 8PE, UK

Quadgas HoldCo Limited (39%)#

Incorporated in the US
Registered office: Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808, New Castle County, USA (unless stated otherwise in footnotes).

Algonquin Gas Transmission, LLC (20%)[3]
Clean Line Energy Partners LLC (32%)[3]
Connecticut Yankee Atomic Power Company (19.5%)[4]
Direct Global Power, Inc. (26%)[5]
Energy Impact Fund LP (9.42%)[6]
KHB Venture LLC (33%)[7]
Maine Yankee Atomic Power Company (24%)[8]
Millennium Pipeline Company, LLC (26.25%)[3]
New York Transco LLC (28.3%)[9]
Nysearch RMLD, LLC (22.63%)
Sunrun Neptune Investor 2016 LLC[3]***
Yankee Atomic Electric Company (34.5%)[10]

Incorporated in Belgium
Registered office: Avenue de Cortenbergh 71, 1000 Brussels, Belgium

Coreso SA (15.84%)

Other investments

A list of the Group's other investments as at 31 March 2019 is given below.

Incorporated in England and Wales
Registered office: 1 More London Place, London SE1 2AF, UK

Energis plc (33.06%)‡

1. Registered office: Friars House, Manor House Drive, Coventry CV1 2TE, UK.
2. Registered office: Berkeley House, 19 Portsmouth Road, Cobham, Surrey KT11 1JG, UK.
3. Registered office: Corporation Trust Company, 1209 Orange, Wilmington DE 19808, New Castle County, USA.
4. Registered office: Carla Pizzella, 362 Injun Hollow Road, East Hampton CT 06424, USA.
5. Registered office: 507 Plum Street, PO Box 5001, Syracuse NY 13250, USA.
6. Registered office: Harvard Business Services, Inc., 16192 Coastal Highway, Lewes DE 19958, Sussex County, USA.
7. Registered office: De Maximus Inc., 135 Beaver Street, 4th Floor, Waltham MA 02452, USA.
8. Registered office: Joseph D Fay, 321 Old Ferry Road, Wiscasset ME 04578, USA.
9. Registered office: Corporation Service Company, 80 State Street, Albany NY 12207, USA.
10. Registered office: Brian Smith, 49 Yankee Road, Rowe MA 01367, USA.

* National Grid Interconnector Holdings Limited owns 284,500,000 €0.20 C Ordinary shares and one £1.00 Ordinary A share.
** National Grid Gas plc owns all £1.00 A Ordinary shares.
*** National Grid Green Homes Inc. owns 1,000 Class A Membership Interests.
† National Grid Electricity Transmission plc owns 50 £1.00 A Ordinary shares.
‡ In administration.
\# Quadgas HoldCo Limited is included in the financial statements from 30 June 2018 as an asset held for sale.

Our interests and activities are held or operated through the subsidiaries, joint arrangements or associates as disclosed above. These interests and activities (and their branches) are established in – and subject to the laws and regulations of – these jurisdictions.

35. Sensitivities

In order to give a clearer picture of the impact on our results or financial position of potential changes in significant estimates and assumptions, the following sensitivities are presented. These sensitivities are based on assumptions and conditions prevailing at the year-end and should be used with caution. The effects provided are not necessarily indicative of the actual effects that would be experienced because our actual exposures are constantly changing.

The sensitivities in the tables below show the potential impact in the income statement (and consequential impact on net assets) for a reasonably possible range of different variables each of which have been considered in isolation (i.e. with all other variables remaining constant). There are a number of these sensitivities which are mutually exclusive, and therefore if one were to happen, another would not, meaning a total showing how sensitive our results are to these external factors is not meaningful.

The sensitivities included in the tables below broadly have an equal and opposite effect if the sensitivity increases or decreases by the same amount unless otherwise stated.

(a) Sensitivities on areas of estimation uncertainty

The table below sets out the sensitivity analysis for each of the areas of estimation uncertainty set out in note 1E. These estimates are those that have a significant risk of resulting in a material adjustment to the carrying values of assets and liabilities in the next year.

	2019		2018	
	Income statement £m	**Net assets £m**	Income statement £m	Net assets £m
Pensions and other post-retirement benefits (pre-tax):[1]				
UK discount rate change of 0.5%[2]	**6**	**1,064**	8	1,075
US discount rate change of 0.5%[2]	**16**	**688**	15	623
UK RPI rate change of 0.5%[3]	**4**	**908**	5	965
UK long-term rate of increase in salaries change of 0.5%[4]	**1**	**56**	—	61
US long-term rate of increase in salaries change of 0.5%[4]	**2**	**46**	3	44
UK change of one year to life expectancy at age 65	**1**	**610**	2	588
US change of one year to life expectancy at age 65	**4**	**406**	4	359
Assumed US healthcare cost trend rates change of 1%	**32**	**503**	31	448
Environmental provision:				
10% change in estimated future cash flows	**165**	**165**	154	154

1. The changes shown are a change in the annual pension or other post-retirement benefit service charge and change in the defined benefit obligations.
2. A change in the discount rate is likely to occur as a result of changes in bond yields and as such would be expected to be offset to a significant degree by a change in the value of the bond assets held by the plans.
3. The projected impact resulting from a change in RPI reflects the underlying effect on pensions in payment, pensions in deferment and resultant increases in salary assumptions.
4. This change has been applied to both the pre 1 April 2014 and post 1 April 2014 rate of increase in salary assumption.

Pensions and other post-retirement benefits assumptions

Sensitivities have been prepared to show how the defined benefit obligations and annual service costs could potentially be impacted by changes in the relevant actuarial assumption that were reasonably possible as at 31 March 2019. In preparing sensitivities the potential impact has been calculated by applying the change to each assumption in isolation and assuming all other assumptions remain unchanged. This is with the exception of RPI in the UK where the corresponding change to increases to pensions in payment, increases to pensions in deferment and increases in salary is recognised.

Notes to the consolidated financial statements – supplementary information continued

35. Sensitivities continued

(b) Sensitivities on financial instruments

We are further required to show additional sensitivity analysis under IFRS 7 and these are shown separately in the subsequent table due to the additional assumptions that are made in order to produce meaningful sensitivity disclosures.

The Group adopted IFRS 9 with effect from 1 April 2018. The comparatives are not required to be restated and are accounted for in accordance with IAS 39. For further information on the impact of adopting IFRS 9 in respect to financial instruments, please see notes 15, 17, 21 and 32.

Our net debt as presented in note 29 is sensitive to changes in market variables, primarily being UK and US interest rates, the UK RPI and the dollar to sterling exchange rate. These impact the valuation of our borrowings, deposits and derivative financial instruments. The analysis illustrates the sensitivity of our financial instruments to reasonably possible changes in these market variables.

The following main assumptions were made in calculating the sensitivity analysis for continuing operations:

- the amount of net debt, the ratio of fixed to floating interest rates of the debt and derivatives portfolio, and the proportion of financial instruments in foreign currencies are all constant and on the basis of the hedge designations in place at 31 March 2019 and 2018 respectively;
- the statement of financial position sensitivity to interest rates relates to items presented at their fair values: derivative financial instruments; our investments measured at fair value through profit and loss (FVTPL) and fair value through other comprehensive income; and our liability measured at FVTPL. Further debt and other deposits are carried at amortised cost and so their carrying value does not change as interest rates move;
- the sensitivity of interest to movements in interest rates is calculated on net floating rate exposures on debt, deposits and derivative instruments;
- changes in the carrying value of derivatives from movements in interest rates of designated cash flow hedges are assumed to be recorded fully within equity; and
- changes in the carrying value of derivative financial instruments designated as net investment hedges from movements in interest rates are presented in equity as costs of hedging, with a one-year release to the income statement. The impact of movements in the dollar to sterling exchange rate are recorded directly in equity.

	2019		2018	
	Income statement £m	Other equity reserves £m	Income statement £m	Other equity reserves £m
Financial risk (post-tax):				
UK RPI change of 0.5%[1]	27	–	30	–
UK interest rates change of 0.5%	16	13	43	26
US interest rates change of 0.5%	11	44	39	17
US dollar exchange rate change of 10%[2]	53	246	48	479

1. Excludes sensitivities to LPI curve. Further details on sensitivities are provided in note 32(g).
2. The other equity reserves impact does not reflect the exchange translation in our US subsidiaries' net assets. It is estimated this would change by £1,119 million (2018: £1,040 million) in the opposite direction if the dollar exchange rate changed by 10%.

Our commodity contract derivatives are sensitive to price risk. Additional sensitivities in respect to commodity price risk and to our derivative fair values are as follows:

	2019		2018	
	Income statement £m	Net assets £m	Income statement £m	Net assets £m
Commodity price risk (post-tax):				
10% increase in commodity prices	26	26	23	23
10% decrease in commodity prices	(27)	(27)	(23)	(23)
Assets and liabilities carried at fair value (pre-tax):[1]				
10% fair value change in derivative financial instruments[2]	(3)	(3)	60	60
10% fair value change in commodity contract derivative liabilities	–	–	(5)	(5)

1. Excludes sensitivities to the Further Acquisition Agreement derivative. These were classified to held for sale as at 31 March 2019 (see note 10).
2. The effect of a 10% change in fair value assumes no hedge accounting.

36. Additional disclosures in respect of guaranteed securities

We have preferred shares that are listed on a US national securities exchange and are guaranteed by other companies in the Group. These guarantors commit to honour any liabilities should the company issuing the debt have any financial difficulties. In order to provide debt holders with information on the financial stability of the companies providing the guarantees, we are required to disclose individual financial information for these companies. We have chosen to include this information in the Group financial statements rather than submitting separate stand-alone financial statements.

The following condensed consolidating financial information, comprising statements of comprehensive income, statements of financial position and cash flow statements, is given in respect of Niagara Mohawk Power Corporation as a result of National Grid plc's guarantee, dated 29 October 2007, of Niagara Mohawk's 3.6% and 3.9% issued preferred shares, which amount to £29 million. National Grid plc's guarantee of Niagara Mohawk Power Corporation's preferred shares is full and unconditional pursuant to Rule 3-10(i)(8) (i) and (ii) of Regulation S-X. These guarantors commit to honour any liabilities should the company issuing the debt have any financial difficulties.

On 1 June 2018, the Group repaid the 6.625% Guaranteed Notes due 2018 that were issued in June 1998 by British Transco Finance Inc., then known as British Gas Finance Inc. (issuer of notes).

The following financial information for National Grid plc and Niagara Mohawk Power Corporation on a condensed consolidating basis is intended to provide investors with meaningful and comparable financial information, and is provided pursuant to various rules including Rule 3-10 of Regulation S-X in lieu of the separate financial statements of each subsidiary issuer of public debt securities.

This financial information should be read in conjunction with the other disclosures in these financial statements.

Summary statements of comprehensive income are presented, on a consolidated basis, for the three years ended 31 March 2019. Summary statements of comprehensive income of National Grid plc are presented under IFRS measurement principles, as modified by the inclusion of the results of subsidiary undertakings on the basis of equity accounting principles.

The summary statements of financial position of National Grid plc include the investments in subsidiaries recorded on the basis of equity accounting principles for the purposes of presenting condensed consolidating financial information under IFRS. The summary statements of financial position present these investments within non-current financial and other investments.

The consolidation adjustments column includes the necessary amounts to eliminate the intercompany balances and transactions between National Grid plc, Niagara Mohawk Power Corporation and other subsidiaries.

Notes to the consolidated financial statements
– supplementary information continued

36. Additional disclosures in respect of guaranteed securities continued

Summary statements of comprehensive income for the year ended 31 March 2019 – IFRS

	Parent guarantor	Issuer of notes			
	National Grid plc £m	Niagara Mohawk Power Corporation £m	Other subsidiaries £m	Consolidation adjustments £m	National Grid consolidated £m
Continuing operations					
Revenue	—	2,483	12,450	—	14,933
Operating costs:					
Depreciation, amortisation and impairment	—	(216)	(1,519)	—	(1,735)
Payroll costs	—	(360)	(1,492)	—	(1,852)
Purchases of electricity	—	(559)	(895)	—	(1,454)
Purchases of gas	—	(189)	(1,453)	—	(1,642)
Rates and property taxes	—	(200)	(908)	—	(1,108)
Balancing Services Incentive Scheme	—	—	(1,196)	—	(1,196)
Other operating costs	—	(569)	(2,507)	—	(3,076)
	—	(2,093)	(9,970)	—	(12,063)
Total operating profit	—	390	2,480	—	2,870
Net finance costs	(252)	(124)	(693)	—	(1,069)
Interest in equity accounted affiliates	1,712	—	40	(1,712)	40
Profit before tax	1,460	266	1,827	(1,712)	1,841
Tax	50	(56)	(333)	—	(339)
Profit after tax from discontinued operations	—	—	12	—	12
Profit for the year	1,510	210	1,506	(1,712)	1,514
Amounts recognised in other comprehensive income from continuing operations[1]	303	4	(45)	41	303
Amounts recognised in other comprehensive income from discontinued operations[1]	36	—	36	(36)	36
Total comprehensive income for the year	**1,849**	**214**	**1,497**	**(1,707)**	**1,853**
Attributable to:					
Equity shareholders	1,849	214	1,493	(1,707)	1,849
Non-controlling interests	—	—	4	—	4
	1,849	**214**	**1,497**	**(1,707)**	**1,853**

1. Includes other comprehensive income relating to interest in equity accounted affiliates.

36. Additional disclosures in respect of guaranteed securities continued

Summary statements of comprehensive income for the year ended 31 March 2018[1] – IFRS

	Parent guarantor	Issuer of notes		Subsidiary guarantor			
	National Grid plc £m	Niagara Mohawk Power Corporation £m	British Transco Finance Inc. £m	National Grid Gas plc £m	Other subsidiaries £m	Consolidation adjustments £m	National Grid consolidated £m
Continuing operations							
Revenue	—	2,416	—	1,430	11,495	(91)	15,250
Operating costs:							
Depreciation, amortisation and impairment	—	(190)	—	(245)	(1,095)	—	(1,530)
Payroll costs	—	(318)	—	(122)	(1,208)	—	(1,648)
Purchases of electricity	—	(537)	—	—	(748)	—	(1,285)
Purchases of gas	—	(166)	—	—	(1,377)	—	(1,543)
Rates and property taxes	—	(183)	—	(94)	(780)	—	(1,057)
Balancing Services Incentive Scheme	—	—	—	—	(1,012)	—	(1,012)
Payments to other UK network owners	—	—	—	—	(1,043)	—	(1,043)
Other operating costs	—	(397)	—	(331)	(2,002)	91	(2,639)
	—	(1,791)	—	(792)	(9,265)	91	(11,757)
Total operating profit	—	625	—	638	2,230	—	3,493
Net finance income/(costs)	889	(100)	—	(174)	(1,497)	—	(882)
Interest in equity accounted affiliates	2,622	—	—	8	49	(2,630)	49
Profit before tax	3,511	525	—	472	782	(2,630)	2,660
Tax	40	321	—	(103)	631	—	889
Profit after tax from discontinued operations	—	—	—	17	(15)	—	2
Profit for the year	3,551	846	—[2]	386	1,398	(2,630)	3,551
Amounts recognised in other comprehensive income from continuing operations[3]	224	1	—	272	457	(730)	224
Amounts recognised in other comprehensive income from discontinued operations[3]	147	—	—	—	147	(147)	147
Total comprehensive income for the year	**3,922**	**847**	**—**	**658**	**2,002**	**(3,507)**	**3,922**
Attributable to:							
Equity shareholders	3,922	847	—	658	2,002	(3,507)	3,922
Non-controlling interests	—	—	—	—	—	—	—
	3,922	**847**	**—**	**658**	**2,002**	**(3,507)**	**3,922**

1. Comparatives have been re-presented to reflect the classification of our retained interest in Quadgas as a discontinued operation in the current period (see note 1C and note 10).
2. Profit for the year for British Transco Finance Inc. is £nil as interest payable to external bond holders is offset by interest receivable on loans to National Grid Gas plc.
3. Includes other comprehensive income relating to interest in equity accounted affiliates.

Notes to the consolidated financial statements
– supplementary information continued

36. Additional disclosures in respect of guaranteed securities continued

Summary statements of comprehensive income for the year ended 31 March 2017 – IFRS

	Parent guarantor	Issuer of notes		Subsidiary guarantor			
	National Grid plc £m	Niagara Mohawk Power Corporation £m	British Transco Finance Inc. £m	National Grid Gas plc re-presented £m	Other subsidiaries re-presented £m	Consolidation adjustments £m	National Grid consolidated £m
Continuing operations							
Revenue	—	2,388	—	1,376	11,435	(164)	15,035
Operating costs:							
Depreciation, amortisation and impairment	—	(193)	—	(256)	(1,032)	—	(1,481)
Payroll costs	—	(326)	—	(114)	(1,138)	—	(1,578)
Purchases of electricity	—	(511)	—	—	(586)	—	(1,097)
Purchases of gas	—	(140)	—	(67)	(1,012)	—	(1,219)
Rates and property taxes	—	(188)	—	(101)	(753)	—	(1,042)
Balancing Services Incentive Scheme	—	—	—	—	(1,120)	—	(1,120)
Payments to other UK network owners	—	—	—	—	(1,008)	—	(1,008)
Other operating costs	—	(435)	—	(394)	(2,617)	164	(3,282)
	—	(1,793)	—	(932)	(9,266)	164	(11,827)
Total operating profit	—	595	—	444	2,169	—	3,208
Net finance income/(costs)	8,177	(101)	—	(253)	(8,910)	—	(1,087)
Dividends receivable	—	—	—	—	8,100	(8,100)	—
Interest in equity accounted affiliates	(401)	—	—	—	63	401	63
Profit before tax	7,776	494	—	191	1,422	(7,699)	2,184
Tax	19	(181)	—	16	(228)	—	(374)
Profit after tax from discontinued operations	—	—	—	4,633	1,351	—	5,984
Profit for the year	7,795	313	—[1]	4,840	2,545	(7,699)	7,794
Amounts recognised in other comprehensive income from continuing operations[2]	578	—	—	114	177	(291)	578
Amounts recognised in other comprehensive income from discontinued operations[2]	42	—	—	51	(62)	11	42
Total comprehensive income for the year	**8,415**	**313**	**—**	**5,005**	**2,660**	**(7,979)**	**8,414**
Attributable to:							
Equity shareholders	8,415	313	—	5,005	2,661	(7,979)	8,415
Non-controlling interests	—	—	—	—	(1)	—	(1)
	8,415	**313**	**—**	**5,005**	**2,660**	**(7,979)**	**8,414**

1. Profit for the year for British Transco Finance Inc. is £nil as interest payable to external bond holders is offset by interest receivable on loans to National Grid Gas plc.
2. Includes other comprehensive income relating to interest in equity accounted affiliates.

36. Additional disclosures in respect of guaranteed securities continued

Statements of financial position as at 31 March 2019 – IFRS

	Parent guarantor	Issuer of notes			
	National Grid plc £m	Niagara Mohawk Power Corporation £m	Other subsidiaries £m	Consolidation adjustments £m	National Grid consolidated £m
Non-current assets					
Goodwill	—	745	5,124	—	5,869
Other intangible assets	—	3	1,081	—	1,084
Property, plant and equipment	—	6,985	36,928	—	43,913
Other non-current assets	—	4	260	—	264
Amounts owed by subsidiary undertakings	358	—	2,073	(2,431)	—
Pension assets	—	260	1,307	—	1,567
Financial and other investments	23,573	22	3,434	(25,754)	1,275
Derivative financial assets	—	9	1,036	—	1,045
Total non-current assets	23,931	8,028	51,243	(28,185)	55,017
Current assets					
Inventories and current intangible assets	—	41	329	—	370
Trade and other receivables	1	535	2,617	—	3,153
Current tax assets	—	—	260	(134)	126
Amounts owed by subsidiary undertakings	12,514	476	14,101	(27,091)	—
Financial and other investments	895	13	1,073	—	1,981
Derivative financial assets	110	21	80	(103)	108
Cash and cash equivalents	75	12	165	—	252
Assets held for sale	—	—	1,956	—	1,956
Total current assets	13,595	1,098	20,581	(27,328)	7,946
Total assets	**37,526**	**9,126**	**71,824**	**(55,513)**	**62,963**
Current liabilities					
Borrowings	(1,275)	(634)	(2,563)	—	(4,472)
Derivative financial liabilities	(92)	(15)	(346)	103	(350)
Trade and other payables	(58)	(413)	(3,298)	—	(3,769)
Contract liabilities	—	(4)	(57)	—	(61)
Amounts owed to subsidiary undertakings	(14,104)	—	(12,987)	27,091	—
Current tax liabilities	—	(148)	(147)	134	(161)
Provisions	—	(24)	(292)	—	(316)
Total current liabilities	(15,529)	(1,238)	(19,690)	27,328	(9,129)
Non-current liabilities					
Borrowings	(346)	(2,048)	(21,864)	—	(24,258)
Derivative financial liabilities	(228)	(8)	(597)	—	(833)
Other non-current liabilities	—	(301)	(507)	—	(808)
Contract liabilities	—	(181)	(752)	—	(933)
Amounts owed to subsidiary undertakings	(2,074)	—	(357)	2,431	—
Deferred tax liabilities	—	(678)	(3,287)	—	(3,965)
Pensions and other post-retirement benefit obligations	—	(872)	(913)	—	(1,785)
Provisions	—	(271)	(1,612)	—	(1,883)
Total non-current liabilities	(2,648)	(4,359)	(29,889)	2,431	(34,465)
Total liabilities	**(18,177)**	**(5,597)**	**(49,579)**	**29,759**	**(43,594)**
Net assets	**19,349**	**3,529**	**22,245**	**(25,754)**	**19,369**
Equity					
Share capital	458	144	180	(324)	458
Share premium account	1,314	2,394	9,032	(11,426)	1,314
Retained earnings	21,814	991	13,048	(14,039)	21,814
Other equity reserves	(4,237)	—	(35)	35	(4,237)
Shareholders' equity	**19,349**	**3,529**	**22,225**	**(25,754)**	**19,349**
Non-controlling interests	—	—	20	—	20
Total equity	**19,349**	**3,529**	**22,245**	**(25,754)**	**19,369**

Notes to the consolidated financial statements – supplementary information continued

36. Additional disclosures in respect of guaranteed securities continued

Statements of financial position as at 31 March 2018 – IFRS

	Parent guarantor	Issuer of notes		Subsidiary guarantor			
	National Grid plc £m	Niagara Mohawk Power Corporation £m	British Transco Finance Inc. £m	National Grid Gas plc £m	Other subsidiaries £m	Consolidation adjustments £m	National Grid consolidated £m
Non-current assets							
Goodwill	–	691	–	–	4,753	–	5,444
Other intangible assets	–	3	–	107	789	–	899
Property, plant and equipment	–	6,148	–	4,433	29,272	–	39,853
Other non-current assets	–	3	–	94	18	–	115
Amounts owed by subsidiary undertakings	350	–	–	3,426	2,593	(6,369)	–
Pension assets	–	231	–	412	766	–	1,409
Financial and other investments	21,708	30	–	101	12,340	(31,112)	3,067
Derivative financial assets	18	2	–	591	708	–	1,319
Total non-current assets	22,076	7,108	–	9,164	51,239	(37,481)	52,106
Current assets							
Inventories and current intangible assets	–	36	–	22	283	–	341
Trade and other receivables	1	515	–	276	2,006	–	2,798
Current tax assets	–	–	–	–	307	(193)	114
Amounts owed by subsidiary undertakings	11,254	130	220	708	11,253	(23,565)	–
Financial and other investments	938	15	–	863	878	–	2,694
Derivative financial assets	308	7	–	46	–	44	405
Cash and cash equivalents	–	4	–	271	54	–	329
Total current assets	12,501	707	220	2,186	14,781	(23,714)	6,681
Total assets	**34,577**	**7,815**	**220**	**11,350**	**66,020**	**(61,195)**	**58,787**
Current liabilities							
Borrowings	(781)	(51)	(218)	(675)	(2,722)	–	(4,447)
Derivative financial liabilities	(187)	(36)	–	(68)	(66)	(44)	(401)
Trade and other payables	(62)	(318)	–	(347)	(2,726)	–	(3,453)
Amounts owed to subsidiary undertakings	(11,809)	–	–	(624)	(11,132)	23,565	–
Current tax liabilities	–	(202)	–	(26)	(88)	193	(123)
Provisions	–	(23)	–	(66)	(184)	–	(273)
Total current liabilities	(12,839)	(630)	(218)	(1,806)	(16,918)	23,714	(8,697)
Non-current liabilities							
Borrowings	(773)	(2,087)	–	(3,635)	(15,683)	–	(22,178)
Derivative financial liabilities	(41)	(18)	–	(157)	(444)	–	(660)
Other non-current liabilities	–	(281)	–	(181)	(855)	–	(1,317)
Amounts owed to subsidiary undertakings	(2,091)	–	–	(500)	(3,778)	6,369	–
Deferred tax liabilities	(1)	(626)	–	(441)	(2,568)	–	(3,636)
Pensions and other post-retirement benefit obligations	–	(765)	–	–	(907)	–	(1,672)
Provisions	–	(248)	–	(129)	(1,402)	–	(1,779)
Total non-current liabilities	(2,906)	(4,025)	–	(5,043)	(25,637)	6,369	(31,242)
Total liabilities	**(15,745)**	**(4,655)**	**(218)**	**(6,849)**	**(42,555)**	**30,083**	**(39,939)**
Net assets	**18,832**	**3,160**	**2**	**4,501**	**23,465**	**(31,112)**	**18,848**
Equity							
Share capital	452	133	–	45	182	(360)	452
Share premium account	1,321	2,194	–	204	9,032	(11,430)	1,321
Retained earnings	21,599	830	2	2,929	14,217	(17,978)	21,599
Other equity reserves	(4,540)	3	–	1,323	18	(1,344)	(4,540)
Shareholders' equity	**18,832**	**3,160**	**2**	**4,501**	**23,449**	**(31,112)**	**18,832**
Non-controlling interests	–	–	–	–	16	–	16
Total equity	**18,832**	**3,160**	**2**	**4,501**	**23,465**	**(31,112)**	**18,848**

36. Additional disclosures in respect of guaranteed securities continued

Cash flow statements

	Parent guarantor	Issuer of notes		Subsidiary guarantor			
	National Grid plc £m	Niagara Mohawk Power Corporation £m	British Transco Finance Inc. £m	National Grid Gas plc £m	Other subsidiaries £m	Consolidation adjustments £m	National Grid consolidated £m
Year ended 31 March 2019							
Net cash flow from operating activities – continuing operations	33	572	n/a	n/a	3,784	–	4,389
Net cash flow used in operating activities – discontinued operations	–	–	n/a	n/a	(71)	–	(71)
Net cash flow from/(used in) investing activities – continuing operations	121	(823)	n/a	n/a	(3,570)	1,082	(3,190)
Net cash flow from investing activities – discontinued operations	–	–	n/a	n/a	156	–	156
Net cash flow (used in)/from financing activities – continuing operations	(79)	259	n/a	n/a	(462)	(1,082)	(1,364)
Net cash flow from financing activities – discontinued operations	–	–	n/a	n/a	–	–	–
Net increase/(decrease) in cash and cash equivalents in the year	**75**	**8**	**n/a**	**n/a**	**(163)**	**–**	**(80)**
Year ended 31 March 2018							
Net cash flow from operating activities – continuing operations	35	662	–	888	3,125	–	4,710
Net cash flow used in operating activities – discontinued operations	–	–	–	(98)	(109)	–	(207)
Net cash flow from/(used in) investing activities – continuing operations	4,660	(473)	15	656	(1,930)	(862)	2,066
Net cash flow from investing activities – discontinued operations	–	–	–	–	171	–	171
Net cash flow (used in)/from financing activities – continuing operations	(5,785)	(189)	(15)	(1,041)	(1,148)	862	(7,316)
Net cash flow used in financing activities – discontinued operations	–	–	–	(125)	(106)	–	(231)
Net (decrease)/increase in cash and cash equivalents in the year	(1,090)	–	–	280	3	–	(807)
Year ended 31 March 2017							
Net cash flow from operating activities – continuing operations	53	757	–	918	2,592	–	4,320
Net cash flow from operating activities – discontinued operations	–	–	–	450	459	–	909
Net cash flow from/(used in) investing activities – continuing operations	4,181	(469)	15	215	(1,118)	(6,458)	(3,634)
Net cash flow from/(used in) investing activities – discontinued operations	–	–	–	5,618	(6,298)	–	(680)
Net cash flow (used in)/from financing activities – continuing operations	(3,146)	(288)	(15)	(8,322)	3,771	6,458	(1,542)
Net cash flow from financing activities – discontinued operations	–	–	–	1,120	491	–	1,611
Net increase/(decrease) in cash and cash equivalents in the year	1,088	–	–	(1)	(103)	–	984

Cash dividends were received by National Grid plc from subsidiary undertakings amounting to £nil during the year ended 31 March 2019 (2018: £950 million; 2017: £6,006 million).

Maturity analysis of Parent Company borrowings

	2019 £m	2018 £m
Total borrowings are repayable as follows:		
Less than 1 year	**1,275**	781
In 1 to 2 years	**–**	438
In 2 to 3 years	**346**	–
In 3 to 4 years	**–**	335
In 4 to 5 years	**–**	–
More than 5 years	**–**	–
	1,621	1,554

Notes to the consolidated financial statements – supplementary information continued

37. Transition to IFRS 9 and IFRS 15

The Group has adopted IFRS 9 and IFRS 15 with effect from 1 April 2018. The impact of the transition on the opening consolidated statement of financial position is set out in the following table:

Impact of transition	31 March 2018 As previously reported £m	Transition adjustments IFRS 9 £m	Transition adjustments IFRS 15 £m	1 April 2018 £m
Non-current assets				
Goodwill	5,444	–	–	**5,444**
Other intangible assets	899	–	–	**899**
Property, plant and equipment	39,853	–	–	**39,853**
Other non-current assets	115	–	–	**115**
Pension assets	1,409	–	–	**1,409**
Financial and other investments	899	–[1]	–	**899**
Investments in joint ventures and associates	2,168	–	–	**2,168**
Derivative financial assets	1,319	–	–	**1,319**
Total non-current assets	52,106	–	–	**52,106**
Current assets				
Inventories and current intangible assets	341	–	–	**341**
Trade and other receivables	2,798	–[2]	(3)	**2,795**
Current tax assets	114	–	–	**114**
Financial and other investments	2,694	–[1]	–	**2,694**
Derivative financial assets	405	–	–	**405**
Cash and cash equivalents	329	–	–	**329**
Total current assets	6,681	–	(3)	**6,678**
Total assets	58,787	–	(3)	**58,784**
Current liabilities				
Borrowings	(4,447)	–	–	**(4,447)**
Derivative financial liabilities	(401)	–	–	**(401)**
Trade and other payables	(3,453)	–	59[7]	**(3,394)**
Contract liabilities	–	–	(53)[7]	**(53)**
Current tax liabilities	(123)	–	–	**(123)**
Provisions	(273)	–	–	**(273)**
Total current liabilities	(8,697)	–	6	**(8,691)**
Non-current liabilities				
Borrowings	(22,178)	(32)[3]	–	**(22,210)**
Derivative financial liabilities	(660)	–	–	**(660)**
Other non-current liabilities	(1,317)	–	567[7]	**(750)**
Contract liabilities	–	–	(813)[7]	**(813)**
Deferred tax liabilities	(3,636)	5[4]	74[8]	**(3,557)**
Pensions and other post-retirement benefit obligations	(1,672)	–	–	**(1,672)**
Provisions	(1,779)	–	–	**(1,779)**
Total non-current liabilities	(31,242)	(27)	(172)	**(31,441)**
Total liabilities	(39,939)	(27)	(166)	**(40,132)**
Net assets	18,848	(27)	(169)	**18,652**
Equity				
Share capital	452	–	–	**452**
Share premium account	1,321	–	–	**1,321**
Retained earnings	21,599	(99)[5]	(169)[9]	**21,331**
Other equity reserves	(4,540)	72[6]	–	**(4,468)**
Total shareholders' equity	18,832	(27)	(169)	**18,636**
Non-controlling interests	16	–	–	**16**
Total equity	18,848	(27)	(169)	**18,652**

37. Transition to IFRS 9 and IFRS 15 continued

Both standards were applied using the modified retrospective approach whereby comparative amounts have not been restated on transition, but a cumulative adjustment has been made to retained earnings in the opening consolidated statement of financial position as at 1 April 2018.

IFRS 9: Financial Instruments

IFRS 9 has changed the rules concerning the classification and measurement of financial instruments, impairment of financial assets, and hedge accounting. Details of the impact of applying IFRS 9 for the year ended 31 March 2019 are set out below.

Adjustments arising as a result of the transition to IFRS 9:

1. The available-for-sale category for financial assets has been replaced with investments held at fair value through profit and loss (FVTPL) and investments held at fair value through other comprehensive income (FVOCI). Changes to the classification and measurement of financial assets have not altered the carrying value of any financial assets held by the Group. The net impact to retained earnings of the reclassification on transition was an £8 million gain.

   As described in note 15, all recognised financial assets that are within the scope of IFRS 9 are initially recorded at fair value and subsequently measured at amortised cost or fair value based on the Group's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets. Therefore on 1 April 2018, the Group reclassified its investments as follows:

   - Money market funds and fund investments held by captive insurance companies have been classified as financial assets at FVTPL because their contractual cash flows are not solely payments of principal and interest;
   - Investments in debt securities that have contractual payments that are solely payments of principal and interest, and which are held as part of the liquidity portfolio or to back employee benefit liabilities, have been classified as financial assets at FVOCI because they are held in a business model whose objective is to collect the contractual cash flows and to sell the debt instruments;
   - The Group has elected to hold investments in equity securities, which are held to back employee benefit liabilities, as financial assets at FVOCI as the Group does not believe that changes in their fair value is reflective of the financial performance of the Group; and
   - Loans to joint ventures and associates, cash at bank, and short-term deposits are classified at amortised cost as they have contractual cash flows which are solely payments of principal and interest and the Group holds them to collect contractual cash flows.

   Aside from derivative financial instruments, which remain classified as FVTPL, the Group did not previously have any financial assets or liabilities classified at FVTPL.

   The table below illustrates those financial assets and liabilities that have been reclassified at 1 April 2018:

Financial asset/liability	Note	Original measurement category under IAS 39	New measurement category under IFRS 9	Original carrying amount under IAS 39 £m	Change to measurement basis under IFRS 9 £m	New carrying amount under IFRS 9 £m
Money market funds and fund investments in equities and bonds	15	Available-for-sale investments	Financial assets at FVTPL	2,294	–	2,294
Cash surrender value of life insurance policies and investments in debt securities	15	Available-for-sale investments	Financial assets at FVOCI	343	–	343
Investments in equity securities	15	Available-for-sale investments	Financial assets at FVOCI (equity instruments)	84	–	84
Loans to joint ventures and associates and restricted balances	15	Loans and receivables	Financial assets at amortised cost	872	–	872
Borrowings	21	Financial liabilities at amortised cost	Financial liabilities at fair value through profit and loss	(570)	(32)	(602)

   Note that the table above does not include derivative assets, derivative liabilities, trade receivables, cash at bank and short-term deposits, borrowings measured at amortised cost or trade payables. This is because neither the classification nor the measurement of these items has changed on transition to IFRS 9.

Notes to the consolidated financial statements
– supplementary information continued

37. Transition to IFRS 9 and IFRS 15 continued

2. The change from the incurred loss impairment model of IAS 39 to the expected loss model in IFRS 9 has not had a material impact on the Group's credit loss provision. The Group calculates its impairment provision on trade receivables using a sophisticated provisions matrix. The inclusion of forward-looking information has not had a significant impact on the matrix as the relevant short-term future economic conditions affecting our retail customers in the US are expected to be similar to recent experience.

3. The Group elected to reclassify an existing liability with a carrying value of £570 million from amortised cost to fair value through profit and loss to reduce a measurement mismatch. At transition, the resultant impacts include an increase in the carrying value of the liability of £32 million, a reduction in retained earnings of £40 million and the establishment of an own credit reserve (within other equity reserves) of £7 million.

4. Deferred tax is recognised on the adjustments recorded on the transition to IFRS 9. Reserve impacts are stated net of related deferred tax.

5. Retained earnings includes the impact from adjustments 1, 3 and 6.

6. The Group has adopted the hedge accounting requirements of IFRS 9, which more closely align with the Group's risk management policies. On transition, it was concluded that all IAS 39 hedge relationships are qualifying IFRS 9 relationships with the treatment of the cost of hedging being the main change. The effect was a reclassification in reserves of a £67 million gain from retained earnings and a £10 million gain from the cash flow hedge reserve, into a new cost of hedging reserve (within other equity reserves). In this reserve, qualifying unrealised gains and losses excluded from hedging relationships are deferred and released systematically into profit or loss to match the timing of hedged items.

IFRS 15: Revenue from Contracts with Customers

IFRS 15 has primarily changed the accounting for our connection and diversion revenues in our regulated businesses. No practical expedients on transition were applied.

The accounting for revenue under IFRS 15 does not represent a substantive change from the Group's previous practice under IAS 18 for recognising revenue from sales to customers with the exception of the following items:

- Certain pass-through revenues (principally revenues collected on behalf of the Scottish and Offshore transmission operators) will be recorded net of operating costs, whereas previously they were recognised gross of operating costs. Had we not adopted IFRS 15, our revenues and operating costs for the year ended 31 March 2019 would have been £1,197 million higher, with no impact to operating profits;
- Contributions for capital works relating to connections for our customers are now deferred as contract liabilities on our consolidated statement of financial position and released over the life of the connection assets. This is a change for our US Regulated business and our UK Gas Transmission business, where previously revenues were recorded once the work was completed. Had we not adopted IFRS 15, our revenues and operating profit for the year ended 31 March 2019 would have been £57 million higher; and
- In the UK, contributions for capital works relating to diversions are now recognised as the works are completed. This is a change for the UK regulated businesses where revenues were previously deferred over the life of the asset. Had we not adopted IFRS 15, our revenues and operating profit for the year ended 31 March 2019 would have been £26 million and £23 million lower, respectively.

Adjustments arising as a result of the transition to IFRS 15:

7. Deferred income from contributions for capital works have now been reclassified to contract liabilities. In addition, these liabilities for capital works relating to connections have increased as these capital contributions for connections are cumulatively adjusted for on 1 April 2018 and are now deferred and released over the life of the connection assets. This is a change for our US Regulated business and our UK Gas Transmission business where previously revenues were recorded once the work was completed.

   Partially offsetting the increase in contract liabilities for connections is the change in accounting treatment for contributions relating to diversions in our UK businesses. These contributions are recognised as revenue as the works are completed where previously revenue was recognised over the life of the assets.

8. Deferred tax is recorded on the incremental amounts recorded against capital contributions and contract liabilities on the transition to IFRS 15. Deferred tax balances have been calculated at the rate substantially enacted at the balance sheet date.

9. The transition adjustment reflects the net of adjustments 7 and 8 above.

38. Post balance sheet events

In March 2019, National Grid Ventures entered into an agreement to acquire 100% of Geronimo Energy, a clean energy developer based in Minneapolis in the United States for $100 million with potential further payments of up to $100 million subject to successful development of the project pipeline. Completion of the acquisition is dependent on the execution of a joint venture agreement with Washington State Investment Board and regulatory approvals being obtained (expected in the summer of 2019).

Company accounting policies

We are required to include the stand-alone balance sheet of our ultimate Parent Company, National Grid plc, under the Companies Act 2006. This is because the publicly traded shares are actually those of National Grid plc (the Company) and the following disclosures provide additional information to shareholders.

A. Basis of preparation

National Grid plc is the Parent Company of the National Grid Group, which is engaged in the transmission and distribution of electricity and gas in Great Britain and northeastern US. The Company is a public limited company, limited by shares. The Company is incorporated and domiciled in England, with its registered office at 1–3 Strand, London, WC2N 5EH.

The financial statements of National Grid plc for the year ended 31 March 2019 were approved by the Board of Directors on 15 May 2019. The Company meets the definition of a qualifying entity under Financial Reporting Standard 100 (FRS 100) issued by the Financial Reporting Council. Accordingly these individual financial statements of the Company have been prepared in accordance with Financial Reporting Standard 101 'Reduced Disclosure Framework' (FRS 101). In preparing these financial statements the Company applies the recognition and measurement requirements of International Financial Reporting Standards (IFRS) as adopted by the EU, but makes amendments where necessary in order to comply with the provisions of the Companies Act 2006 and sets out below where advantage of the FRS 101 disclosure exemptions has been taken.

These individual financial statements have been prepared on an historical cost basis, except for the revaluation of financial instruments, and are presented in pounds sterling, which is the currency of the primary economic environment in which the Company operates. The 2018 comparative financial information has also been prepared on this basis.

These individual financial statements have been prepared on a going concern basis, which presumes that the Company has adequate resources to remain in operation, and that the Directors intend it to do so, for at least one year from the date the financial statements are signed. As the Company is part of a larger group it participates in the Group's centralised treasury arrangements and so shares banking arrangements with its subsidiaries. The Company is expected to generate positive cash flows or be in a position to obtain finance via intercompany loans to continue to operate for the foreseeable future.

The Directors are not aware of any material uncertainties related to events or conditions that may cast significant doubt upon the Company's ability to continue as a going concern. Thus they continue to adopt the going concern basis of accounting in preparing the annual financial statements.

In accordance with the exemption permitted by section 408 of the Companies Act 2006, the Company has not presented its own profit and loss account or statement of comprehensive income.

The following exemptions from the requirements of IFRS have been applied in the preparation of these financial statements of the Company in accordance with FRS 101:

- a cash flow statement and related notes;
- disclosures in respect of transactions with wholly owned subsidiaries;
- disclosures in respect of capital management; and
- the effects of new but not yet effective IFRS standards.

The exemption from disclosing key management personnel compensation has not been taken as there are no costs borne by the Company in respect of employees, and no related costs are recharged to the Company.

As the consolidated financial statements of National Grid plc, which are available from the registered office, include the equivalent disclosures, the Company has also taken the exemptions under FRS 101 in respect of certain disclosures required by IFRS 13 'Fair value measurement' and the disclosures required by IFRS 7 'Financial instruments: Disclosures'.

The Company has adopted IFRS 9 and IFRS 15 with effect from 1 April 2018. The adoption of IFRS 9 has had no material impact and the adoption of IFRS 15 has had no impact on the Company.

There are no areas of judgement or key sources of estimation uncertainty that are considered to have a significant effect on the amounts recognised in the financial statements.

The balance sheet has been prepared in accordance with the Company's accounting policies approved by the Board and described below.

B. Fixed asset investments

Investments held as fixed assets are stated at cost less any provisions for impairment. Investments are reviewed for impairment if events or changes in circumstances indicate that the carrying amount may not be recoverable. Impairments are calculated such that the carrying value of the fixed asset investment is the lower of its cost or recoverable amount. Recoverable amount is the higher of its net realisable value and its value-in-use.

C. Tax

Current tax for the current and prior periods is provided at the amount expected to be paid or recovered using the tax rates and tax laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is provided in full on temporary differences which result in an obligation at the balance sheet date to pay more tax, or the right to pay less tax, at a future date, at tax rates expected to apply when the temporary differences reverse based on tax rates and tax laws that have been enacted or substantively enacted by the balance sheet date. Deferred tax is provided for using the balance sheet liability method and is recognised on temporary differences between the carrying amount of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit.

Deferred tax assets are recognised to the extent that it is regarded as more likely than not that they will be recovered. Deferred tax assets and liabilities are not discounted.

Company accounting policies continued

D. Foreign currencies

Transactions in currencies other than the functional currency of the Company are recorded at the rates of exchange prevailing on the dates of the transactions. At each balance sheet date, monetary assets and liabilities that are denominated in foreign currencies are retranslated at closing exchange rates. Gains and losses arising on retranslation of monetary assets and liabilities are included in the profit and loss account.

E. Financial instruments

The Company's accounting policies are the same as the Group's accounting policies under IFRS, namely IAS 32 'Financial Instruments: Presentation', IFRS 9 'Financial Instruments' from 1 April 2018, IAS 39 'Financial Instruments: Recognition and Measurement' for the comparatives and IFRS 7 'Financial Instruments: Disclosures'. The Company applies these policies only in respect of the financial instruments that it has, namely investments, derivative financial instruments, debtors, cash at bank and in hand, borrowings and creditors.

The policies are set out in notes 15, 17, 19, 20, 21 and 22 to the consolidated financial statements. The Company is taking the exemption for financial instruments disclosures, because IFRS 7 disclosures are given in notes 32 and 35 to the consolidated financial statements.

F. Hedge accounting

The Company applies the same accounting policy as the Group in respect of fair value hedges and cash flow hedges. This policy is set out in note 32 to the consolidated financial statements.

G. Parent Company guarantees

The Company has guaranteed the repayment of the principal sum, any associated premium and interest on specific loans due by certain subsidiary undertakings primarily to third parties. Such guarantees are accounted for by the Company as insurance contracts. In the event of default or non-performance by the subsidiary, a liability is recorded in accordance with IAS 37 with a corresponding increase in the carrying value of the investment.

H. Share awards to employees of subsidiary undertakings

The issuance by the Company to employees of its subsidiaries of a grant over the Company's options represents additional capital contributions by the Company to its subsidiaries. An additional investment in subsidiaries results in a corresponding increase in shareholders' equity. The additional capital contribution is based on the fair value of the option at the date of grant, allocated over the underlying grant's vesting period. Where payments are subsequently received from subsidiaries, these are accounted for as a return of a capital contribution and credited against the Company's investments in subsidiaries. The Company has no employees.

I. Dividends

Interim dividends are recognised when they are paid to the Company's shareholders. Final dividends are recognised when they are approved by shareholders.

J. Directors' remuneration

Full details of Directors' remuneration are disclosed on pages 69 to 90.

Company balance sheet
as at 31 March

	Notes	2019 £m	2018 £m
Fixed assets			
Investments	1	**9,923**	9,896
Current assets			
Debtors (amounts falling due within one year)	2	**12,625**	11,563
Debtors (amounts falling due after more than one year)	2	**358**	368
Investments	5	**895**	938
Cash at bank and in hand		**75**	—
Total current assets		**13,953**	12,869
Creditors (amounts falling due within one year)	3	**(15,529)**	(12,839)
Net current (liabilities)/assets		**(1,576)**	30
Total assets less current liabilities		**8,347**	9,926
Creditors (amounts falling due after more than one year)	3	**(2,648)**	(2,906)
Net assets		**5,699**	7,020
Equity			
Share capital	7	**458**	452
Share premium account		**1,314**	1,321
Cash flow hedge reserve		**1**	2
Other equity reserves		**380**	353
Profit and loss account	8	**3,546**	4,892
Total shareholders' equity		**5,699**	7,020

The Company's loss after tax for the year was £202 million (2018: £930 million profit). The financial statements of the Company on pages 189 to 195 were approved by the Board of Directors on 15 May 2019 and were signed on its behalf by:

Sir Peter Gershon Chairman
Andy Agg Chief Financial Officer

National Grid plc
Registered number: 4031152

Company statement of changes in equity
for the years ended 31 March

	Share capital £m	Share premium account £m	Cash flow hedge reserve £m	Other equity reserves £m	Profit and loss account £m	Total shareholders' equity £m
At 1 April 2017	449	1,324	11	337	9,438	11,559
Profit for the year	—	—	—	—	930	930
Other comprehensive loss for the year						
Transferred from equity in respect of cash flow hedges (net of tax)	—	—	(9)	—	—	(9)
Total comprehensive (loss)/income for the year	—	—	(9)	—	930	921
Other equity movements						
Scrip dividend-related share issue[1]	3	(3)	—	—	—	—
Purchase of treasury shares	—	—	—	—	(1,017)	(1,017)
Issue of treasury shares	—	—	—	—	33	33
Purchase of own shares	—	—	—	—	(5)	(5)
Share awards to employees of subsidiary undertakings	—	—	—	16	—	16
Equity dividends	—	—	—	—	(4,487)	(4,487)
At 31 March 2018	452	1,321	2	353	4,892	7,020
Loss for the year	—	—	—	—	(202)	(202)
Other comprehensive loss for the year						
Transferred from equity in respect of cash flow hedges (net of tax)	—	—	(1)	—	—	(1)
Total comprehensive loss for the year	—	—	(1)	—	(202)	(203)
Other equity movements						
Scrip dividend-related share issue[1]	6	(7)	—	—	—	(1)
Issue of treasury shares	—	—	—	—	18	18
Purchase of own shares	—	—	—	—	(2)	(2)
Share awards to employees of subsidiary undertakings	—	—	—	27	—	27
Equity dividends	—	—	—	—	(1,160)	(1,160)
At 31 March 2019	**458**	**1,314**	**1**	**380**	**3,546**	**5,699**

1. Included within the share premium account are costs associated with scrip dividends.

Notes to the Company financial statements

1. Fixed asset investments

	Shares in subsidiary undertakings £m
At 1 April 2017	8,880
Additions	1,016
At 31 March 2018	9,896
Additions	27
At 31 March 2019	**9,923**

During the year there was a capital contribution of £27 million (2018: £16 million) which represents the fair value of equity instruments granted to subsidiaries' employees arising from equity-settled employee share schemes. In the prior year, the Company acquired further ordinary shares of £1 each in National Grid (US) Holdings Limited for a total consideration of £1,000 million.

The Company's direct subsidiary undertakings as at 31 March 2019 were as follows: National Grid Holdings One plc; National Grid (US) Holdings Limited; and NGG Finance plc. The names of indirect subsidiary undertakings, joint ventures and associates are included in note 34 to the consolidated financial statements.

The Directors believe that the carrying value of the investments is supported by the fair value of their underlying net assets.

2. Debtors

	2019 £m	2018 £m
Amounts falling due within one year		
Derivative financial instruments (see note 4)	**110**	308
Amounts owed by subsidiary undertakings	**12,514**	11,254
Prepayments and accrued income	**1**	1
	12,625	11,563
Amounts falling due after more than one year		
Derivative financial instruments (see note 4)	**–**	18
Amounts owed by subsidiary undertakings	**358**	350
	358	368

The carrying values stated above are considered to represent the fair values of the assets. For the purposes of the impairment assessment, loans to subsidiary undertakings are considered low credit risk as the subsidiaries are solvent and are covered by the Group's liquidity arrangements.

3. Creditors

	2019 £m	2018 £m
Amounts falling due within one year		
Borrowings (see note 6)	**1,275**	781
Derivative financial instruments (see note 4)	**92**	187
Amounts owed to subsidiary undertakings	**14,104**	11,809
Other creditors	**58**	62
	15,529	12,839
Amounts falling due after more than one year		
Borrowings (see note 6)	**346**	773
Derivative financial instruments (see note 4)	**228**	41
Amounts owed to subsidiary undertakings	**2,074**	2,091
Deferred tax	**–**	1
	2,648	2,906
Amounts owed to subsidiary undertakings falling due after more than one year are repayable as follows:		
In 1 to 2 years	**1,077**	–
In 2 to 3 years	**–**	1,095
More than 5 years	**997**	996
	2,074	2,091

The carrying values stated above are considered to represent the fair values of the liabilities.

Notes to the Company financial statements continued

3. Creditors continued

A reconciliation of the movement in deferred tax in the year is shown below:

	Deferred tax £m
At 1 April 2017	3
Credited to equity	(2)
At 31 March 2018	1
Credited to equity	(1)
At 31 March 2019	**–**

4. Derivative financial instruments

The fair values of derivative financial instruments are:

	2019			2018		
	Assets £m	**Liabilities £m**	**Total £m**	Assets £m	Liabilities £m	Total £m
Amounts falling due within one year	**110**	**(92)**	**18**	308	(187)	121
Amounts falling due after more than one year	**–**	**(228)**	**(228)**	18	(41)	(23)
	110	**(320)**	**(210)**	326	(228)	98

For each class of derivative the notional contract[1] amounts are as follows:

	2019 £m	2018 £m
Interest rate swaps	**(1,208)**	(2,501)
Cross-currency interest rate swaps	**(2,900)**	(3,613)
Foreign exchange forward contracts	**(7,920)**	(13,929)
	(12,028)	(20,043)

1. The notional contract amounts of derivatives indicate the gross nominal value of transactions outstanding at the balance sheet date.

5. Investments

	2019 £m	2018 £m
Investments in short-term money funds	**672**	919
Managed investments in bonds	**–**	10
Restricted balances – collateral	**223**	9
	895	938

6. Borrowings

The following table analyses the Company's total borrowings:

	2019 £m	2018 £m
Amounts falling due within one year		
Bank loans	**–**	230
Bonds	**435**	551
Commercial paper	**840**	–
	1,275	781
Amounts falling due after more than one year		
Bonds	**346**	773
	1,621	1,554

The maturity of total borrowings is disclosed in note 21 to the consolidated financial statements. There are no differences in the maturities as calculated under IFRS or FRS 101 'Reduced Disclosure Framework'.

The notional amount of borrowings outstanding as at 31 March 2019 was £1,618 million (2018: £1,531 million).

7. Share capital

The called-up share capital amounting to £458 million (2018: £452 million) consists of 3,687,483,073 ordinary shares of $12\frac{204}{473}$ pence each (2018: 3,637,747,827 ordinary shares of $12\frac{204}{473}$ pence each). For further information on share capital, refer to note 27 of the consolidated financial statements.

8. Shareholders' equity and reserves

At 31 March 2019, the profit and loss account reserve stood at £3,546 million (2018: £4,892 million) of which £86 million (2018: £86 million) related to gains on intra-group transactions which were not distributable to shareholders. The Company bore no employee costs in either the current or prior year.

For further details of dividends paid and payable to shareholders, refer to note 9 of the consolidated financial statements.

In 2017/18, the Company recognised £950 million of dividend income from subsidiaries. In 2018/19, no such income was recognised and the Company continues to recognise a loss on intra-group financing arrangements.

9. Parent Company guarantees

The Company has guaranteed the repayment of the principal sum, any associated premium and interest on specific loans due by certain subsidiary undertakings primarily to third parties. At 31 March 2019, the sterling equivalent amounted to £2,152 million (2018: £2,398 million). The guarantees are for varying terms from less than one year to open-ended.

In addition, as part of the sectionalisation of the National Grid UK Pension Scheme on 1 January 2017, a guarantee of £1 billion has been provided to Section A. This payment is contingent on insolvency or on failure to pay pensions obligations to Section A and can be claimed against National Grid plc, National Grid Holdings One plc or Lattice Group Limited (up to £1 billion in total). Refer to note 25 of the consolidated financial statements.

10. Audit fees

The audit fee in respect of the Parent Company was £26,000 (2018: £25,000). Fees payable to Deloitte for non-audit services to the Company are not required to be disclosed as they are included within note 4 to the consolidated financial statements.

Additional information

The business in detail

Key milestones

Some of the key dates and actions in the corporate history of National Grid are listed below. Our full history goes back much further.

1986

British Gas (BG) privatisation

1990

Electricity transmission network in England and Wales transfers to National Grid on electricity privatisation

1995

National Grid listed on the London Stock Exchange

1997

Centrica demerges from BG

Energis demerges from National Grid

2000

Lattice Group demerges from BG and is listed separately

New England Electric System and Eastern Utilities Associates acquired

2002

Niagara Mohawk Power Corporation merges with National Grid in US

National Grid and Lattice Group merges to form National Grid Transco

2004

UK wireless infrastructure network acquired from Crown Castle International Corp

2005

Four UK regional gas distribution networks sold and we adopt National Grid as our name

2006

Rhode Island gas distribution network acquired

2007

UK and US wireless infrastructure operations and the Basslink electricity interconnector in Australia sold

KeySpan Corporation acquired

2008

Ravenswood generation station sold

2010

Rights issue raises £3.2 billion

2012

New Hampshire electricity and gas distribution businesses sold

2016

National Grid separates the UK Gas Distribution business

2017

National Grid sells a 61% equity interest in our UK Gas Distribution business

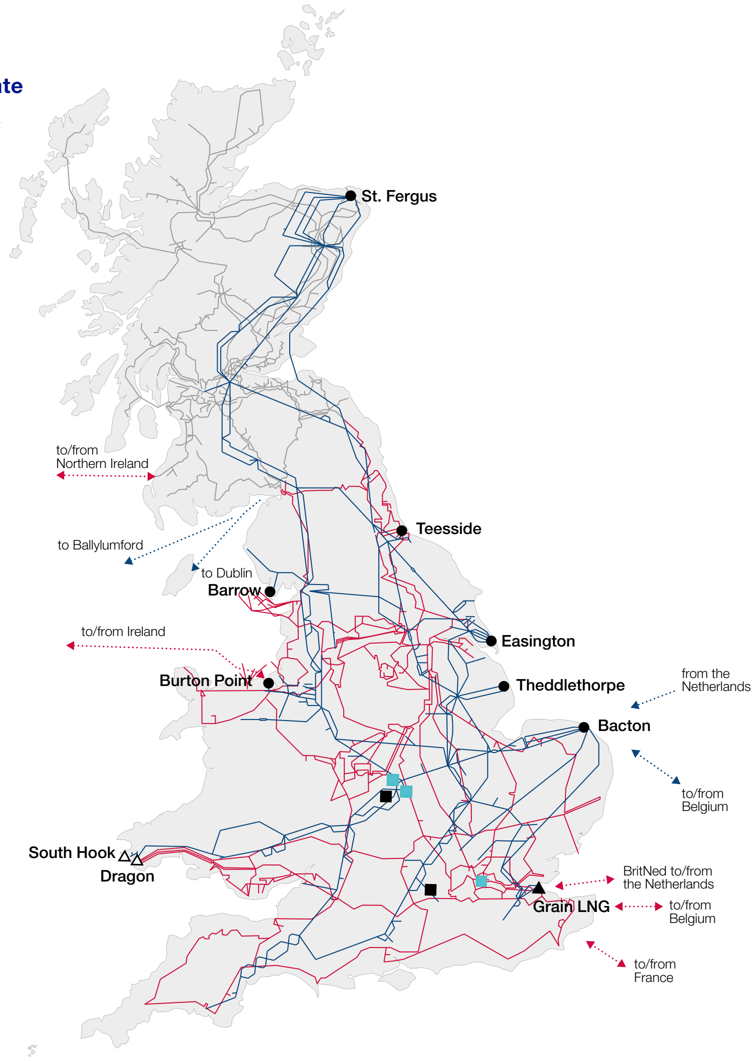
2019

National Grid separates the UK Electricity System Operator business

The business in detail continued

Where we operate

Our UK network



UK Transmission[1]

- Scottish electricity transmission system
- English and Welsh electricity transmission system

Approximately 7,212 kilometres (4,481 miles) of overhead line, 2,280 kilometres (1,417 miles) of underground cable and 347 substations.

- Gas transmission system

Approximately 7,660 kilometres (4,760 miles) of high-pressure pipe and 24 compressor stations connecting to 8 distribution networks and also other third-party independent systems.

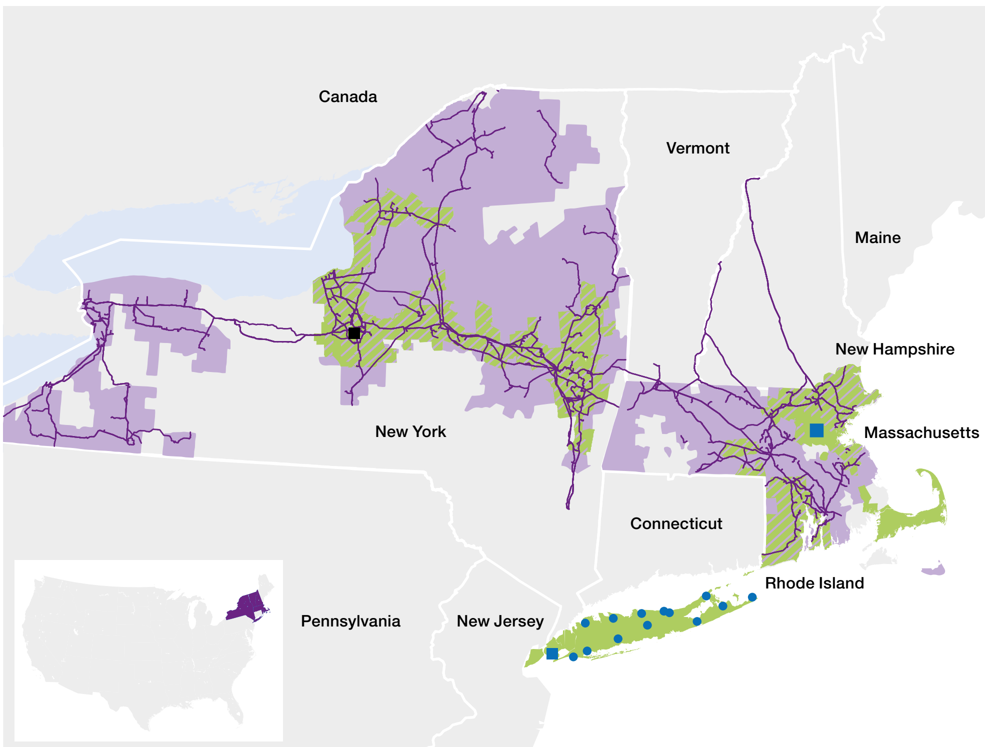
- Terminal
- LNG terminal owned by National Grid
- LNG terminal
- Electricity interconnector
- Gas interconnector

Principal offices

- Owned office space: Warwick and Wokingham
- Leased office space: Solihull, London and Warwick (Telent)

Leased office space totalling 12,515 square metres (134,704 square feet) with remaining terms of 4 to 7 years.

Our US network



US Regulated[1]

- Electricity transmission network
- Gas distribution operating area
- Electricity distribution area
- Gas and electricity distribution area overlap

An electricity transmission network of approximately 14,293 kilometres (8,881 miles) of overhead line, 169 kilometres (105 miles) of underground cable and 377 transmission substations.

An electricity distribution network of approximately 117,230 circuit kilometres (72,844 miles) and 763 distribution substations in New England and upstate New York.

A network of approximately 57,228 kilometres (35,560 miles) of gas pipeline serving an area of approximately 25,659 square kilometres (9,907 square miles). Our network also consists of approximately 787 kilometres (490 miles) of gas transmission pipe, as defined by the US Department of Transportation.

- Generation

Principal offices

- Owned office space: Syracuse, New York
- Leased office space: Brooklyn, New York and Waltham, Massachusetts

Leased office space totalling approximately 58,993 square metres (635,000 square feet) with remaining terms of 6 to 10 years.

At present, environmental issues are not preventing our UK and US businesses from utilising any material operating assets in the course of their operations.

[1] Access to electricity and gas transmission assets on property owned by others is controlled through various agreements.

UK regulation

Our licences to participate in transmission and interconnection activities are established under the Gas Act 1986 and Electricity Act 1989, as amended (the Acts). These require us to develop, maintain and operate economic and efficient networks and to facilitate competition in the supply of gas and electricity in Great Britain (GB). They also give us statutory powers, including the right to bury our pipes or cables under public highways and the ability to use compulsory powers to purchase land so we can conduct our business.

Our licensed activities are regulated by Ofgem, which has a statutory duty under the Acts to protect the interests of consumers. To protect consumers from the ability of companies to set unduly high prices, Ofgem has established price controls that limit the amount of revenue such regulated businesses can earn. In setting price controls, Ofgem must have regard to the need to secure that licence holders are able to finance their obligations under the Acts. Licensees and other affected parties can appeal licence modifications which have errors, including in respect of financeability. This should give us a level of revenue for the duration of the price control that is sufficient to meet our statutory duties and licence obligations with a reasonable return on our investments.

The price controls include a number of mechanisms designed to help achieve its objectives. These include financial incentives that encourage us to:

- efficiently deliver by investment and maintenance the network outputs that customers and stakeholders require, including reliable supplies, new connections and infrastructure capacity;
- innovate so we can continuously improve the services we give our customers, stakeholders and communities; and
- efficiently balancing the transmission networks to support the wholesale markets.

The main price controls for electricity and gas transmission networks came into effect on 1 April 2013 for the eight-year period until 31 March 2021. They follow the RIIO (revenue = incentives + innovation + outputs) framework established by Ofgem.

Following the sale of a majority interest in the National Grid UK Gas Distribution business (now known as Cadent) on 31 March 2017, Cadent now has responsibility for operating within the price controls relating to its four gas distribution networks. In November 2018, we announced our decision to exercise our Options for the sale of our remaining 39% share in the Cadent Gas distribution business that should complete in June 2019.

Our UK Electricity Transmission (UK ET) and UK Gas Transmission (UK GT) businesses operate under four separate price controls. These comprise two for our UK ET operations, one covering our role as Transmission Owner (TO) and the other for our role as System Operator (SO), and two for our UK GT operations, again one as TO and one as SO. In addition to the four regulated network price controls, there is also a tariff cap price control applied to certain elements of domestic sized metering activities carried out by National Grid Metering and also regulation of our electricity interconnector interests.

In January 2017, National Grid issued a joint statement with Ofgem and the UK Government about the enhanced role of the Electricity System Operator function and the intention to establish a greater separation between this and the rest of National Grid. Since then, we have created a legally separate electricity transmission system operator company (ESO) within the National Grid Group. We have also sought and received permission to transfer parts of the NGET transmission licence to the ESO with effect from April 2019. The ESO function has consulted on its longer-term goals and its plan for 2018/19, proposing how it will take an enhanced role in facilitating the transition to a low-carbon energy system.

While the existing eight-year RIIO price controls apply to our gas and electricity SO operations, these activities are also subject to additional regulatory incentives schemes and are reviewed more frequently. Ofgem has consulted on how the ESO incentive schemes will develop in the remaining part of the RIIO-T1 period. This aims to encourage the ESO to operate the system efficiently and to proactively identify how it can maximise consumer benefits across the full range of its activities.

Interconnectors derive their revenues from sales of capacity to users who wish to move power between market areas with different prices. Under European legislation, these capacity sales are classified as ‘congestion revenues’. This is because the market price differences result from congestion on the established interconnector capacity limits full price convergence. European legislation governs how congestion revenues may be used and how interconnection capacity is allocated. It requires all interconnection capacity to be allocated to the market through auctions. Under UK legislation, interconnection businesses must be separate from transmission businesses.

There is a range of different regulatory models available for interconnector projects. These involve various levels of regulatory intervention, ranging from fully merchant (the project is fully reliant on sales of interconnector capacity) to cap and floor (where sales revenues above the cap are returned to transmission system users, and revenues below the floor are topped up by transmission system users, thus reducing the overall project risk).

The cap and floor regime is now the regulated route for interconnector investment in GB and may be sought by project developers who do not qualify or do not wish to apply for exemptions from European legislation which would facilitate a merchant development.

RIIO price controls

The building blocks of the RIIO price control are broadly similar to the price controls historically used in the UK. There are, however, some significant differences in the mechanics of the calculations.

How is revenue calculated?

Under RIIO, the outputs we deliver are explicitly articulated and our allowed revenues are linked to their delivery. These outputs were determined through an extensive consultation process, which gave stakeholders a greater opportunity to influence the decisions.

There are five output categories for transmission under the current RIIO price controls:

Safety: ensuring the provision of a safe energy network.

Reliability (and availability): promoting networks capable of delivering long-term reliability, minimising the number and duration of interruptions experienced during the price control period and ensuring adaptation to climate change.

Environmental impact: encouraging companies to play their role in achieving broader environmental objectives – specifically, facilitating the reduction of carbon emissions – as well as minimising their own carbon footprint.

Customer and stakeholder satisfaction: maintaining high levels of customer satisfaction and stakeholder engagement, and improving service levels.

Customer connections: encouraging networks to connect customers quickly and efficiently.

The business in detail continued

Within each of these output categories are a number of primary and secondary deliverables that reflect what our stakeholders want us to deliver over the remaining price control period and in preparation for future periods. The nature and number of these deliverables varies according to the output category. Some are linked directly to our allowed revenue and some to legislation, while others have only a reputational impact.

Using information we have submitted, along with independent assessments, Ofgem determines the efficient level of expected costs necessary for these deliverables to be achieved. Under RIIO this is known as 'totex', which is a component of total allowable expenditure and is broadly the sum of what was defined in previous price controls as operating expenditure (opex) and capital expenditure (capex).

A number of assumptions are necessary in setting allowances for these outputs, including the volumes of work that will be needed and the price of the various external inputs required to achieve them. Consequently, there are a number of uncertainty mechanisms within the RIIO framework that can result in adjustments to totex allowances if actual input prices or work volumes differ from the assumptions. These mechanisms protect us and our customers from windfall gains and losses.

Where we under- or over-spend the allowed totex for reasons that are not covered by uncertainty mechanisms, there is a 'sharing' factor. This means we share the under- or over-spend with customers through an adjustment to allowed revenues in future years. This sharing factor provides an incentive for us to provide the outputs efficiently, as we are able to keep a portion of savings we make, with the remainder benefiting our customers.

The extended eight-year length of the first round of RIIO price controls is one of the ways that RIIO has given innovation more prominence. Innovation refers to all the new ways of working that deliver outputs more efficiently. This broad challenge has an impact on everyone in our business.

Allowed revenue to fund totex costs is split between RIIO 'fast' and 'slow' money categories using specified ratios that are fixed for the duration of the price control. Fast money represents the amount of totex we are able to recover in the year of expenditure. Slow money is added to our Regulatory Asset Value (RAV) – effectively the regulatory IOU. (For more details on the sharing factors under RIIO, please see the table below).

In addition to fast money, each year we are allowed to recover a portion of the regulatory depreciation and a return on the outstanding RAV balance. RAV in electricity and gas transmission permits recovery of RAV consistent with each addition, bringing benefit to consumers for a period of up to 45 years. We are also allowed to collect additional revenues related to non-controllable costs and incentives. In addition to totex sharing, RIIO incentive mechanisms can increase or decrease our allowed revenue to reflect our performance against various other measures related to our outputs. For example, performance against our customer and stakeholder satisfaction targets can have a positive or negative effect of up to 1% of allowed annual revenues. Many of our incentives affect our revenues two years after the year of performance.

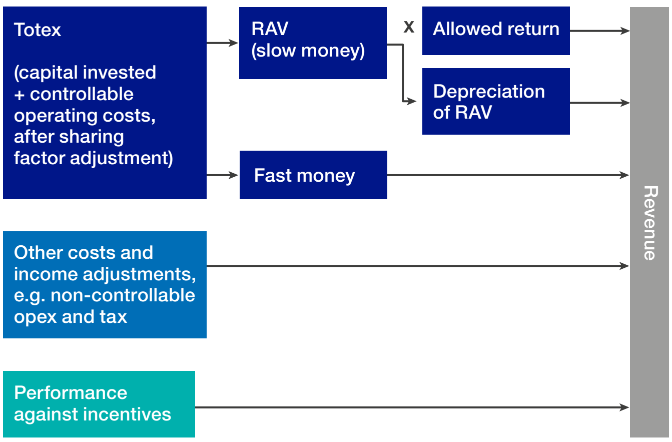
During the eight-year period of the price control, our regulator included a provision for a mid-period review. This was completed during 2017 and led to some changes in allowances relating to certain specific costs. Further to the mid-period review, National Grid volunteered that £480 million (in 2009/10 prices) of allowances for electricity transmission investments should be deferred. In August 2017, Ofgem determined how the RIIO allowances would be correspondingly adjusted.

In addition, the RIIO-T1 price controls for transmission included a 're-opener mechanism'. This covered specific cost categories where there was uncertainty about expenditure requirements at the time of setting allowances. The mechanism specifies two windows during which networks could propose adjustments to allowances; May 2015 and May 2018. Both UK ET and UK GT requested additional funding under this mechanism in May 2018, leading to some changes to the allowed revenues.

Competition in onshore transmission

Ofgem stated in its final decision on the RIIO-T1 control for electricity transmission that it would consider holding a competition to appoint the constructor and owner of suitably large new transmission projects, rather than including these new outputs and allowances in existing transmission licensee price controls. In the absence of the legislation needed to support a competition, at the end of July 2018, and after consultation, Ofgem decided to fund the delivery of the Hinkley-Seabank electricity transmission project by National Grid the 'Competition Proxy Model'. This regulatory model seeks to replicate the outcome of an efficient competitive process for the financing, construction and operation of the project and to provide National Grid Electricity Transmission with a project-specific revenue allowance over the period of its construction and 25 years of operation, but with reduced allowances reflecting prices that Ofgem has observed in other competitions. In addition, in September 2018 Ofgem consulted on the commercial and regulatory framework for the Special Purpose Vehicle (SPV) model of competition in onshore electricity transmission. This is an alternative model that could in the future be used for projects meeting the competition criteria (new, high value and separable). Under this model, the incumbent transmission owner would run a competition for the construction, financing and operation of a new, separable and high-value project through a project-specific SPV.

Simplified illustration of RIIO regulatory building blocks



Allowed returns

The cost of capital allowed under our current RIIO price controls is as follows:

	Transmission	
	Gas	Electricity
Cost of equity (post-tax real)	6.8%	7.0%
Cost of debt (pre-tax real)	iBoxx 10-year simple trailing average index (1.91% for 2018/19)	
Notional gearing	62.5%	60.0%
Vanilla WACC[1]	3.74%	3.95%

1. Vanilla WACC = cost of debt x gearing + cost of equity x (1-gearing).

Sharing factors are used to share over- and under-spends of allowed totex between the businesses and customers. The sharing figures displayed in the table below are the sharing factors that apply to UK ET and UK GT, for both TO and SO.

Sharing factors and fast:slow money ratios under our current RIIO price controls are as follows:

	Gas Transmission		Electricity Transmission	
	Transmission Operator	System Operator	Transmission Operator	System Operator
Fast[1]	Baseline[3] 35.6% Uncertainty 10%	62.60%	15.00%	72.10%
Slow[2]	Baseline[3] 64.4% Uncertainty 90%	37.40%	85.00%	27.90%
Sharing		44.36%		46.89%

1. Fast money allows network companies to recover a percentage of totex within a one-year period.
2. Slow money is where costs are added to RAV and, therefore, revenues are recovered slowly (e.g. over 45 years) from both current and future consumers.
3. The baseline is the expenditure that is funded through ex-ante allowances, whereas the uncertainty adjusts the allowed expenditure where the level of outputs delivered differ from the baseline level, or if triggered by an event.

RIIO-T2

Ofgem has started work on the next round of RIIO price controls, (RIIO-T2) for the energy network sectors it regulates, including both gas and electricity transmission. It has consulted on a wide range of topics, including incentives, outputs, the cost of capital and other financial parameters. Decisions that have already been taken include reducing the price control duration back to five years from eight years, extending the role of competition where appropriate from electricity transmission to other sectors and moving away from RPI to CPIH for inflation measurement when calculating RAV and allowed returns. In addition, Ofgem has proposed a methodology the baseline allowed cost of equity which it said, based on evidence available in December 2018, points to a value that is lower than under the current RIIO price controls. The RIIO-T2 price controls will also apply, in part, to the ESO, however, due to the nature of its activities some elements are less applicable to the ESO, and Ofgem has proposed that the duration of its price control will be two years rather than five.

We and other stakeholders will continue to work with Ofgem to develop the framework and parameters for RIIO-T2. We will submit business plans in December 2019 and Ofgem is expected to publish a final view on the price control allowances for transmission companies by the end of 2020.

US regulation

Regulators

In the US, public utilities' retail transactions are regulated by state utility commissions. The commissions serve as economic regulators, approving cost recovery and authorised rates of return. The state commissions establish the retail rates to recover the cost of transmission and distribution services, and focus on services and costs within their jurisdictions. They also serve the public interest by making sure utilities provide safe and reliable services at just and reasonable prices. The commissions establish service standards and approve public utility mergers and acquisitions.

Utilities are regulated at the federal level by the Federal Energy Regulatory Commission (FERC) for wholesale transactions, such as interstate transmission and wholesale electricity sales, including rates for these services. FERC also regulates public utility holding companies and centralised service companies, including those of our US businesses.

Regulatory process

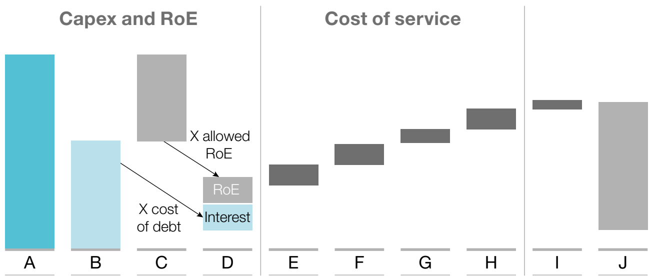
The US regulatory regime is premised on allowing the utility the opportunity to recover its cost of service and earn a reasonable return on its investments as determined by the commission. Utilities submit formal rate filings (rate cases) to the relevant state regulator when additional revenues are necessary to provide safe, reliable service to customers. Utilities can be compelled to file a rate case, either due to complaints filed with the commission or at the commission's own discretion.

The rate case is typically litigated with parties representing customers and other interests. In the states where we operate, it can take nine to 13 months for the commission to render a final decision. The utility is required to prove that the requested rate change is prudent and reasonable, and the requested rate plan can span multiple years. Unlike the state processes, the federal regulator has no specified timeline for adjudicating a rate case; typically it makes a final decision retroactive when the case is completed.

Gas and electricity rates are established from a revenue requirement, or cost of service, equal to the utility's total cost of providing distribution or delivery service to its customers, as approved by the commission in the rate case. This revenue requirement includes operating expenses, depreciation, taxes and a fair and reasonable return on shareholder capital invested in certain components of the utility's regulated asset base. This is typically referred to as its rate base.

The final revenue requirement and rates for service are approved in the rate case decision. The revenue requirement is derived from a comprehensive study of the utility's total costs during a recent 12-month period of operations, referred to as a test year. Each commission has its own rules and standards for adjustments to the test year. These may include forecast capital investments and operating costs.

US regulatory revenue requirement



A Rate base
B Debt
C Equity
D Return
E Controllable costs
F Non-controllable costs
G Depreciation
H Taxes
I Lagged recoveries
J Allowed revenue

Our rate plans

Each operating company has a set of rates for service. We have three electric distribution operations (upstate New York, Massachusetts and Rhode Island) and six gas distribution networks (upstate New York, New York City, Long Island, Massachusetts (two) and Rhode Island).

Our operating companies have revenue decoupling mechanisms that de-link their revenues from the quantity of energy delivered and billed to customers. These mechanisms remove the natural disincentive utility companies have for promoting and encouraging customer participation in energy-efficiency programmes that lower energy end use and distribution volumes.

The business in detail continued

Our rate plans are designed to a specific allowed Return on Equity (RoE), by reference to an allowed operating expense level and rate base. Some rate plans include earnings-sharing mechanisms that allow us to retain a proportion of the earnings above our allowed RoE, achieved through improving efficiency, with the balance benefiting customers.

In addition, our performance under certain rate plans is subject to service performance targets. We may be subject to monetary penalties in cases where we do not meet those targets.

One measure used to monitor the performance of our regulated businesses is a comparison of achieved RoE to allowed RoE. However, this measure cannot be used in isolation, as several factors may prevent us from achieving the allowed RoE. These include financial market conditions, regulatory lag and decisions by the regulator preventing cost recovery in rates from customers.

We work to increase achieved RoE through:

- productivity improvements;
- positive performance against incentives or earned savings mechanisms, such as available energy-efficiency programmes; and
- filing a new rate case when achieved returns are lower than those the Company could reasonably expect to attain through a new rate case.

Features of our rate plans

We bill our customers for their use of electricity and gas services. Customer bills typically comprise a commodity charge, covering the cost of the electricity or gas delivered, and charges covering our delivery service. With the exception of residential gas customers in Rhode Island, our customers are allowed to select an unregulated competitive supplier for the commodity component of electricity and gas utility services.

A substantial proportion of our costs, in particular electricity and gas commodity purchases, are 'pass-through' costs. This means they are fully recoverable from our customers. We recover 'pass-through' costs through making separate charges to customers, designed to recover those costs with no profit. We adjust rates from time to time to make sure that any over- or under-recovery of these costs is returned to, or recovered from, our customers.

Our FERC-regulated transmission companies use formula rates (instead of rate cases) to set rates annually that recover their cost of service. Through the use of annual true-ups, formula rates recover our actual costs incurred and the allowed RoE based on the actual transmission rate base each year. We must make annual formula rate filings documenting the revenue requirement that customers can review and challenge.

Revenue for our wholesale transmission businesses in New England and New York is collected from wholesale transmission customers. These are typically other utilities and include our own New England electricity distribution businesses. With the exception of in upstate New York, which continues to combine retail transmission and distribution rates to end-use customers, these wholesale transmission costs are incurred by distribution utilities on behalf of their customers. They are fully recovered as a pass-through from end-use customers, as approved by each state commission.

Our Long Island generation plants sell capacity to the Long Island Power Authority (LIPA) under 15-year and 25-year power supply agreements and within wholesale tariffs approved by FERC. Through the use of cost-based formula rates, these long-term contracts provide a similar economic effect to cost of service rate regulation.

US regulatory filings

The objectives of our rate case filings are to make sure we have the right cost of service, and are able to earn a fair and reasonable rate of return, while providing safe, reliable and economical service. To achieve these objectives and reduce regulatory lag, we have been requesting structural changes, such as:

- revenue decoupling mechanisms;
- capital trackers;
- commodity-related bad debt true-ups; and
- pension and other post-employment benefit true-ups, separately from base rates.

We explain these terms below the table on page 209.

Below, we summarise significant developments in rate filings and the regulatory environment during the year. Following the final stabilisation upgrade to our new financial systems and the availability of 12 months of historical test year data from those financial systems, we concluded a first round of full rate case filings in fiscal year 2017, with a final rate case decision for Massachusetts Electric in September 2016, and followed by approval of three-year rate plans for KEDNY and KEDLI in December 2016. In fiscal year 2017/18, we made a second round of full rate case filings with Niagara Mohawk (electric and gas) in April 2017, Boston Gas and Colonial Gas in November 2017, and The Narragansett Electric Company also in November 2017. A Joint Proposal, setting forth a three-year rate plan for Niagara Mohawk was approved by the New York State Public Service Commission (NYPSC) in March 2018. An Amended Settlement Agreement setting forth a three-year rate plan for The Narragansett Electric Company was approved by the Rhode Island Public Utilities Commission in August 2018. In fiscal year 2018/19, we made a full rate case filing again for Massachusetts Electric in November 2018, and, most recently, in fiscal year 2019/20, we made another full rate case filing for KEDNY and KEDLI in April 2019. These filings are expected to capture the benefit of recent increased investments in asset replacement and network reliability, and reflect long-term growth in costs, including property tax and healthcare costs. Along with a clear focus on productivity, the filings are key to improving achieved returns in the Company's US electric and gas distribution activities.

Impact of US tax reform

Tax is a pass-through for utilities in the US. The reduction in the corporation tax rate from 35% to 21%, resulting from the enactment of the federal Tax Cuts & Jobs Act of 2017 (the Act), is significantly beneficial to customers. The lower tax rate will be reflected in the collection of a lower tax allowance from customers.

Our upstate New York, Massachusetts Gas and Rhode Island utilities were all undergoing rate negotiations at the time the legislation was enacted. We have now updated our revenue requests for the prospective portion of the tax collection in each of these businesses. These companies represent 48% of the rate base, with a total revenue impact of approximately $130 million. Our FERC businesses operate under formula rates. As a result, the majority of the full annual revenue impact (approximately $50 million) of tax reform in these businesses was included in rates for the year ended 2018/19.

New York and Massachusetts regulators have conducted open generic proceedings to address the treatment of any tax savings. In New York, the regulator adopted proposals by KEDNY, KEDLI and Niagara Mohawk regarding the means and timing of how the tax benefits would be passed to customers. In Massachusetts the lower tax rate began to reduce revenue on 1 July 2018 for the electric business and 1 October 2018 for the gas business. In Rhode Island, the revenue effect of the lower federal rate began on 1 September 2018. The lower collections in revenue offset the lower tax charge, so there is no material impact to earnings under IFRS or under US GAAP. Our cash flows will reduce as we are currently in a net operating loss position for the purposes of calculating taxable profits in our US Group. This means there is no offsetting reduction in cash tax payments.

Massachusetts

Boston and Colonial rate cases

The Company filed a rate case for Boston Gas and Colonial Gas with the Massachusetts Department of Public Utilities (MADPU or Department) on 15 November 2017. The new rates were to be effective on 1 October 2018 for usage on and after 1 November 2018. The Massachusetts gas rate case, the first rate case for Boston Gas and Colonial Gas since 2010, more closely aligns revenues with the cost of service. This case brings earned RoEs closer to the allowed RoE. New rates were approved with an allowed RoE of 9.5% on an equity ratio of 53%. Compared to our revenue request of $87 million, the Department allowed an increase of $56 million. As expected, this outcome has been adjusted by $44 million, primarily reflecting the lower US tax rate resulting from the passage of the Tax Cuts and Jobs Act of 2017 (Tax Reform). The lower US corporate income tax rate from 35% to 21% resulted in a net revenue increase of $12 million.

Gas System Enhancement Programmes (GSEP)

On the gas side, on 30 April 2018, MADPU approved our recovery of approximately $67 million. This related to $241 million of anticipated investments in 2018 under an accelerated pipe replacement programme, through rates effective from May 2018 to April 2019. Due to the application of the GSEP revenue cap, we were required to defer recovery of an additional $2.2 million of the 2018 revenue requirement. This delay was until the Boston Gas and Colonial Gas rate case with new rates effective from 1 October 2018.

Grid modernisation and smart energy solutions

In response to a 2014 regulatory requirement, we filed a Massachusetts electricity grid modernisation plan on 19 August 2015. This proposed multiple investment options aiming to further MADPU's goals to reduce the effect of outages, optimise demand, integrate distributed resources and improve workforce and asset management.

We presented a range of investment options for MADPU to consider, with investment levels over five years ranging from $238.6 million to $792.9 million. MADPU established criteria that, if met, would allow the capital costs from the plan to be recovered through a separate capital recovery mechanism. MADPU initiated its review of our plan in April 2016 and hearings were held in May 2017.

We received an order from MADPU approving the proposed grid-facing investments on 10 May 2018, but MADPU did not approve the proposed customer-facing investments at that time. The MADPU preauthorised a budget of up to $82 million for the years 2018 to 2020 for the grid-facing investments and approved the separate recovery mechanism for both capital, operations and maintenance expenditures. We are in the process of implementing our grid modernisation plan and will be making annual cost recovery and annual update filings in conjunction with the plan, respectively in March and April of each year. MADPU stated it would open an additional investigation to examine whether there were cost-effective ways to make the customer-facing investments but are yet to open the investigation. From 1 January 2015 to 31 December 2018, we also operated a Smart Energy Solutions pilot with approximately 15,000 customers in Worcester, Massachusetts. This pilot has allowed us to deploy, test and learn from technologies similar to those proposed in the grid modernisation plan, including smart meters, demand response, an integrated communication system and advanced distribution automation.

Massachusetts Electric and Nantucket Electric rate cases

We filed a rate case for Massachusetts Electric and Nantucket Electric with MADPU on 15 November 2018 with new rates to be effective on 1 October 2019. The Massachusetts Electric rate case is the first for Massachusetts Electric and Nantucket Electric since 2015. It updates the electric companies' rates to more closely align revenues with the cost of service and bring their earned RoEs closer to the allowed RoE. Our proposed net revenue increase is $56.1 million, including a five-year performance-based rate-making proposal, supported by performance incentive metrics and scorecard metrics. Additionally, in the light of Massachusetts' aggressive climate change policies, we have proposed the second phase of our Electric Vehicle (EV) programme. In this, we will increase the availability of EV charging throughout Massachusetts and expand an energy storage programme that is designed to install approximately 14 MW of storage to support our distribution system. MADPU held evidentiary hearings from 29 April to 24 May 2019. An order is expected by 30 September 2019.

Statewide assessment of gas pipeline safety

In December 2017, MADPU hired an independent auditor to perform an assessment of gas pipeline safety in the Commonwealth of Massachusetts. The independent auditor had requested information from, and held meetings with, us and the other local distribution companies in Massachusetts. We have provided all the information requested. A preliminary oral report from the auditor is expected, which is to include recommendations for the next phase of the audit.

Tax Cuts and Jobs Act – the impact on Massachusetts jurisdiction

In February 2018, MADPU initiated docket D.P.U. 18-15 to investigate the impact of the Federal Tax Act on the rates of the investor-owned electric, gas and water utilities in Massachusetts.

The Department ordered each company, as of 1 January 2018, to account for revenues associated with the difference between the previous and current corporate income tax rates. It also required them to establish a regulatory liability for recovery in rates where excess accumulated deferred income taxes resulted from the lower federal corporate income tax rate. The utilities were directed to file plans for refunding these amounts by 1 May 2018, with an expectation that a prospective rate reduction would go into effect by 1 July 2018.

Based on our initial filing on 1 May 2018, by Order dated 29 June 2018 (Order D.P.U. 18-15-A), the Department directed our electric companies (Massachusetts Electric and Nantucket Electric) to:

- prospectively reduce rates effective 1 July 2018; and
- reduce the annual target revenue in the electric revenue decoupling mechanism (RDM) by $28 million, subsequently corrected to approximately $26 million.

MADPU allowed our gas companies (Boston Gas and Colonial Gas) to defer the effect of the tax reduction until new rates resulting from its then pending rate case became effective on 1 October 2018. At this time, we were directed to refund the three-month tax savings deferral (from 1 July to 1 October) to customers over one year. We, together with several other Massachusetts utilities, opposed the Department's directive to calculate and issue refunds for the period from 1 January 2018 to 30 June 2018 on the grounds that the refunds would violate the prohibition against retroactive rate-making. The Department, therefore, deferred ruling on the issue of retroactive refunds until a later date.

The business in detail continued

On 21 December 2018, MADPU issued an order requiring all utilities to begin crediting in rates the amortisation of excess deferred federal income taxes. This requirement was to the extent that such amortisation was not already included in base distribution rates, due to factors associated with certain reconciling mechanisms and a separate factor for the amortisation of the remaining amounts. The Department's order on its legal authority to order retroactive refunds was issued on 15 February 2019, and the Department determined refunds for the period from 1 January to 30 June 2018 would not be appropriate. The Attorney General has moved for clarification and reconsideration of the Department's order, and for an extension of the period in which to appeal the decision to the Massachusetts Supreme Judicial Court.

Electric Vehicle Market Development Programme

On 13 February 2017, Massachusetts Electric Company and Nantucket Electric Company filed a supplemental petition with MADPU. This petition was for approval of the Electric Vehicle Market Development Programme (EV Programme) and a tariff to recover the EV Programme's costs and performance incentive (EV Programme Provision). Specifically, the companies proposed to increase the development of charging stations in their service territory over a three-year period by assisting site hosts with design, construction and funding of infrastructure to support charging stations. On 10 September 2018, MADPU approved our EV Programme, with certain modifications. The Department also allowed us to earn a performance incentive based on the number of charging stations in use as a result of the EV Programme. The Department approved our ability to seek recovery of the programme's incremental costs and performance incentive through an annual reconciling charge. Our tariff is pending approval from the Department. The total allowed cost, including a performance incentive, is approximately $20 million.

MA large-scale renewable contracts/clean energy contracts

In 2018, pursuant to state legislation enacted in 2016, our Massachusetts electric distribution companies, Massachusetts Electric and Nantucket, filed with MADPU a request for approval of one long-term contract for hydroelectric generation from Canada (including associated transmission of approximately 1,200 MW) and for approval of one long-term contract for offshore wind energy generation (approximately 800 MW) from a project to be located on the outer continental shelf.

Both contracts were jointly and competitively solicited in 2017 by all of the Massachusetts electric distribution companies in consultation with the Department of Energy Resources (DOER) and an independent evaluator. Hearings on the contract for hydroelectric generation concluded in early 2018, and briefs were submitted in late March and early April. While MADPU has no specific deadline to approve the hydroelectric generation contract, it will not become effective without regulatory approval. In April 2019, MADPU approved the contract for offshore wind energy generation. Also, to satisfy the requirements of the 2016 legislation seeking to procure a total of 1,600 MW of offshore wind energy generation, another competitive solicitation for generating offshore wind energy is expected before the end of 2019.

Solar Massachusetts Renewable Target programme

On 26 September 2018, the Department approved a petition jointly filed by the Massachusetts electric distribution companies, including Massachusetts Electric Company and Nantucket Electric Company, to offer their customers a new solar programme. Following state legislation enacted in 2016, the Solar Massachusetts Renewable Target (SMART) programme is required by state regulations issued by DOER. The programme's objective is to develop a further 1,600 MW of customer-based solar power. It aims to do this by providing on-bill credits and incentive payments, directly from the Company to the customer, at a lower cost than previous programmes. In consultation with DOER, our SMART programme team has been finalising the implementation details and the first enrolments of projects under SMART are expected any day.

New York

Downstate New York 2019 rate cases

KEDNY and KEDLI filed a rate case with the NYPSC on 30 April 2019 seeking to increase delivery revenues by $236.8 million and $49.4 million, respectively, for the 12 months ending 31 March 2021. The companies filed three additional years of data to facilitate the possibility of a multi-year settlement. New rates are expected to come into effect on 1 April 2020, subject to NYPSC approval. We aim to update our allowed revenues to more closely reflect our cost of service. Our current rate plan will be applicable until we file this rate case and it is approved.

New York regulatory audits

Under the New York Public Service Law, the NYPSC is required to conduct periodic audits of various aspects of public utility activities. In 2018 the NYPSC initiated a comprehensive management and operations audit of our three New York regulated businesses. New York law requires periodic management audits of all utilities at least once every five years.

National Grid's New York regulated business last underwent a New York management audit in 2014 and 2015, when the NYPSC audited our New York gas business.

The audit will be process-oriented and forward-looking; it will present opportunities to obtain feedback on how to improve customer service and meet regulatory expectations. Areas of focus are likely to include the traditional audit areas of corporate governance, budgeting and finance, customer, work management and long-term planning. Organisation design, information systems and gas safety are also likely to feature. A final audit report is expected in September 2019.

Tax Cuts and Jobs Act of 2017

In response to the Tax Act, the NYPSC initiated a generic open proceeding to solicit comments on the Tax Act's implications. It also places New York utilities on notice of the NYPSC's intent to protect ratepayers' interests and ensure that any cost reductions from the changes in federal income taxes are preserved for customer benefit. On 9 August 2018, the NYPSC approved the proposals of our New York utilities regarding treatment of Tax Act benefits.

Specifically, the NYPSC agreed that the treatment of tax benefits by Niagara Mohawk, as described in the joint proposal approved by the NYPSC in March 2018, should continue. The NYPSC also agreed with the proposal that KEDNY and KEDLI should implement a sur-credit, effective 1 January 2019, to:

- return prospective tax savings to customers;
- moderate the impacts of scheduled rate increases; and
- use the 2018 deferred tax benefits and the amortisation of excess accumulated deferred federal income tax balances as a rate moderator when base rates are next revised.

The return of a deferred tax balance liability in the amount of $587 million will be made over an average period of up to 50 years. It is expected to benefit our operating profit and cash flow in the long term. These items are expected to flow through the income statement in the medium term, having a negative impact on operating profit that we expect to be more than offset by the full-year impact of the lower tax charge.

NY street light sales

In response to customer interest and legislative action, Niagara Mohawk agreed to a process for selling its street lighting assets to interested municipalities during the three-year term of the rate plan. This transaction was part of the joint proposal approved by order of the NYPSC in March 2018. We currently own more than 200,000 such street lights that could be subject to the asset sales mechanism. To complete a sale, we and the customer must first execute a purchase and sales agreement, which is then subject to NYPSC review and approval. The Commission has approved one such transfer to date, with five additional sales pending approval.

One pending petition: the sale of street lights to the City of Albany represents more than 10,000 lights.

NY advanced metering infrastructure

As set out in the joint proposal, Niagara Mohawk launched an advanced metering infrastructure (AMI) collaborative process with stakeholders in April 2018. The Company held eight formal collaborative meetings over the following four months, in which 17 stakeholder groups participated, with the goal of refining and updating the Company's AMI proposal. On 15 November 2018, Niagara Mohawk filed its AMI implementation plan report with the NYPSC, incorporating the work completed through the collaboration.

The proposal represents a once-in-a-generation opportunity to address asset condition improvements in a manner that can deliver increased benefits for customers, the environment and shareholders alike. As well as anticipated reductions in greenhouse gas emissions, the benefits include:

- greater customer choice and control over energy use;
- improved modelling, load forecasting and capital investment planning; and
- increased system efficiency; operational efficiencies for outage response and remote connect/disconnect capabilities.

Under the proposal, Niagara Mohawk would begin the six-year implementation of AMI with two years of process development and back-office system installation. This project would be followed by a four-year phased replacement of approximately 1,690,000 electric AMI meters and approximately 640,000 gas modules. In total, the Company anticipates the project to cost $106.45 million (20-year nominal value), representing a significant capital investment that will modernise customer- and grid-facing components of the distribution system. A 60-day public comment period commenced on 2 January 2019, and the proposal currently remains under Commission review.

Reforming the Energy Vision

In April 2014, the NYPSC instituted the Reforming the Energy Vision (REV) proceeding, which envisions a new role for utilities as distributed system platform (DSP) providers that create markets for distributed energy resources (DER) and integrate DER more fully in distribution system operations and planning. The REV proceeding's objectives include:

- enhanced customer energy choices and control;
- improved electricity system efficiency, reliability and resilience; and
- cleaner, more diverse electricity generation.

The NYPSC issued an order on 19 May 2016 addressing rate-making and utility revenue model policy framework issues under REV, including:

- rate-making reform;
- earnings opportunities (platform service revenues and earning adjustment mechanisms (EAMs));
- competitive market-based earnings;
- customer data access;
- non-wires alternative solutions to displace or defer traditional capital investment;
- standby service tariff enhancements;
- opt-in rate design (time-of-use rates, smart home rate pilots);
- enhancements to large customer demand charges;
- scorecard metrics; and
- mass market rate design.

We filed our initial Distributed System Implementation Plan (DSIP) with the NYPSC on 30 June 2016. This identified incremental investments in utility infrastructure necessary for developing within the first five years:

- DSP capabilities;
- market enablement and operations;
- advanced metering functionality;
- grid modernisation; and
- cyber security and privacy measures.

The business in detail continued

The DSIP needs to be updated and filed with the NYPSC every two years. The NYPSC subsequently extended the 2018 filing date to 31 July 2018, and we filed our 2018 DSIP update with the NYPSC on that date. The update provides detailed information about our planned DSP implementation over the five-year period ending 31 July 2023. It includes:

- a report on DSP actions and progress since the initial DSIP filing in 2016;
- a description of the Company's plans to develop necessary tools, policies, processes, resources and standards;
- identification of available tools and information for REV developers and other third parties to aid understanding of the Company's system needs and potential business opportunities; and
- a description of how the Company's planning and implementation efforts are organised and managed to support DER integration.

Two recent initiatives adopted by the NYPSC are designed to increase dramatically New York's energy efficiency and energy storage targets to combat climate change. The new energy-efficiency target for investor-owned utilities will more than double utility energy-efficiency progress by 2025, which is equivalent to the energy consumed by 1.8 million New York homes. The energy storage initiative sets New York on a trajectory to achieve 1,500 MW of storage by 2025, enough electricity to power 1.2 million homes and up to 3,000 MW of storage by 2030.

The NYPSC approved the electric and gas rate plan joint proposal in March 2018, including investments related to grid modernisation, cyber security and new electricity and gas products and services. It also sets out a process to progress AMI in Upstate New York. The joint proposal also includes outcome-based EAMs to target energy and system efficiency, carbon reductions and customer engagement.

Clean Energy Standard (CES)

The NYPSC issued an order on 1 August 2016 to adopt a CES, consistent with the State Energy Plan, that 50% of New York's electricity is to be generated by renewable sources by 2030. This instruction is part of a strategy to reduce greenhouse gas emissions by 40% by 2030 and by 80% by 2050.

In particular, the CES established:

- obligations on load serving entities (LSEs) to financially support new renewable generation resources that serve their retail customers through Renewable Energy Credits (RECs); and
- obligations to financially support existing at-risk nuclear generators through the purchase of zero-emissions credits (ZECs).

The first REC and ZEC compliance years under the CES began respectively on 1 January 2017 and 1 April 2017. On 16 March 2018, the NYPSC approved the New York State Energy Research and Development Authority's (NYSERDA) 2018 compliance period programme budgets. It also authorised the reallocation of previously approved but unspent funds from the 2017 compliance period. In addition, it authorised the further reallocation of funds from uncommitted System Benefits Charge (SBC), Energy Efficiency Portfolio Standard (EEPS) and/or Renewable Portfolio Standard (RPS) funds to pay for 2018 CES administrative costs. All unspent compliance funds are to be reallocated rather than returned to LSEs during the annual reconciliation process, as proposed by NYSERDA. As a result of this reallocation, there was no need to collect additional funds for the 2018 compliance period. On 16 November 2018, the NYPSC issued an order approving NYSERDA's proposed 2019 compliance period programme budgets. It also authorised the reallocation of $562,149 in remaining funds from the authorised budgets in the 2017 compliance period. This was to cover a portion of the administrative costs for both the Renewable Energy Standard (RES) and ZEC programmes for the 2019 CES compliance period. Additionally, the NYPSC directed the reallocation of additional uncommitted SBC, EEPS and/or RPS funds, totalling $8,040,048, to cover the remaining 2019 RES and ZEC administrative costs.

In pursuit of the offshore wind energy development goal of 2,400 MW by 2030, NYSERDA launched the first step by calling for the competitive procurement of 800 MW of offshore wind renewable energy certificates. The NYPSC authorised this tender in its 12 July 2018 Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement. NYSERDA's solicitation was issued in April 2019 with initial submissions due in June 2019.

NY gas pipeline safety

Recent industry events have focused attention on various aspects of gas safety in New York and other jurisdictions. Following the Columbia Gas event in Massachusetts, New York regulators considered the likely contributing factors to that incident and opportunities to mitigate potential risks. We are participating in statewide proceedings to implement safety improvements and working with New York regulators to resolve enforcement actions.

Rhode Island

Electric and gas infrastructure, safety and reliability (ISR) plans

State law provides our Rhode Island electric and gas operating divisions with rate mechanisms that allow us to recover capital investment, including a return. It also enables the recovery of certain expenses outside base rate proceedings through the submission of annual electric and gas ISR plans designed to improve the safety and reliability of the electric and gas distribution systems.

The Rhode Island Public Utilities Commission (RIPUC) approved the fiscal year 2020 gas and electric ISR plans on 19 March 2019. The electric ISR plan encompasses a $101.8 million spending programme for capital investment as well as $11.5 million for operating and maintenance expenses for vegetation management and inspection and maintenance. The gas ISR plan encompasses $162.5 million for capital investment.

Rhode Island combined gas and electric rate case

On 27 November 2017, we filed a one-year rate plan (but submitted two additional years of data to facilitate a multi-year settlement) for our Rhode Island electric distribution and gas businesses.

On 16 August 2018, we filed an amended settlement agreement setting out a comprehensive three-year rate plan for our electric and gas businesses, to take effect from 1 September 2018. The rate plan includes:

- a 9.275% RoE and 51% equity ratio;
- cumulative combined electric and gas revenue increases of $19.9 million (rate year 2019), $18.0 million (2020) and $8.4 million (2021);
- funding for IT investment, staffing level increases to meet our electric and gas work plans over the next three years, projects and programmes to support the Rhode Island Power Sector Transformation Initiative – this includes investments in advanced metering functionality, grid modernisation, electric vehicle infrastructure and two storage demonstration projects; and
- funding for a performance incentive mechanism for system efficiency.

The revenue increases reflect an estimate of the impact of changes to the federal corporate tax rate. It also takes into account bonus depreciation that is subject to true-up at the end of calendar year 2018. The RIPUC approved the terms of the amended settlement agreement on 24 August 2018.

Power Sector Transformation (PST) Initiative

In December 2016, the National Governors Association selected Rhode Island as one of four states to participate in a 16-month collaborative effort with state agencies and key stakeholders, including the Company. This team effort, known as the Power Sector Transformation Initiative, aims to develop a state action plan for modernising the electric power sector and integrating clean energy. It resulted in a Phase One Report being delivered to Governor Raimondo in November 2017. We filed our combined electric and gas distribution rate case at around the same time. As part of the amended settlement agreement in the rate case, we received funding for certain investments to support the PST Initiative. The amended settlement agreement also established the PST Advisory Group, a stakeholder group that we chair. It reviews progress of, and provides input into, all PST components of the rate plan, including grid modernisation, advanced meter functionality (AMF), electric transportation, storage and performance incentive mechanisms. It also provides guidance and prioritisation to support the successful delivery of the components as a holistic suite. The PST Advisory Group and sub-committee meetings have commenced and are ongoing.

On 20 February 2019, we released a request for proposal (RFP) for an up to 250kW-2hr Behind the Meter energy storage system. We are also in the process of developing the RFP for a second storage demonstration project, consisting of an approximate 500kW-3hr Front of the Meter energy storage system.

We plan to file an updated business case for AMF to request approval for full deployment of meters, together with a Grid Modernisation Plan, with the RIPUC in fiscal year 2020.

Rhode Island Aquidneck Island gas service interruption

On 21 January 2019, we suffered a significant loss of gas supply to the distribution system that serves our customers on Aquidneck Island in Rhode Island. As a result we made the decision to interrupt the gas service to the Aquidneck Island system to protect the safety of our customers and the public. Overall, approximately 7,500 customers lost their gas service. The event is currently under summary investigation by the Rhode Island Division of Public Utilities and Carriers (Division) to determine if it believes there are grounds to open a formal investigation. On 28 February 2019, the RIPUC opened a docket to investigate and determine the causes of the January loss of gas utility service on Aquidneck Island. In addition, the Rhode Island Office of Attorney General has sent us a letter to preserve evidence, which is an indication of intent to investigate. We have also received enquiries from the Federal Energy Regulatory Commission and Pipeline and Hazardous Materials Safety Administration that may initiate investigations. National Grid and our natural gas supplier – Algonquin Gas Transmission, LLC, which is owned by Enbridge, Inc. – have also been named in two class action lawsuits related to this event. We have also received thousands of claims related to the incident and anticipate that more claims will be filed.

Tax Cuts and Jobs Act 2017 – Rhode Island jurisdiction impact

An open proceeding in Rhode Island is currently underway to address the treatment of any tax savings for our Narragansett Electric customers prior to the effective date for the new base rates that were reset through the November 2017 rate case filing. In January 2019, we filed a settlement agreement with the RIPUC to prospectively refund the tax savings in full, starting this autumn. We are awaiting a decision by the RIPUC.

Rhode Island large-scale renewable contracts

On 7 February 2019, the Company's Rhode Island electric distribution company, The Narragansett Electric Company, filed with RIPUC for approval of a long-term contract to generate offshore wind energy generation from an approximately 400 MW project that will be located on the outer continental shelf. This contract is a voluntary obligation consistent with Governor Raimondo's 1,000 MW clean energy goal for Rhode Island. The bid was submitted in response to the Massachusetts solicitation for offshore wind energy generation, which is shared with Rhode Island. RIPUC has 120 days to review the petition, and hearings have been scheduled for late April and early May 2019.

The business in detail continued

Federal Energy Regulatory Commission

Complaints on New England transmission allowed RoE

In September 2011, December 2012, July 2014 and April 2016, a series of four complaints was filed with Federal Energy Regulatory Commission (FERC) against certain transmission owners, including our New England electricity transmission business. These complaints aimed to lower the base RoE, which FERC had authorised at 11.14% prior to the first complaint. FERC issued orders resolving only the first complaint, with the last order in March 2015, lowering the base RoE to 10.57%. A number of parties, including the Company, appealed FERC's order on the first complaint to US federal court. On 14 April 2017, the court vacated FERC's order and remanded the first complaint back to FERC. This required FERC to reconsider the methodology it adopted in its order. On 5 June 2017, the New England Transmission Owners (NETOS), including the Company, submitted a filing to FERC to document the reinstatement of their transmission rates that had been in effect at 15 October 2014. FERC denied this filing and stated that, until further notice, the base RoE in New England must remain at the filed rate of 10.57%. On 16 October 2018, FERC issued a Preliminary Order Directing Brief on our four New England RoE complaints. In this, FERC proposes a new methodology for determining whether an existing RoE remains just and reasonable and also for determining a new RoE where an existing RoE is found to be unjust and unreasonable. FERC also proposes to set the base RoE in New England at 10.41% with a 13.08% cap on incentives. Briefs were due in January 2019 and responses to the briefs were filed on 8 March 2019. FERC is under no deadline to act on the briefs and it is too early to determine when or how FERC will come to a decision.

Formula Rate 206 proceeding

On 28 December 2015, FERC initiated a proceeding under Section 206 of the Federal Power Act. It found that ISO-New England Transmission, Markets, and Services Tariff is unjust, unreasonable and unduly discriminatory or preferential. FERC found that ISO-NE's tariff lacks adequate transparency and challenge procedures regarding the formula rates for ISO-NE Participating Transmission Owners (ISO-NE PTOs). In addition, the Commission found that the ISO-NE PTOs' current Regional Network Service and Local Network Service formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful. FERC explained that the formula rates appear to lack sufficient detail to determine how certain costs are derived and recovered in the formula rates. Accordingly, FERC established hearing and settlement judge procedures. Several parties are active in the proceeding, including FERC staff, various interested consumer parties, New England States Committee on Electricity (NESCOE), and several municipal light departments. In August 2018, the parties to the proceeding agreed to the terms of a settlement and subsequently filed the proposed settlement with the settlement judge in the proceeding. It was opposed by certain municipal parties, making it a contested settlement. On 5 November 2018, the settlement judge reported the contested settlement to FERC, which will have to approve the settlement but is under no time obligation to act.

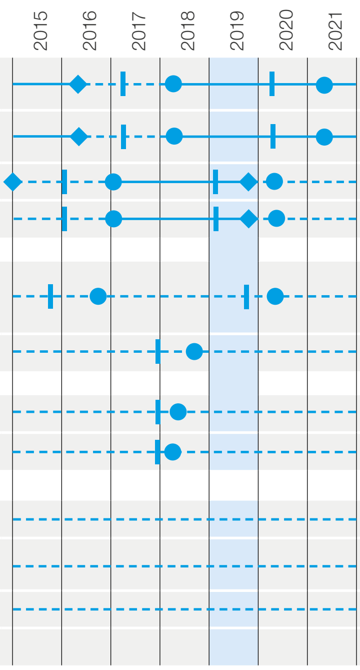
Tax Cuts and Jobs Act – FERC jurisdiction impacts

On 15 March 2018, FERC initiated multiple proceedings intended to adjust FERC-jurisdictional rates to reflect the corporate tax changes resulting from the reduction in the corporate tax rate. Relevant initiated proceedings are a Notice of Inquiry (NOI) seeking comments on the effects of the Tax Act on all FERC-jurisdiction rates and a Notice of Proposed Rulemaking (NOPR) issued as a result of the NOI. In response to the FERC NOI, we had made recommendations designed to mitigate the cash flow impacts of the expected refunds. These included providing flexibility regarding:

- the methods used to refund Accumulated Deferred Income Tax to customers; and
- the time period of the flow back.

In the NOPR, FERC proposes to give the flexibility we proposed. Comments on the NOPR were due on 22 January 2019 and FERC will issue a final rule on an undetermined date.

Summary of US price controls and rate plans



		Rate base (31 Mar 2019)	Equity-to-debt ratio	Allowed Return on Equity	Achieved Return on Equity (31 Mar 2019)	Revenue decoupling†	Capital tracker‡	Commodity-related bad debt true-up§	Pension/OPEB true-up◊
New York Public Service Commission	Niagara Mohawk[1] (upstate, electricity)	**$5,358m**	**48:52**	**9.0%**	**9.4%**	✓	**P**	**P**	✓
	Niagara Mohawk (upstate, gas)	**$1,266m**	**48:52**	**9.0%**	**9.8%**	✓	**P**	**P**	✓
	KEDNY (downstate)[2]	**$3,711m**	**48:52**	**9.0%**	**6.2%**	**P**	**P**	**P**	✓
	KEDLI (downstate)[3]	**$2,630m**	**48:52**	**9.0%**	**9.4%**	**P**	**P**	**P**	✓
Massachusetts Department of Public Utilities	Massachusetts Electric/Nantucket Electric[4]	**$2,564m**	**51:49**	**9.9%**	**7.8%**	✓	**P**	✓	✓
	Massachusetts Gas	**$2,761m**	**50:50**	**9.5%**	**7.4%**	✓	**P**	✓	✓
Rhode Island Public Utilities Commission	Narragansett Electric	**$779m**	**51:49**	**9.28%**	**10.7%**	✓	✓	**P**	✓
	Narragansett Gas	**$887m**	**51:49**	**9.28%**	**4.7%**	✓	✓	**P**	✓
Federal Energy Regulatory Commission	Narragansett	**$744m**	**50:50**	**10.57%**	**11.3%**	**n/a**	✓	**n/a**	✓
	Canadian Interconnector	**$79m**	**100:0**	**13.0%**	**13.0%**	**n/a**	✓	**n/a**	✓
	New England Power	**$1,630m**	**66:34**	**10.57%**	**11.0%**	**n/a**	✓	**n/a**	✓
	Long Island Generation	**$454m**	**47:53**	**9.9%**	**14.2%**	**n/a**	✓	**n/a**	✓

1. Both transmission and distribution, excluding stranded costs.
2. KeySpan Energy Delivery New York (The Brooklyn Union Gas Company).
3. KeySpan Energy Delivery Long Island (KeySpan Gas East Corporation).
4. The chart shows the anticipated date rates are to be in effect.

Rate filing made
New rates effective
Rate plan ends
Rates continue indefinitely
Multi-year rate plan

✓ Feature in place
P Feature partially in place

†Revenue decoupling

A mechanism that removes the link between a utility's revenue and sales volume so that the utility is indifferent to changes in usage. Revenues are reconciled to a revenue target, with differences billed or credited to customers. Allows the utility to support energy efficiency.

‡Capital tracker

A mechanism that allows the recovery of the revenue requirement of incremental capital investment above that embedded in base rates, including depreciation, property taxes and a return on the incremental investment.

§Commodity-related bad debt true-up

A mechanism that allows a utility to reconcile commodity-related bad debt to either actual commodity-related bad debt or to a specified commodity-related bad debt write-off percentage. For electricity utilities, this mechanism also includes working capital.

◊Pension/OPEB true-up

A mechanism that reconciles the actual non-capitalised costs of pension and OPEB and the actual amount recovered in base rates. The difference may be amortised and recovered over a period or deferred for a future rate case.

Task Force on Climate-related Financial Disclosures (TCFD)

National Grid has committed to implementing the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures in full, and below we include our second set of disclosures following on from our initial disclosure in 2017/18.

In February 2019, the Executive Committee considered the current status of compliance with TCFD and three key areas where further work is planned in the next 12 months:

a) ensuring senior leadership has an appropriate understanding of the risks and opportunities associated with climate change;

b) the use of climate-related scenarios to inform our strategy (and disclosure of the possible outcomes under those scenarios); and

c) the development of metrics and targets to assess performance, and influence decision-making and remuneration.

The Audit Committee also considered our progress to date in March 2019. We continue to engage with investors, peers and other stakeholders and welcome feedback on these disclosures.

How do we approach the governance of climate-related risks and opportunities?

The Board of Directors is responsible for the oversight of climate-related risks and opportunities impacting the Group. Our Group risk register contains a strategic risk around disruptive forces, which includes climate change.

Examples of relevant Board discussions in the last 12 months include:

i) understanding impact on electricity networks of decarbonisation of transport and National Grid's role in advancing the build-out of electric vehicle charging infrastructure;

ii) strategic intent to enter large-scale renewables, directing capital towards build-out of low carbon energy systems, and we have recently announced our first acquisition (Geronimo Energy) due to close later this year;

iii) continual challenge and review of investment into UK interconnectors and US competitive transmission, which help provide the flexibility critical to managing a high-renewables electricity system; and

iv) discussions on future of heat and National Grid's role in advancing heat decarbonisation pathways, with a focus on the consumer.

How does the Board delegate responsibility for day-to-day operational activity?

Responsibility for asset investment and maintenance planning is delegated to the Executive Committee and onto the core regulated businesses, each of which operate robust investment appraisal and review processes.

In the case of National Grid Ventures, responsibility for new investments up to £250 million has been delegated to the Group Investment Committee, chaired by the Group CEO. This Committee also oversees investments made by National Grid Partners, which over the last 12 months have included a number of early stage innovative businesses working at the forefront of climate change impacts as they concern utilities.

What is the oversight process for climate change related risks and opportunities?

The Safety, Environment and Health Committee (SEH Committee) is responsible for assessing how the Company adapts its business in light of climate change.

The SEH Committee does not have a remit to consider the financial implications of climate change. The Audit Committee remains responsible for reviewing and approving the content of our TCFD disclosures and will take an increasingly active role in overseeing disclosures around metrics and targets. A paper summarising our progress in our journey towards full compliance with the recommendations was considered at the March 2019 Audit Committee meeting.

Future intent

In view of the centrality of decarbonisation of electricity and heat to our day-to-day operations, we believe we have a good base level of experience and knowledge within senior management (including at Board and Executive levels). However, we are not complacent and the Executive Committee will review and consider our position and any plans for enhancement, later in 2019.

What are the risks and opportunities from climate change?

We consider risks and opportunities in terms of physical and transition risks. Reports concerning our UK operations under the 2008 Climate Change Act were released in 2010 and updated in 2016.

Physical risks

In the short term, physical risks are most relevant, and we are principally focused on the risks from weather-related events in the US, and flooding events (in both the UK and US).

- **Weather-related events in the northeastern US:** Storm planning and preparation is core to what we do, given they are an increasingly regular feature of autumn, winter and spring seasons and the impact on our customers and other operating activities is significant. These activities are principally focused on our electric businesses (with above-ground wiring). However, we have also experienced impact within our gas distribution business since extreme temperatures can impact gas supplies throughout the continental pipeline network. As noted in the financial review, this year we incurred over $100 million of local and major storm costs, the majority of which are recoverable under our rate plans. Significant storm hardening activities for gas assets continue on Long Island and in New York City as a key element of our response following hurricane Sandy.
- **Flood defence (UK and US):** In the UK, at 31 March 2019, we had invested £88 million in flood defences and expect to invest additional amounts in RIIO-T2. The National Flood Resilience Review (NFRR) carried out in 2016 and agreed by government has resulted in flood resilience investment works being developed to cover over 100 sites in line with a sector-wide response to flooding. This is supported by assessment of further sites with increasing exposure of assets to geo-hazards resulting from climate change, sea level rise, changes to rainfall patterns and secondary impacts from increased flooding and surface water issues. In the US, Flood Contingency Plans (FCPs) are being developed for our most at-risk US substations and extreme weather is considered the 'new normal'. Our coastal substations are being built and maintained to elevated levels in response to an increased risk of flooding.
- **Other potential physical risks:** We are investigating other potential risks such as the impact of rising temperatures and widening temperature ranges on the performance and operation of the equipment on our networks. Disruption to our global supply chain (continuity of supply) is recognised as a key risk within our global procurement division's risk register.

Transition risks and opportunities

- **Decarbonisation:** Facilitating the transition to a low carbon economy is central to our purpose as a business and the Strategic Report on page 41 sets out certain key actions in relation to decarbonisation and decentralisation.
- **Electricity grid reliability and peak capacity:** Our principal focus is around ensuring that our electricity network is able to actively support and contribute to a future where demand for and supply of electricity are ever changing. With growth in renewables increasing intermittency on the network, and electrification of transport and heat likely, we are working with our stakeholders to ensure that grid reliability is understood, managed and planned at appropriate levels. Even with increased decentralisation of electricity, our long-term analysis demonstrates a key role for Electricity Transmission in the UK in a range of scenarios that meet the UK's 2050 climate change goals.

- **Electric vehicles:** As we enter the key phase of discussion and negotiation around the RIIO-T2 Framework for our UK transmission businesses, the role of electric vehicles and the associated electric charging infrastructure in the UK is an area where we will continue to develop and evolve our strategy. For example, we are working with the UK Government on a build-out of fast-charging stations across UK highways to meet this demand, and ensure EVs can always find somewhere to charge, quickly.

  In the US, we are building an EV charging infrastructure, and to date, we have installed and manage 150 publicly accessible charging stations. We have filed a proposal with the MADPU to build nearly 18,000 charging ports by 2025 to reduce emissions in the transportation sector.
- **Energy-efficiency programmes:** Across Massachusetts, Rhode Island and New York our various energy-efficiency programmes (which range from installing wifi-controlled thermostats for residential customers to complex heating and lighting retrofits for commercial buildings) contributed to an estimated reduction in electricity consumption of 1.2 million megawatt hours and a 36 million therm reduction in gas consumption, lowering CO_2 emissions by more than 800,000 tonnes.
- **Facilitating zero carbon operation of the GB electricity system:** In April 2019, NGESO announced its ambition to transform the operation of the electricity system by 2025. Our goal is to be able to operate the system safely and securely at zero carbon whenever there is sufficient renewable generation online and available to meet the total national load.
- **Future of heat:** The transition to a low carbon economy is and will continue to change the sources of energy used (e.g. heat pumps and hybrid solutions), and the way energy is supplied and consumed (e.g. building retrofits to improve energy efficiency). Gas remains core to our strategy in both the UK and US, and we believe it will remain central to the energy mix in both countries for decades to come. In the US, we are working with regulators to understand how the pathway to cleaner energy sources will evolve, while in the UK we are specifically considering how our transmission network can best support a long-term future where potentially hydrogen becomes a mainstay of the energy mix.

What is the process for identifying and managing climate related risks?

Our approach to identifying and managing the risks in our business is set out on page 20, with our principal risks set out on page 21.

Our risk registers typically include risks that are thought possible or likely to manifest within the short to medium, rather than longer term. Accordingly, weather-related event risks feature, as do transition risks associated with the decarbonisation of heat and electricity.

Risk registers form a key element of our governance framework and drive the agenda, focus and discussions of the various oversight bodies. There is an increasing focus and debate on climate-related matters throughout the Group. For example, at a recent risk workshop, NGV management discussed the risks and opportunities from climate change at different levels of their organisation.

Future intent

Over the last 12 to 18 months the Enterprise Risk Management function has facilitated workshops with each of the core business areas to ensure completeness of risk capture. Over the next 12 months we expect to consider whether the individual or combined risks arising from, for example, increased variability in temperature, and/or greater wear and tear on assets under more extreme conditions, should feature more prominently. The Executive Committee will review the results as part of the regular semi-annual review of Group risks later in 2019 and as part of that discussion will specifically consider whether climate change is appropriately reflected.

How do we use scenarios?

Our long-term investment plans in the UK draw on forecasts from the System Operators' Future Energy Scenarios publications (available on our website), which provide credible pathways for the future of energy supply in Great Britain out to 2050.

The scenarios are the starting point for our regulated long-term investment, as well as a reference point for other reports, such as the Gas Ten Year Statement, Electricity Ten Year Statement and the System Operability Framework. Our UK transmission businesses use this information to inform their long-term scenarios which are used to refine capital investment plans. The key inputs concern demand assumptions (contemplating EVs), generation assumptions (with particular views around offshore wind, interconnectors, gas, nuclear and transmission connected energy storage).

In the US, our long-term investment decisions are informed by internal and stakeholder views on the impact of changing environmental conditions and customer needs, and we also consider the range of possible regulatory and policy responses. Our regulators in New York are encouraging new incentive opportunities as part of their Reforming the Energy Vision (REV) proceedings and in 2016, we prepared an Electric and Gas Grid Resiliency Plan as well as a Distributed System Implementation Plan (DSIP) for the electric system.

Future intent

We are currently developing our detailed scenario analysis and in future TCFD disclosures we will provide more information on the outcomes and sensitivities for our key businesses under various scenarios, including at least one 2-degree scenario.

What metrics are used to assess these risks and opportunities?

We recognise that the metrics used to assess the risks and opportunities arising from climate change need to consider not just the performance of National Grid, but also of the energy systems we influence.

At present the principal target we have is our commitment to reduce our own Greenhouse Gas emissions by 80% of our 1990 baseline by 2050, with interim targets of a 45% reduction by 2020 and a 70% reduction by 2030. As set out in the Strategic Report (page 41), we are making good progress towards achieving this. We recognise that many of our peers have now set more demanding targets for greenhouse gas reduction, aligned with a zero-carbon future. The Executive Committee is due to consider the case for a revised emissions reduction target in summer 2019.

In our UK electricity business, carbon pricing now forms part of the information used to assess options and sanction our capex, and we will continue to roll out this approach across our business in 2019/20.

Our sustainable construction programme continues to drive the carbon out of our construction projects and we are on track to reduce the carbon intensity of our construction projects in the UK by 50% by 2020 (from a 2015 baseline).

Future intent

We plan to set a science-based target for carbon emissions and are currently reviewing our 2050 greenhouse gas target.

The Group has begun work on a programme to assess its total societal impact. Our analysis extends to consider our human capital contribution, and the role that innovation and reliability play in our wider contribution to society.

We plan to identify a number of metrics that measure our wider contribution in a meaningful way, and, as a result, will be used to drive decision making to ensure we can sensibly assess trade-offs between different stakeholders and take actions that benefit society as a whole. We expect to report further progress in next year's TCFD disclosure.

Internal control and risk factors

Disclosure controls

Working with management, including the Chief Executive and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures as at 31 March 2019. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives; however, their effectiveness has limitations, including the possibility of human error and the circumvention or overriding of the controls and procedures.

Even effective disclosure controls and procedures provide only reasonable assurance of achieving their objectives. Based on the evaluation, the Chief Executive and Chief Financial Officer concluded that the disclosure controls and procedures are effective to provide reasonable assurance that information required for disclosure in the reports that we file and submit under the Exchange Act is recorded, processed, summarised and reported as and when required and that such information is accumulated and communicated to our management, including the Chief Executive and Chief Financial Officer, as appropriate, to allow timely decisions regarding disclosure.

Internal control over financial reporting

Our management, including the Chief Executive and Chief Financial Officer, has carried out an evaluation of our internal control over financial reporting pursuant to the Disclosure Guidance and Transparency Rules sourcebook and Section 404 of the Sarbanes-Oxley Act 2002. As required by Section 404, management is responsible for establishing and maintaining an adequate system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act).

Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes, in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's evaluation of the effectiveness of the Company's internal control over financial reporting was based on the revised Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Using this evaluation, management concluded that our internal control over financial reporting was effective as at 31 March 2019.

Deloitte LLP, which has audited our consolidated financial statements for the year ended 31 March 2019, has also audited the effectiveness of our internal control over financial reporting.

During the year, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, it.

Risk factors

Management of our risks is an important part of our internal control environment, as we describe on pages 20 – 22. In addition to the principal risks listed, we face a number of inherent risks that could have a material adverse effect on our business, financial condition, results of operations and reputation, as well as the value and liquidity of our securities.

Any investment decision regarding our securities and any forward-looking statements made by us should be considered in the light of these risk factors and the cautionary statement set out on the inside back cover. An overview of the key inherent risks we face is provided below.

Risk factors

Potentially harmful activities

Aspects of the work we do could potentially harm employees, contractors, members of the public or the environment.

Potentially hazardous activities that arise in connection with our business include: the generation, transmission and distribution of electricity; and the storage, transmission and distribution of gas. Electricity and gas utilities also typically use and generate hazardous and potentially hazardous products and by-products. In addition, there may be other aspects of our operations that are not currently regarded or proved to have adverse effects but could become so, such as the effects of electric and magnetic fields.

A significant safety or environmental incident, or the failure of our safety processes or of our occupational health plans, as well as the breach of our regulatory or contractual obligations or our climate change targets, could materially adversely affect our results of operations and our reputation.

Safety is a fundamental priority for us and we commit significant resources and expenditure to process safety and to monitoring personal safety, occupational health and environmental performance, and to meeting our obligations under negotiated settlements.

We are subject to laws and regulations in the UK and US governing health and safety matters to protect the public and our employees and contractors, who could potentially be harmed by these activities, as well as laws and regulations relating to pollution, the protection of the environment, and the use and disposal of hazardous substances and waste materials.

These expose us to costs and liabilities relating to our operations and properties, including those inherited from predecessor bodies, whether currently or formerly owned by us, and sites used for the disposal of our waste.

The cost of future environmental remediation obligations is often inherently difficult to estimate and uncertainties can include the extent of contamination, the appropriate corrective actions and our share of the liability. We are increasingly subject to regulation in relation to climate change and are affected by requirements to reduce our own carbon emissions as well as to enable reduction in energy use by our customers. If more onerous requirements are imposed or our ability to recover these costs under regulatory frameworks changes, this could have a material adverse impact on our business, reputation, results of operations and financial position.

Infrastructure and IT systems

We may suffer a major network failure or interruption, or may not be able to carry out critical operations due to the failure of infrastructure, data or technology or a lack of supply.

Operational performance could be materially adversely affected by: a failure to maintain the health of our assets or networks; inadequate forecasting of demand; inadequate record keeping or control of data or failure of information systems and supporting technology. This, in turn, could cause us to fail to meet agreed standards of service, incentive and reliability targets, or be in breach of a licence, approval, regulatory requirement or contractual obligation. Even incidents that do not amount to a breach could result in adverse regulatory and financial consequences, as well as harming our reputation.

Where demand for electricity or gas exceeds supply including where we do not adequately forecast and respond to disruptions in energy supplies, and our balancing mechanisms are not able to mitigate this fully, a lack of supply to consumers may damage our reputation.

In addition to these risks, we may be affected by other potential events that are largely outside our control, such as the impact of weather (including as a result of climate change and major storms), unlawful or unintentional acts of third parties, insufficient or unreliable supply or force majeure.

Weather conditions can affect financial performance and severe weather that causes outages or damages infrastructure, together with our actual or perceived response, could materially adversely affect operational and potentially business performance and our reputation.

Malicious attack, sabotage or other intentional acts, including breaches of our cyber security, may also damage our assets (which include critical national infrastructure) or otherwise significantly affect corporate activities and, as a consequence, have a material adverse impact on our reputation, business, results of operations and financial condition.

Unauthorised access to, or deliberate breaches of, our IT systems may also lead to manipulation of our proprietary business data or customer information.

Unauthorised access to private customer information may make us liable for a violation of data privacy regulations. Even where we establish business continuity controls and security against threats to our systems, these may not be sufficient.

Law, regulation and political and economic uncertainty

Changes in law or regulation, or decisions by governmental bodies or regulators and increased political and economic uncertainty, could materially adversely affect us.

Most of our businesses are utilities or networks subject to regulation by governments and other authorities. Changes in law or regulation or regulatory policy and precedent, (including any changes arising as a result of the UK's exit from the European Union), including decisions of governmental bodies or regulators, in the countries or states in which we operate could materially adversely affect us. We may fail to deliver any one of our customer, investor and wider stakeholder propositions due to increased political and economic uncertainty.

If we fail to engage in the energy policy debate, we may be unable to influence future energy policy and deliver our strategy.

Decisions or rulings concerning, for example:

- the RIIO-T2 price controls; whether licences, approvals or agreements to operate or supply are granted, amended or renewed; whether consents for construction projects are granted in a timely manner; or whether there has been any breach of the terms of a licence, approval or regulatory requirement; and
- timely recovery of incurred expenditure or obligations; the ability to pass through commodity costs; a decoupling of energy usage and revenue, and other decisions relating to the impact of general economic conditions on us, our markets and customers; the impact of US tax reform; implications of climate change and of advancing energy technologies; whether aspects of our activities are contestable; the level of permitted revenues and dividend distributions for our businesses and in relation to proposed business development activities,

could have a material adverse impact on our results of operations, cash flows, the financial condition of our businesses and the ability to develop those businesses in the future.

For further information, see pages 199 – 209, which explain our regulatory environment in detail.

Business performance

Current and future business performance may not meet our expectations or those of our regulators and shareholders.

Earnings maintenance and growth from our regulated gas and electricity businesses will be affected by our ability to meet or exceed efficiency targets and service quality standards set by, or agreed with, our regulators.

If we do not meet these targets and standards, or if we are not able to deliver the US rate plans strategy successfully, we may not achieve the expected benefits, our business may be materially adversely affected and our performance, results of operations and reputation may be materially harmed and we may be in breach of regulatory or contractual obligations.

Internal control and risk factors
continued

Growth and business development activity

Failure to respond to external market developments and execute our growth strategy may negatively affect our performance. Conversely, new businesses or activities that we undertake alone or with partners may not deliver target outcomes and may expose us to additional operational and financial risk.

Failure to grow our core business sufficiently and have viable options for new future business over the longer term or failure to respond to the threats and opportunities presented by emerging technology or innovation (including for the purposes of adapting our networks to meet the challenges of increasing distributed energy resources) could negatively affect the Group's credibility and reputation and jeopardise the achievement of intended financial returns.

Our business development activities and the delivery of our growth ambition include acquisitions, disposals, joint ventures, partnering and organic investment opportunities, such as development activities relating to changes to the energy mix and the integration of distributed energy resources and other advanced technologies. These are subject to a wide range of both external uncertainties (including the availability of potential investment targets and attractive financing and the impact of competition for onshore transmission in both the UK and US) and internal uncertainties (including actual performance of our existing operating companies and our business planning model assumptions and ability to integrate acquired businesses effectively). As a result, we may suffer unanticipated costs and liabilities and other unanticipated effects.

We may also be liable for the past acts, omissions or liabilities of companies or businesses we have acquired, which may be unforeseen or greater than anticipated. In the case of joint ventures, we may have limited control over operations and our joint venture partners may have interests that diverge from our own.

The occurrence of any of these events could have a material adverse impact on our results of operations or financial condition, and could also impact our ability to enter into other transactions.

Exchange rates, interest rates and commodity price indices

Changes in foreign currency rates, interest rates or commodity prices could materially impact earnings or our financial condition.

We have significant operations in the US and are therefore subject to the exchange rate risks normally associated with non-UK operations including the need to translate US assets, liabilities, income and expenses into sterling (our reporting currency).

In addition, our results of operations and net debt position may be affected because a significant proportion of our borrowings, derivative financial instruments and commodity contracts are affected by changes in interest rates, commodity price indices and exchange rates, in particular the dollar-to-sterling exchange rate.

Furthermore, our cash flow may be materially affected as a result of settling hedging arrangements entered into to manage our exchange rate, interest rate and commodity price exposure, or by cash collateral movements relating to derivative market values, which also depend on the sterling exchange rate into euro and other currencies.

Post-retirement benefits

We may be required to make significant contributions to fund pension and other post-retirement benefits.

We participate in a number of pension schemes that together cover substantially all our employees. In both the UK and US, the principal schemes are DB schemes where the scheme assets are held independently of our own financial resources.

In the US, we also have other post-retirement benefit schemes. Estimates of the amount and timing of future funding for the UK and US schemes are based on actuarial assumptions and other factors, including: the actual and projected market performance of the scheme assets; future long-term bond yields; average life expectancies; and relevant legal requirements.

Actual performance of scheme assets may be affected by volatility in debt and equity markets.

Changes in these assumptions or other factors may require us to make additional contributions to these pension schemes which, to the extent they are not recoverable under our price controls or state rate plans, could materially adversely affect the results of our operations and financial condition.

Financing and liquidity

An inability to access capital markets at commercially acceptable interest rates could affect how we maintain and grow our businesses.

Our businesses are financed through cash generated from our ongoing operations, bank lending facilities and the capital markets, particularly the long-term debt capital markets.

Some of the debt we issue is rated by credit rating agencies, and changes to these ratings may affect both our borrowing capacity and borrowing costs. In addition, restrictions imposed by regulators may also limit how we service the financial requirements of our current businesses or the financing of newly acquired or developing businesses.

Financial markets can be subject to periods of volatility and shortages of liquidity – for example, as a result of unexpected political or economic events. If we were unable to access the capital markets or other sources of finance at commercially acceptable rates for a prolonged period, our cost of financing may increase, the discretionary and uncommitted elements of our proposed capital investment programme may need to be reconsidered, and the manner in which we implement our strategy may need to be reassessed.

Such events could have a material adverse impact on our business, results of operations and prospects.

Some of our regulatory agreements impose lower limits for the long-term unsecured debt credit ratings that certain companies within the Group must hold or the amount of equity within their capital structures, including a limit requiring National Grid plc to hold an investment-grade long-term senior unsecured debt credit rating.

In addition, some of our regulatory arrangements impose restrictions on the way we can operate. These include regulatory requirements for us to maintain adequate financial resources within certain parts of our operating businesses and may restrict the ability of National Grid plc and some of our subsidiaries to engage in certain transactions, including paying dividends, lending cash and levying charges.

The inability to meet such requirements, or the occurrence of any such restrictions, may have a material adverse impact on our business and financial condition.

Our debt agreements and banking facilities contain covenants, including those relating to the periodic and timely provision of financial information by the issuing entity, and financial covenants, such as restrictions on the level of subsidiary indebtedness.

Failure to comply with these covenants, or to obtain waivers of those requirements, could in some cases trigger a right, at the lender's discretion, to require repayment of some of our debt and may restrict our ability to draw upon our facilities or access the capital markets.

Customers and counterparties

Customers and counterparties may not perform their obligations.

Our operations are exposed to the risk that customers, suppliers, banks and other financial institutions, and others with whom we do business will not satisfy their obligations, which could materially adversely affect our financial position.

This risk is significant where our subsidiaries have concentrations of receivables from gas and electricity utilities and their affiliates, as well as industrial customers and other purchasers, and may also arise where customers are unable to pay us as a result of increasing commodity prices or adverse economic conditions.

To the extent that counterparties are contracted with for physical commodities (gas and electricity) and they experience events that impact their own ability to deliver, we may suffer supply interruption as described in Infrastructure and IT systems on page 213.

There is also a risk to us where we invest excess cash or enter into derivatives and other financial contracts with banks or other financial institutions. Banks who provide us with credit facilities may also fail to perform under those contracts.

Employees and others

We may fail to attract, develop and retain employees with the competencies, including leadership and business capabilities, values and behaviours required to deliver our strategy and vision and ensure they are engaged to act in our best interests.

Our ability to implement our strategy depends on the capabilities and performance of our employees and leadership at all levels of the business. Our ability to implement our strategy and vision may be negatively affected by the loss of key personnel or an inability to attract, integrate, engage and retain appropriately qualified personnel, or if significant disputes arise with our employees.

As a result, there may be a material adverse effect on our business, financial condition, results of operations and prospects.

There is a risk that an employee or someone acting on our behalf may breach our internal controls or internal governance framework, or may contravene applicable laws and regulations. This could have an impact on the results of our operations, our reputation and our relationship with our regulators and other stakeholders.

Shareholder information

Articles of Association

The following description is a summary of the material terms of our Articles and applicable English law. It is a summary only and is qualified in its entirety by reference to the Articles.

Summary

The Articles set out the Company's internal regulations. Copies are available on our website and upon request. Amendments to the Articles have to be approved by at least 75% of those voting at a general meeting of the Company. Subject to company law and the Articles, the Directors may exercise all the powers of the Company. They may delegate authorities to committees and day-to-day management and decision-making to individual Executive Directors. We set out the committee structure on page 50.

General

The Company is incorporated under the name National Grid plc and is registered in England and Wales with registered number 4031152. Under the Companies Act 2006, the Company's objects are unrestricted.

Directors

Under the Articles, a Director must disclose any personal interest in a matter and may not vote in respect of that matter, subject to certain limited exceptions. As permitted under the Companies Act 2006, the Articles allow non-conflicted Directors to authorise a conflict or potential conflict for a particular matter. In doing so, the non-conflicted Directors must act in a way they consider, in good faith, will be most likely to promote the success of the Company for the benefit of the shareholders as a whole.

The Directors (other than a Director acting in an executive capacity) are paid fees for their services. In total, these fees must not exceed £2,000,000 per year or any higher sum decided by an ordinary resolution at a general meeting of shareholders. In addition, special pay may be awarded to a Director who acts in an executive capacity, serves on a committee, performs services which the Directors consider to extend beyond the ordinary duties of a director, devotes special attention to the business of National Grid, or goes or lives abroad on the Company's behalf. Directors may also receive reimbursement for expenses properly incurred, and may be awarded pensions and other benefits. The compensation awarded to the Executive Directors is determined by the Remuneration Committee. Further details of Directors' remuneration are set out in the Directors' Remuneration Report (see pages 69 – 90).

The Directors may exercise all the powers of National Grid to borrow money. However, the aggregate principal amount of all the Group's borrowings outstanding at any time must not exceed £35 billion or any other amount approved by shareholders by an ordinary resolution at a general meeting.

Directors can be appointed or removed by the Board or shareholders at a general meeting. Directors must stand for election at the first AGM following their appointment to the Board. Each Director must retire at least every three years, although they will be eligible for re-election. In accordance with best practice introduced by the UK Corporate Governance Code, all Directors wishing to continue in office currently offer themselves for re-election annually. No person is disqualified from being a Director or is required to vacate that office by reason of attaining a maximum age.

A Director is not required to hold shares in National Grid in order to qualify as a Director.

Rights, preferences and restrictions

(i) Dividend rights

National Grid may not pay any dividend otherwise than out of profits available for distribution under the Companies Act 2006 and other applicable provisions of English law. In addition, as a public company, National Grid may only make a distribution if, at the time of the distribution, the amount of its net assets is not less than the aggregate of its called-up share capital and undistributable reserves (as defined in the Companies Act 2006) and to the extent that the distribution does not reduce the amount of those assets to less than that aggregate. Ordinary shareholders and American Depositary Share (ADS) holders receive dividends.

Subject to these points, shareholders may, by ordinary resolution, declare dividends in accordance with the respective rights of the shareholders, but not exceeding the amount recommended by the Board. The Board may pay interim dividends if it considers that National Grid's financial position justifies the payment. Any dividend or interest unclaimed for 12 years from the date when it was declared or became due for payment will be forfeited and revert to National Grid.

(ii) Voting rights

Subject to any rights or restrictions attached to any shares and to any other provisions of the Articles, at any general meeting on a show of hands, every shareholder who is present in person will have one vote and, on a poll, every shareholder will have one vote for every share they hold. On a show of hands or poll, shareholders may cast votes either personally or by proxy. A proxy need not be a shareholder. Under the Articles, all substantive resolutions at a general meeting must be decided on a poll. Ordinary shareholders and ADS holders can vote at general meetings.

(iii) Liquidation rights

In a winding up, a liquidator may (in each case with the sanction of a special resolution passed by the shareholders and any other sanction required under English law): (a) divide among the shareholders the whole or any part of National Grid's assets (whether the assets are of the same kind or not); the liquidator may, for this purpose, value any assets and determine how the division should be carried out as between shareholders or different classes of shareholders, or (b) transfer any part of the assets to trustees on trust for the benefit of the shareholders as the liquidator determines. In neither case will a shareholder be compelled to accept assets upon which there is a liability.

(iv) Restrictions

There are no restrictions on the transfer or sale of ordinary shares. Some of the Company's employee share plans, details of which are contained in the Directors' Remuneration Report, include restrictions on the transfer of shares while the shares are subject to the plan. Where, under an employee share plan operated by the Company, participants are the beneficial owners of the shares but not the registered owner, the voting rights may be exercised by the registered owner at the direction of the participant. Treasury shares do not attract a vote or dividends.

Variation of rights

Subject to applicable provisions of English law, the rights attached to any class of shares of National Grid may be varied or cancelled. This must be with the written consent of the holders of three quarters in nominal value of the issued shares of that class, or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class.

General meetings

AGMs must be convened each year within six months of the Company's accounting reference date upon 21 clear days' advance written notice. Under the Articles, any other general meeting may be convened provided at least 14 clear days' written notice is given, subject to annual approval of shareholders. In certain limited circumstances, the Company can convene a general meeting by shorter notice. The notice must specify, among other things, the nature of the business to be transacted, the place, the date and the time of the meeting.

Rights of non-residents

There are no restrictions under the Articles that would limit the rights of persons not resident in the UK to vote in relation to ordinary shares.

Disclosure of interests

Under the Companies Act 2006, National Grid may, by written notice, require a person whom it has reasonable cause to believe to be or to have been, in the last three years, interested in its shares to provide additional information relating to that interest. Under the Articles, failure to provide such information may result in a shareholder losing their rights to attend, vote or exercise any other right in relation to shareholders' meetings.

Under the UK Disclosure Guidance and Transparency Rules (DTR) sourcebook, there is also an obligation on a person who acquires or ceases to have a notifiable interest in shares in National Grid to notify the Company of that fact. The disclosure threshold is 3% and disclosure is required each time the person's direct and indirect holdings reach, exceed or fall below each 1% threshold thereafter.

The UK City Code on Takeovers and Mergers imposes strict disclosure requirements regarding dealings in the securities of an offeror or offeree company, and also on their respective associates, during the course of an offer period. Other regulators in the UK, US and elsewhere may have, or assert, notification or approval rights over acquisitions or transfers of shares.

Depositary payments to the Company

The Depositary reimburses the Company for certain expenses it incurs in relation to the ADS programme. The Depositary also pays the standard out-of-pocket maintenance costs for the ADSs, which consist of the expenses for the mailing of annual and interim financial reports, printing and distributing dividend cheques, the electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile and telephone calls. It also reimburses the Company for certain investor relationship programmes or special investor relations promotional activities. There are limits on the amount of expenses for which the Depositary will reimburse the Company, but the amount of reimbursement is not necessarily tied to the amount of fees the Depositary collects from investors.

For the period 17 May 2018 to 15 May 2019, the Company received a total of $1,993,813.16 in reimbursements from the Depositary consisting of $1,330,665.54 and $663,147.62 received in October 2018 and February 2019 respectively. Fees that are charged on cash dividends will be apportioned between the Depositary and the Company.

Any questions from ADS holders should be directed to The Bank of New York Mellon at the contact details on page 243.

Description of securities other than equity securities: Depositary fees and charges

The Bank of New York Mellon, as the Depositary, collects fees by deducting them from the amounts distributed or by selling a portion of distributable property, for:

- delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them; and
- making distributions to investors (including, it is expected, cash dividends).

The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

Persons depositing or withdrawing shares must pay:	For
$5.00 per 100 ADSs (or portion of 100 ADSs)	Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property; cancellation of ADSs for the purpose of withdrawal, including if the Deposit Agreement terminates; and distribution of securities distributed to holders of deposited securities that are distributed by the Depositary to ADS holders.
Registration or transfer fees	Transfer and registration of shares on our share register to or from the name of the Depositary or its agent when they deposit or withdraw shares.
Expenses of the Depositary	Cable, telex and facsimile transmissions (when expressly provided in the Deposit Agreement); and converting foreign currency to dollars.
Taxes and other governmental charges the Depositary or the Custodian has to pay on any ADS or share underlying an ADS, for example, stock transfer taxes, stamp duty or withholding taxes	As necessary.

The Company's Deposit Agreement under which the ADSs are issued allows a fee of up to $0.05 per ADS to be charged for any cash distribution made to ADS holders, including cash dividends. ADS holders who receive cash in relation to the 2018/19 final dividend will be charged a fee of $0.02 per ADS by the Depositary prior to distribution of the cash dividend.

Documents on display

National Grid is subject to the filing requirements of the Exchange Act, as amended. In accordance with these requirements, we file reports and other information with the SEC. These materials, including this document, may be inspected during normal business hours at our registered office: 1–3 Strand, London, WC2N 5EH. Some of our filings are also available on the SEC's website at www.sec.gov.

Shareholder information
continued

Events after the reporting period

Other than as described in note 38 to the financial statements, there were no events after the reporting period.

Exchange controls

There are currently no UK laws, decrees or regulations that restrict the export or import of capital, including, but not limited to, foreign exchange control restrictions, or that affect the remittance of dividends, interest or other payments to non-UK resident holders of ordinary shares except as otherwise set out in Taxation on pages 219 – 220 and except in respect of the governments of and/or certain citizens, residents or bodies of certain countries (described in applicable Bank of England Notices or European Union Council Regulations in force as at the date of this document).

Material interests in shares

As at 31 March 2019, National Grid had been notified of the following holdings in voting rights of 3% or more in the issued share capital of the Company:

	Number of ordinary shares	% of voting rights[1]
BlackRock, Inc.	244,216,445	7.29
Competrol International Investments Limited	125,733,926	3.69
The Capital Group Companies, Inc.	145,094,617	3.88

1. This number is calculated in relation to the issued share capital at the time the holding was disclosed.

As at 15 May 2019, no further notifications have been received.

The rights attached to ordinary shares are detailed on page 216. All ordinary shares and all major shareholders have the same voting rights. The Company is not, to the best of its knowledge, directly or indirectly controlled.

Share capital

As at 15 May 2019, the share capital of the Company consists of ordinary shares of $12^{204/473}$ pence nominal value each and ADSs, which represent five ordinary shares each.

Authority to purchase shares

Shareholder approval was given at the 2018 AGM to purchase up to 10% of the Company's share capital (being 335,635,105 ordinary shares). The Directors intend to seek shareholder approval to renew this authority at the 2019 AGM.

In some circumstances, the Company may find it advantageous to have the authority to purchase its own shares in the market, where the Directors believe this would be in the interests of shareholders generally. The Directors believe that it is an important part of the financial management of the Company to have the flexibility to repurchase issued shares to manage its capital base, including actively managing share issuances from the operation of the scrip dividend scheme. It is expected that repurchases to manage share issuances under the scrip dividend scheme will not exceed 2.5% of the issued share capital (excluding treasury shares) per annum.

When purchasing shares, the Company has taken, and will continue to take, into account market conditions prevailing at the time, other investment and financing opportunities, and the overall financial position of the Company.

At the 2018 AGM, the Company sought authority to purchase ordinary shares in the capital of the Company as part of the management of the dilutive effect of share issuances under the scrip dividend scheme. During the year, the Company did not purchase any of its own shares.

	Number of shares	Total nominal value	% of called up share capital
Shares held in Treasury purchased in prior years[1]	282,960,111	£35,175,590.97[2]	7.78[1]
Shares purchased and held in Treasury during the year	–	–	–
Shares transferred from Treasury during the year (to employees under employee share plans)	5,696,887	£708,196.54[2]	0.15[3]
Maximum number of shares held in Treasury during the year	282,960,111	£35,175,590.97[2]	7.67[3]

1. Called-up share capital: 3,637,747,827 as at 31 March 2018.
2. Nominal value: $12^{204/473}$p.
3. Called-up share capital of 3,687,483,073 ordinary shares as at the date of this report.

As at the date of this report, the Company held 275,597,944 ordinary shares as treasury shares, this represented 7.47% of the Company's called-up share capital.

Authority to allot shares

Shareholder approval was given at the 2018 AGM to allot shares of up to one third of the Company's share capital. The Directors are seeking this same level of authority this year. The Directors consider that the Company will have sufficient flexibility with this level of authority to respond to market developments and that this authority is in line with investor guidelines.

The Directors currently have no intention of issuing new shares or of granting rights to subscribe for or convert any security into shares. This is except in relation to, or in connection with, the operation and management of the Company's scrip dividend scheme and the exercise of options under the Company's share plans. No issue of shares will be made that would effectively alter control of the Company without the sanction of shareholders in a general meeting.

The Company expects to actively manage the dilutive effect of share issuance arising from the operation of the scrip dividend scheme. In some circumstances, additional shares may be allotted to the market for this purpose under the authority provided by this resolution. Under these circumstances, it is expected that the associated allotment of new shares (or rights to subscribe for or convert any security into shares) will not exceed 1% of the issued share capital (excluding treasury shares) per annum.

Dividend waivers

The trustees of the National Grid Employees Share Trust, which are independent of the Company, waived the right to dividends paid during the year. They have also agreed to waive the right to future dividends, in relation to the ordinary shares and ADSs held by the trust.

Under the Company's ADS programme, the right to dividends in relation to the ordinary shares underlying the ADSs was waived during the year by the Depositary, under an arrangement whereby the Company pays the monies to satisfy any dividends separately to the Depositary for distribution to ADS holders entitled to the dividend. This arrangement is expected to continue for future dividends.

Share information

National Grid ordinary shares are listed on the London Stock Exchange under the symbol NG. The ADSs are listed on the New York Stock Exchange under the symbol NGG.

Shareholder analysis

The following table includes a brief analysis of shareholder numbers and shareholdings as at 31 March 2019.

	Number of shareholders	% of shareholders	Number of shares	% of shares
1-50	177,679	21.26	5,421,073	0.15
51-100	214,748	25.69	15,107,795	0.41
101-500	348,114	41.65	72,404,255	1.96
501-1,000	47,549	5.69	33,105,293	0.90
1,001-10,000	44,884	5.37	110,331,077	2.99
10,001-50,000	1,771	0.21	31,801,893	0.86
50,001-100,000	233	0.03	16,808,775	0.46
100,001-500,000	445	0.05	105,375,558	2.86
500,001-1,000,000	124	0.01	88,564,399	2.40
1,000,001+	300	0.04	3,208,562,955	87.01
Total	835,847	100	3,687,483,073	100

Taxation

The discussion in this section provides information about certain US federal income tax and UK tax consequences for US Holders (defined below) of owning ADSs and ordinary shares. A US Holder is the beneficial owner of ADSs or ordinary shares who:

- is for US federal income tax purposes (i) an individual citizen or resident of the United States; (ii) a corporation created or organised under the laws of the United States, any state thereof or the District of Columbia; (iii) an estate, the income of which is subject to US federal income tax without regard to its source; or (iv) a trust, if a court within the United States is able to exercise primary supervision over the administration of the trust and one or more US persons have the authority to control all substantial decisions of the trust, or the trust has elected to be treated as a domestic trust for US federal income tax purposes;
- is not resident or ordinarily resident in the UK for UK tax purposes; and
- does not hold ADSs or ordinary shares in connection with the conduct of a business or the performance of services in the UK or otherwise in connection with a branch, agency or permanent establishment in the UK.

This discussion is not a comprehensive description of all the US federal income tax and UK tax considerations that may be relevant to any particular investor (including consequences under the US alternative minimum tax or net investment income tax). Neither does it address state, local or other tax laws. National Grid has assumed that shareholders, including US Holders, are familiar with the tax rules applicable to investments in securities generally and with any special rules to which they may be subject. This discussion deals only with US Holders who hold ADSs or ordinary shares as capital assets. It does not address the tax treatment of investors who are subject to special rules. Such investors may include:

- financial institutions;
- insurance companies;
- dealers in securities or currencies;
- investors who elect mark-to-market treatment;
- entities treated as partnerships or other pass-through entities and their partners;
- individual retirement accounts and other tax-deferred accounts;
- tax-exempt organisations;
- investors who own (directly or indirectly) 10% or more of our shares (by vote or value);
- investors who hold ADSs or ordinary shares as a position in a straddle, hedging transaction or conversion transaction;
- individual investors who have ceased to be resident in the UK for a period of five years or less;
- persons that have ceased to be US citizens or lawful permanent residents of the US; and
- US Holders whose functional currency is not the US dollar.

The statements regarding US and UK tax laws and administrative practices set forth below are based on laws, treaties, judicial decisions and regulatory interpretations that were in effect on the date of this document. These laws and practices are subject to change without notice, potentially with retroactive effect. In addition, the statements set forth below are based on the representations of the Depositary and assume that each party to the Deposit agreement will perform its obligations thereunder in accordance with its terms.

US Holders of ADSs generally will be treated as the owners of the ordinary shares represented by those ADSs for US federal income tax purposes. For the purposes of the Tax Convention, the Estate Tax Convention and UK tax considerations, this discussion assumes that a US Holder of ADSs will be treated as the owner of the ordinary shares represented by those ADSs. HMRC has stated that it will continue to apply its long-standing practice of treating a holder of ADSs as holding the beneficial interest in the ordinary shares represented by the ADSs; however, we note that this is an area of some uncertainty and may be subject to change.

US Holders should consult their own advisors regarding the tax consequences of buying, owning and disposing of ADSs or ordinary shares depending on their particular circumstances, including the effect of any state, local or other tax laws.

Shareholder information
continued

Taxation of dividends

The UK does not currently impose a withholding tax on dividends paid to US Holders.

US Holders should assume that any cash distribution paid by us with respect to ADSs or ordinary shares will be reported as dividend income for US federal income tax purposes. While dividend income received from non-US corporations is generally taxable to a non-corporate US Holder as ordinary income for US federal income tax purposes, dividend income received by a non-corporate US Holder from us generally will be taxable at the same favourable rates applicable to long-term capital gains provided (i) either: (a) we are eligible for the benefits of the Tax Convention or (b) ADSs or ordinary shares are treated as 'readily tradable' on an established securities market in the United States; and (ii) we are not, for our taxable year during which the dividend is paid or the prior year, a passive foreign investment company for US federal income tax purposes (a PFIC), and certain other requirements are met. We (1) expect that our shares will be treated as 'readily tradable' on an established securities market in the United States as a result of the trading of ADSs on the New York Stock Exchange. We also (2) believe we are eligible for the benefits of the Tax Convention.

Based on our audited financial statements and the nature of our business activities, we believe that we were not treated as a PFIC for US federal income tax purposes with respect to our taxable year ending 31 March 2019. In addition, based on our current expectations regarding the value and nature of our assets, the sources and nature of our income, and the nature of our business activities, we do not anticipate becoming a PFIC in the foreseeable future.

Dividends received by corporate US Holders with respect to ADSs or ordinary shares will not be eligible for the dividends-received deduction that is generally allowed to corporations.

Taxation of capital gains

US Holders will not be subject to UK taxation on any capital gain realised on the sale or other disposition of ADSs or ordinary shares.

Provided that we are not a PFIC for any taxable year during which a US Holder holds their ADSs or ordinary shares, upon a sale or other disposition of ADSs or ordinary shares, a US Holder generally will recognise capital gain or loss for US federal income tax purposes that is equal to the difference between the US dollar value of the amount realised on the sale or other disposition and the US Holder's adjusted tax basis in the ADSs or ordinary shares. Such capital gain or loss generally will be long-term capital gain or loss if the ADSs or ordinary shares were held for more than one year. For non-corporate US Holders, long-term capital gain is generally taxed at a lower rate than ordinary income. A US Holder's ability to deduct capital losses is subject to significant limitations.

UK stamp duty and stamp duty reserve tax (SDRT)

Transfers of ordinary shares – SDRT at the rate of 0.5% of the amount or value of the consideration will generally be payable on any agreement to transfer ordinary shares that is not completed using a duly stamped instrument of transfer (such as a stock transfer form).

The SDRT liability will be cancelled where an instrument of transfer is executed and duly stamped before the expiry of the six-year period beginning with the date on which the agreement is made. If a claim is made within the specified period, any SDRT which has been paid will be refunded. SDRT is due whether or not the agreement or transfer is made or carried out in the UK and whether or not any party to that agreement or transfer is a UK resident.

Purchases of ordinary shares completed using a stock transfer form will generally result in a UK stamp duty liability at the rate of 0.5% (rounded up to the nearest £5) of the amount or value of the consideration. Paperless transfers under the CREST paperless settlement system will generally be liable to SDRT at the rate of 0.5%, and not stamp duty. SDRT is generally the liability of the purchaser, and UK stamp duty is usually paid by the purchaser or transferee.

Transfers of ADSs – no UK stamp duty will be payable on the acquisition or transfer of existing ADSs or beneficial ownership of ADSs, provided that any instrument of transfer or written agreement to transfer is executed outside the UK and remains at all times outside the UK.

An agreement for the transfer of ADSs in the form of American Depositary Receipts will not result in a SDRT liability. A charge to stamp duty or SDRT may arise on the transfer of ordinary shares to the Depositary or The Bank of New York Mellon as agent of the Depositary (the Custodian).

The rate of stamp duty or SDRT will generally be 1.5% of the value of the consideration or, in some circumstances, the value of the ordinary shares concerned. However, there is no 1.5% SDRT charge on the issue of ordinary shares (or, where it is integral to the raising of new capital, the transfer of ordinary shares) to the Depositary or the Custodian.

The Depositary will generally be liable for the stamp duty or SDRT. Under the terms of the Deposit Agreement, the Depositary will charge any tax payable by the Depositary or the Custodian (or their nominees) on the deposit of ordinary shares to the party to whom the ADSs are delivered against such deposits. If the stamp duty is not a multiple of £5, the duty will be rounded up to the nearest multiple of £5.

US information reporting and backup withholding tax

Dividend payments made to US Holders and proceeds paid from the sale, exchange, redemption or disposal of ADSs or ordinary shares to US Holders may be subject to information reporting to the US Internal Revenue Service (IRS). Such payments may be subject to backup withholding taxes if the US Holder fails to provide an accurate taxpayer identification number or certification of exempt status or fails to comply with applicable certification requirements.

US Holders should consult their tax advisors about these rules and any other reporting obligations that may apply to the ownership or disposition of ADSs or ordinary shares. Such obligations include reporting requirements related to the holding of certain foreign financial assets.

UK inheritance tax

An individual who is domiciled in the US for the purposes of the Estate Tax Convention and who is not a UK national for the purposes of the Estate Tax Convention will generally not be subject to UK inheritance tax in respect of (i) the ADSs or ordinary shares on the individual's death or (ii) a gift of the ADSs or ordinary shares during the individual's lifetime. This is not the case where the ADSs or ordinary shares are part of the business property of the individual's permanent establishment in the UK or relate to a fixed base in the UK of an individual who performs independent personal services.

Special rules apply to ADSs or ordinary shares held in trust. In the exceptional case where the ADSs or shares are subject both to UK inheritance tax and to US federal gift or estate tax, the Estate Tax Convention generally provides for the tax paid in the UK to be credited against tax paid in the US.

Capital gains tax (CGT) for UK resident shareholders

You can find CGT information relating to National Grid shares for UK resident shareholders on the investor section of our website. Share prices on specific dates are also available on our website.

Other disclosures

All-employee share plans

The Company has a number of all-employee share plans as described below, which operated during the year. These allow UK- or US-based employees to participate in either HMRC (UK) or IRS (US) approved plans and to become shareholders in National Grid.

Sharesave

Employees resident in the UK are eligible to participate in the Sharesave plan. Under this plan, participants may contribute between £5 and £500 in total each month, for a fixed period of three years, five years or both. Contributions are taken from net salary.

Share Incentive Plan (SIP)

Employees resident in the UK are eligible to participate in the SIP. Contributions up to £150 per month are deducted from participants' gross salary and used to purchase ordinary shares in National Grid each month. The shares are placed in trust.

US Incentive Thrift Plans

Employees of National Grid's US companies are eligible to participate in the Thrift Plans, which are tax-advantaged savings plans (commonly referred to as 401k plans). These are defined contribution (DC) pension plans that give participants the opportunity to invest up to applicable federal salary limits. The federal limits for calendar year 2018 were: for pre-tax contributions, a maximum of 50% of salary limited to $18,500 for those under the age of 50 and $24,500 for those aged 50 and above; for post-tax contributions, up to 15% of salary. The total amount of employee contributions (pre-tax and post-tax) could not exceed 50% of compensation, and was further subject to the combined federal annual contribution limit of $55,000. For the calendar year 2019, participants may invest up to the applicable federal salary limits: for pre-tax contributions, this is a maximum of 50% of salary limited to $19,000 for those under the age of 50 and $25,000 for those aged 50 and above; for post-tax contributions, this is up to 15% of salary. The total amount of employee contributions (pre-tax and post-tax) may not exceed 50% of compensation, and is further subject to the combined federal annual contribution limit of $56,000.

Employee Stock Purchase Plan (ESPP)

Employees of National Grid's US companies are eligible to participate in the ESPP (commonly referred to as a 423b plan). Eligible employees have the opportunity to purchase ADSs on a monthly basis at a 15% discounted price. Under the plan, employees may contribute up to 20% of base pay each year, up to a maximum annual contribution of $18,888, to purchase ADSs in National Grid.

Change of control provisions

No compensation would be paid for loss of office of Directors on a change of control of the Company. As at 31 March 2019, the Company had borrowing facilities of £4.2 billion available to it with a number of banks, which, on a change of control of the Company following a takeover bid, may alter or terminate; however, the Company is currently not drawing on any of such borrowing facilities. All the Company's share plans contain provisions relating to a change of control. Outstanding awards and options would normally vest and become exercisable on a change of control, subject to the satisfaction of any performance conditions at that time. In the event of a change of control of the Company, a number of governmental and regulatory consents or approvals are likely to be required, arising from laws or regulations of the UK, the US or the EU. Such consents or approvals may also be required for acquisitions of equity securities that do not amount to a change of control.

No other agreements that take effect, alter or terminate upon a change of control of the Company following a takeover bid are considered to be significant in terms of their potential impact on the business as a whole.

Code of Ethics

In accordance with US legal requirements, the Board has adopted a Code of Ethics for senior financial professionals. This code is available on our website: www.nationalgrid.com (where any amendments or waivers will also be posted). There were no amendments to, or waivers of, our Code of Ethics during the year.

Conflicts of interest

In accordance with the Companies Act 2006, the Board has a policy and procedure in place for the disclosure and authorisation (if appropriate) of actual and potential conflicts of interest. The Board continues to monitor and note possible conflicts of interest that each Director may have. The Directors are regularly reminded of their continuing obligations in relation to conflicts, and are required to review and confirm their external interests annually. During the year ended 31 March 2019, no actual or potential conflicts of interest were identified that required approval by the Board. The Board has considered and noted a number of situations in relation to which no actual conflict of interest was identified.

Corporate governance practices: differences from New York Stock Exchange (NYSE) listing standards

The Company is listed on the NYSE and is therefore required to disclose differences in its corporate governance practices adopted as a UK listed company, compared with those of a US company.

The corporate governance practices of the Company are primarily based on the requirements of the Code but substantially conform to those required of US companies listed on the NYSE. The following is a summary of the significant ways in which the Company's corporate governance practices differ from those followed by US companies under Section 303A Corporate Governance Standards of the NYSE.

The NYSE rules and the Code apply different tests for the independence of Board members.

The NYSE rules require a separate nominating/corporate governance committee composed entirely of independent Directors. There is no requirement for a separate corporate governance committee in the UK. Under the Company's corporate governance policies, all Directors on the Board discuss and decide upon governance issues, and the Nominations Committee makes recommendations to the Board with regard to certain responsibilities of a corporate governance committee.

The NYSE rules require listed companies to adopt and disclose corporate governance guidelines. While the Company reports compliance with the Code in each Annual Report and Accounts, the UK requirements do not require the Company to adopt and disclose separate corporate governance guidelines.

The NYSE rules require a separate audit committee composed of at least three independent members. While the Company's Audit Committee exceeds the NYSE's minimum independent Non-executive Director membership requirements, it should be noted that the quorum for a meeting of the Audit Committee, of two independent Non-executive Directors, is less than the minimum membership requirements under the NYSE rules.

The NYSE rules require a compensation committee composed entirely of independent Directors, and prescribe criteria to evaluate the independence of the committee's members and its ability to engage external compensation advisors. While the Code prescribes different independence criteria, the Non-executive Directors on the Company's Remuneration Committee have each been deemed independent by the Board under the NYSE rules. Although the evaluation criteria for appointment of external advisors differ under the Code, the Remuneration Committee is solely responsible for the appointment, retention and termination of such advisors.

Other disclosures continued

Directors' indemnity

The Company has arranged, in accordance with the Companies Act 2006 and the Articles, qualifying third-party indemnities against financial exposure that Directors may incur in the course of their professional duties. Equivalent qualifying third-party indemnities were, and remain, in force for the benefit of those Directors who stood down from the Board in prior financial years for matters arising when they were Directors of the Company. Alongside these indemnities, the Company places Directors' and Officers' liability insurance cover for each Director.

Employees

We negotiate with recognised unions. It is our policy to maintain well-developed communications and consultation programmes. Other than the implementation of the Massachusetts workforce contingency plan in June 2018 in response to a union work stoppage involving 1,250 employees over employment terms and conditions under an expired Massachusetts Gas union collective bargaining agreement, there have been no material disruptions to our operations from labour disputes during the past five years. The agreement under dispute was satisfactorily renegotiated in January 2019 between National Grid and the Massachusetts Gas unions. National Grid believes that it can conduct its relationships with trade unions and employees in a satisfactory manner.

Human rights

Respect for human rights is incorporated into our employment practices and our values, which are integral to our Code of ethical business conduct. The way in which we conduct ourselves allows us to build trust with the people with whom we work. We earn this trust by doing things in the right way, building our reputation as an ethical company that our stakeholders want to do business with and our employees want to work for. Although we do not have specific policies relating to human rights, slavery or human trafficking, our Global Supplier Code of Conduct (GSCoC) integrates human rights into the way we do business throughout our supply chain alongside other areas of sustainability. This Code ensures we create value, preserve natural resources and respect the interests of the communities we serve and from which we procure goods and services. Through our GSCoC, we expect our suppliers to comply with all legislation relating to their business, as well as adhere to the Principles of the United Nations Global Compact, the International Labour Organization (ILO) minimum standards, the Ethical Trading Initiative (ETI) Base Code, the UK Modern Slavery Act 2015 and, for our UK suppliers, the requirements of the Living Wage Foundation.

Listing Rule 9.8.4 R cross-reference table

Information required to be disclosed by LR 9.8.4 R (starting on page indicated):

Interest capitalised	Page 121
Publication of unaudited financial information	Not applicable
Details of long-term incentive schemes	Not applicable
Waiver of emoluments by a director	Page 84
Waiver of future emoluments by a director	Page 71
Non-pre-emptive issues of equity for cash	Not applicable
Item (7) in relation to major subsidiary undertakings	Not applicable
Parent participation in a placing by a listed subsidiary	Not applicable
Contracts of significance	Not applicable
Provision of services by a controlling shareholder	Not applicable
Shareholder waivers of dividends	Page 219
Shareholder waivers of future dividends	Page 219
Agreements with controlling shareholders	Not applicable

Material contracts

On 31 March 2017 we sold a 61% interest in our UK Gas Distribution business (now known as Cadent) to the Consortium and, at the same time, we entered into an agreement with the Consortium for the potential future sale and purchase of an additional 14% equity interest in Quadgas. On 30 April 2018 we entered into a further agreement with the Consortium for the potential future sale and purchase of the remaining 25% equity interest in Quadgas. In November 2018, we announced we had decided to exercise those two options, and the sale of our remaining 39% equity interest to the Consortium is expected to complete at the end of June 2019.

In addition, each of our Executive Directors has a Service Agreement and each Non-executive Director has a Letter of Appointment. Apart from these, no contract (other than contracts entered into in the ordinary course of business) has been entered into by the Group within the two years immediately preceding the date of this report that is, or may be, material, or that contains any provision under which any member of the Group has any obligation or entitlement that is material to the Group at the date of this report.

Political donations and expenditure

At this year's AGM, the Directors will again seek authority from shareholders, on a precautionary basis, for the Company and its subsidiaries to make donations to registered political parties and other political organisations and/or incur political expenditure in the UK and the European Union (EU). In each case, donations will be in amounts not exceeding £125,000 in aggregate. The definitions of these terms in the Companies Act 2006 are very wide. As a result, this can cover bodies such as those concerned with policy review, law reform and the representation of the business community. It could include special interest groups, such as those involved with the environment, which the Company and its subsidiaries might wish to support, even though these activities are not designed to support or influence support for a particular party. The Companies Act 2006 states that all-party parliamentary groups are not political organisations for these purposes, meaning the authority to be sought from shareholders is not relevant to interactions with such groups. The Company has no intention of changing its current practice of not making political donations or incurring political expenditure within the ordinary meaning of those words. This authority is, therefore, being sought to ensure that none of the Company's activities inadvertently infringe these rules.

National Grid made no donations in the UK or the EU during the year, including donations as defined for the purposes of the Political Parties, Elections and Referendums Act 2000. National Grid USA and its affiliated New York and federal political action committees (each a PAC) made political donations in the US totalling $60,081 (£46,025) during the year. National Grid USA's affiliated New York PAC was funded partly by contributions from National Grid USA and certain of its subsidiaries and partly by voluntary employee contributions. National Grid USA's affiliated federal PAC was funded wholly by voluntary employee contributions.

Property, plant and equipment

This information can be found in note 13 property, plant and equipment on pages 132 – 133, note 21 borrowing on pages 141 – 143 and where we operate on page 198.

Research, development and innovation activity

Investment in research and development during the year for the Group was £19 million (2017/18: £13 million; 2016/17: £14 million). Due to the way in which we work with a large number of partners on new ideas, our disclosed research and development expenditure is lower than the overall contribution we make to the industry. We only disclose directly incurred expenditure, and not those amounts our partners contribute to joint or collaborative projects. Collaborating across the industry has played a crucial role in our ability to develop new programmes and deliver value to our stakeholders throughout 2018/19, with increased investment across our UK regulated business areas: UK Electricity Transmission (ET), UK Gas Transmission (GT) and the Electricity System Operator (ESO).

Collaboration remains crucial in search of new technologies and techniques to challenge the way we work. A focus has been on articulation of the impact of the changing energy landscape on our innovation strategies and programmes to the wider stakeholders through workshops and bilateral engagements; and the development of innovation projects to drive the decarbonisation of transport, heat and industry. We are committed to investigating sustainable solutions to our problems. One example is the use of bamboo to try and reduce the impact of transformer noise on our communities.

ET's innovation investment continues to advance our strategic ambitions to reduce the cost of delivering a secure, reliable and sustainable electricity transmission system now and in the future, with 23 new projects started this financial year. We have also started nine projects looking at supporting the decarbonisation of energy, transport and heat. With this aim, we have also actively supported the Flexis initiative in Wales and the Cheshire Energy Hub. Our engagement and in kind contribution to academic research remains strong. We are providing strategic direction, expertise and support to 24 projects funded by the Engineering and Physical Sciences Research Council (EPSRC), helping them and the associated academic partners leverage £64.7 million of grant funding to deliver maximum value and impact to society. These include large consortium initiatives such as the Supergen Energy Networks Hub and the Faraday Institute.

We have also engaged with a wider range of stakeholders by starting our own bi-weekly podcast, Talking Transmission, where we communicate the work we are doing and our views of the energy landscape. We have also launched an electromagnetic field (EMF) website to provide factual, comprehensive information to the wider community and interested parties.

At the Deeside Innovation Centre, the overhead line area and control room are under construction. The first innovation projects are starting to deliver consumer value and contributing to over £21 million savings across UK networks.

This year has been a special one for the ESO, as we legally separated from Electricity Transmission, thus finding new opportunities to deliver innovation projects focused on the specific challenges we are ideally placed to address, helping us realise maximum benefits for our customers and the end consumers in a fast-changing world. As the System Operator (SO), following a refresh of our dual-fuel Innovation Strategy, first published in February 2018, we continue to develop projects that support our priority challenges. To this end, over the last year, the SO has committed over £3.6 million of spend on nine new Network Innovation Allowance (NIA) projects and was awarded £10 million Network Innovation Competition (NIC) funding for our £11.7 million Black Start from Distributed Energy Resources (DERs) project. As the SO sits at the heart of the energy system, we firmly believe in following an Open Innovation approach, and thus strive to collaborate across a range of partners, from academia to industry. The success of our very first SO Open Innovation Day and Gas System Operator (GSO) Hack in 2018 have resulted in new partnerships across our innovation portfolio, which in turn have helped the SO deliver more value to customers and consumers, while exposing us to some of the latest technological solutions out there.

The year ahead will see even more projects come to life from the ESO, including our Black Start NIC project with SP Energy Networks, which will develop and demonstrate coordination of DERs to provide a safe and effective Black Start service at lower cost to consumers. From June 2019, the largest NIA project from the ESO, worth a combined £1.1 million, will trial same-day frequency response procurement for the first time, thus enabling non-programmable generation such as wind to participate, while giving demand-side response providers a clearer picture of what may be required of them and when.

The ESO and UK Power Networks continue to work on the Power Potential project to enable more distributed electricity generation across the South East of England. A technical and commercial solution is being developed that will allow electricity generators to connect to the distribution grid and provide transmission services to the ESO, deferring transmission network reinforcements. This new service is a significant step towards UK Power Networks becoming a Distribution System Operator (DSO) and enabling customers to connect to the network more efficiently. If successful, Power Potential could save energy consumers over £400 million by 2050 and generate an additional 3.72 GW in the South East of the UK, possibly being rolled out to 59 other transmission sites within the UK.

The Enhanced Frequency Control Capability (EFCC) project, which concluded in December 2018, explored how response providers can play a larger role in providing the ESO with faster, coordinated frequency response to help keep the transmission system stable in the most efficient way. The project developed and tested a novel wide-area Monitoring and Control System (MCS), which coordinates and maximises the contribution of fast frequency response from a range of providers. Conclusions from the project provide valuable insight as to how to manage system frequency within a low-inertia system.

GT Innovation has continued to focus on developing innovation programmes across safety, reliability and asset health, while adapting to external factors, such as the future of gas and increasing threats to cyber security. Highlights from the year include:

- the Open Source SCADA project to develop a modularised cyber security solution to provide greater resilience at our compressor sites;
- the Mobile Condensate Tank project, which removes the need for larger, more expensive permanent tanks on site, bringing safety enhancements and significant time and cost efficiencies;
- the Hydrogen Feasibility Study working with the Health and Safety Executive (HSE) to understand the opportunities and challenges of transporting hydrogen through the National Transmission System (NTS); and
- in addition, both of the NIC projects – Project GRAID and Project CLoCC – ended this year, successfully achieving their goals to deliver cost savings and efficiencies to our customers.

Other disclosures continued

Research and Development (R&D) work in the US focused on the advancement of products, processes, systems and work methods that may be new to National Grid. This is accomplished by working with internal departments to identify where strategic R&D investment is needed and is likely to prove beneficial to us. To achieve these goals, we work in collaboration with technical organisations, academia and vendors in the energy sector that align with our goals and objectives. This collaboration has also helped inform our strategic direction in response to jurisdictional requests for modernisation (Grid Modernisation in Massachusetts and REV in New York). We continue to focus our gas R&D on increasing public safety, protecting our workforce and reducing the cost of the work we perform.

In 2018/19, we continued to invest and participate in several significant pilot projects with the intention of obtaining operational knowledge and experience of technology-driven system impacts. Below are a few examples of our R&D projects:

- In Massachusetts under our 'Solar Phase II' programme, we contracted and built 15.27 MW of company-owned photovoltaics (PV). These PV sites have been built with advanced grid interactive control features, beyond what typical PV facilities are required to provide. Operating and analysing the performance of these grid interactive controls will help prepare and future-proof our system to enable a high penetration of distributed energy resources on the distribution system. In the 'Solar Phase III' programme, we have contracted for 14 MW of PV and 5.8 MW of energy storage. The aim of this project is to demonstrate the value of energy storage in the system peak load shaving, solar-ramp rate control and mitigation of power-quality issues. In February 2019, the Company received an Electric Power Research Institute (EPRI) Technology Transfer award, entitled Smart Inverter Requirements and Application, for our work on testing smart inverters' functionalities in support of distribution grid operations.
- We are engaged with the EPRI on a number of programmes, including distributed energy resources integration, energy storage, asset management, system operations, information and communication technology and system planning.
- We have completed two New York REV pilot projects: Fruit Belt Neighbourhood Solar and Community Resilience. We are also progressing an additional four REV pilot projects, to test new technologies and business models in which distributed energy resources are integrated for grid operations:
  - Residential Demand Reduction with time-of-use-rates;
  - Distributed System Platforms;
  - Distributed Generation Integration; and
  - Smart Cities.
- We are also working on developing a new REV pilot project to test strategies to increase residential energy-efficiency uptake.
- We support several US Department of Energy projects under the SunShot programme, aimed to further the integration and proliferation of solar PV.
- We are preparing to demonstrate online monitoring technology at transmission substations and lines in our New England service area. This will help the move towards enhanced condition-based asset management. These technologies will allow the Company to utilise the capacity of lines and transformers more efficiently, enabling the investment to upgrade the asset to be deferred.
- We are preparing to demonstrate power flow control technology in New England to improve the operation of our transmission network and to defer capital investment.
- We are developing an energy storage playbook that would help us to deploy energy storage to improve system reliability and defer capital investment.
- We are building equipment testing and training labs to support our initial upgrades of transmission substations across our service area to the IEC 61850 communications standard.
- Building on the successful development and deployment of new equipment to stop the flow of gas in our distribution mains, we are expanding the applicability of the equipment to mains sized 750mm and larger. These mains are some of the largest operating in our system and will provide some of the greatest cost savings when deployed. This equipment is much smaller than previous equipment. It operates at a higher pressure, allowing our workforce to work more quickly and safely in smaller excavations with less customer impact.
- We are currently selecting projects to field-test alternative trenchless technologies using main insertion and plastic pipe splitting. Main insertion introduces high-pressure gas mains to regions utilising the old gas infrastructure. When using this main replacement technique, gas service is maintained to the customer until it is convenient to transfer the customer to the new high-pressure gas main.
- While partnering with a robotics company and another utility, we are developing and testing new technology to locate inadvertent sewer cross bores created when using some trenchless technology. This technology is deployed in our gas main immediately after installation, prior to the introduction of natural gas. It differs from the current process, which requires us to gain access to the municipal sewer system. Deployment will reduce the risk and cost associated with sewer cross bores.
- We utilised a drone to perform a regulated inspection of a high-pressure gas pipe line suspended under a bridge linking Cape Cod to Massachusetts. This remote vehicle was able to inspect sections of the pipeline not visible from the catwalk. The inspection was performed faster, with more detail and more safely, without putting an inspector forty metres above the water.

Unresolved SEC staff comments

There are no unresolved SEC staff comments required to be reported.

Other unaudited financial information

Alternative performance measures/non-IFRS reconciliations

Within the Annual Report, a number of financial measures are presented. These measures have been categorised as alternative performance measures (APMs), as per the European Securities and Markets Authority (ESMA) guidelines and the Securities and Exchange Commission (SEC) conditions for use of non-GAAP Financial Measures.

An APM is a financial measure of historical or future financial performance, financial position, or cash flows, other than a financial measure defined under IFRS. The Group uses a range of these measures to provide a better understanding of its underlying performance. APMs are reconciled to the most directly comparable IFRS financial measure where practicable.

The Group has defined the following financial measures as APMs derived from IFRS: net revenue, the various adjusted operating profit, earnings and earnings per share metrics detailed in the ‘adjusted profit measures’ section below, net debt, capital investment, funds from operations (FFO), FFO interest cover and retained cash flow (RCF)/adjusted net debt. For each of these we present a reconciliation to the most directly comparable IFRS measure.

We also have a number of APMs derived from regulatory measures which have no basis under IFRS; we call these Regulatory Performance Measures. They comprise: Group Return on Equity (RoE), UK and US regulatory RoE, regulated asset base, regulated financial performance, regulatory gearing, asset growth and Value Added including Value Added per share. These measures reflect the inputs used by utility regulators to set the allowed revenues for many of our businesses.

We use regulatory performance measures to monitor progress against our regulatory agreements and certain aspects of our strategic objectives. Further, targets for certain of these performance measures are included in the Company’s Annual Performance Plan (APP) and Long Term Performance Plan (LTPP) and contribute to how we reward our employees. As such, we believe that they provide close correlation to the economic value we generate for our shareholders and are therefore important supplemental measures for our shareholders to understand the performance of the business and to ensure a complete understanding of Group performance.

As the starting point for our Regulatory Performance Measures is not IFRS, and these measures are not governed by IFRS, we are unable to provide meaningful reconciliations to any directly comparable IFRS measures, as differences between IFRS and the regulatory recognition rules applied have built up over many years. Instead, for each of these we present an explanation of how the measure has been determined and why it is important, and an overview as to why it would not be meaningful to provide a reconciliation to IFRS.

Alternative performance measures

Net revenue

‘Net revenue’ is revenue less pass-through costs, such as UK system balancing costs, gas and electricity commodity costs in the US and, prior to the adoption of IFRS 15, payments to other UK network owners. Pass-through costs are fully recoverable from our customers and are recovered through separate charges that are designed to recover those costs with no profit. Any over- or under-recovery of these costs is returned to, or recovered from, our customers.

	2019			2018			2017		
Year ended 31 March	**Gross revenue £m**	**Pass-through costs £m**	**Net revenue £m**	Gross revenue £m	Pass-through costs £m	Net revenue £m	Gross revenue £m	Pass-through costs £m	Net revenue £m
UK Electricity Transmission	**3,351**	**(1,397)**	**1,954**	4,154	(2,243)	1,911	4,439	(2,293)	2,146
UK Gas Transmission	**896**	**(227)**	**669**	1,091	(257)	834	1,080	(223)	857
US Regulated	**9,846**	**(3,978)**	**5,868**	9,272	(3,804)	5,468	8,931	(3,411)	5,520
NGV and Other	**876**	**–**	**876**	776	–	776	713	–	713
Sales between segments	**(36)**	**–**	**(36)**	(43)	–	(43)	(128)	–	(128)
Total	**14,933**	**(5,602)**	**9,331**	15,250	(6,304)	8,946	15,035	(5,927)	9,108

Adjusted profit measures

In considering the financial performance of our business and segments, we use various adjusted profit measures in order to aid comparability of results year-on-year.

The various measures are presented on pages 26 – 32 and reconciled below.

Adjusted results, also referred to as Headline results – these exclude the impact of exceptional items and remeasurements that are treated as discrete transactions under IFRS and can accordingly be classified as such. This is a measure used by management that forms part of the incentive target set annually for remunerating certain Executive Directors, and further details of these items are included in Note 5 to the financial statements.

Underlying results – further adapts our adjusted results to take account of volumetric and other revenue timing differences arising due to the in-year difference between allowed and collected revenues, including revenue incentives, as governed by our rate plans in the US or regulatory price controls in the UK (but excluding totex-related allowances and adjustments). For 2018/19, as highlighted on page 226, our underlying results exclude £108 million (2017/18: £104 million) of timing differences, as well as £93 million (2017/18: £142 million) of major storm costs (which are significant in aggregate) where we expect to recover the bulk of the costs incurred through regulatory mechanisms in the US.

Constant currency – the adjusted profit measures are also shown on a constant currency basis to show the year-on-year comparisons excluding any impact of foreign currency movements.

Other unaudited financial information continued

Reconciliation of statutory, adjusted and underlying profits and earnings – at actual exchange rates – continuing operations

Year ended 31 March 2019	Statutory £m	Exceptionals and remeasurements £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	778	237	1,015	77	–	1,092
UK Gas Transmission	267	36	303	38	–	341
US Regulated	1,425	299	1,724	(223)	93	1,594
NGV and Other	400	–	400	–	–	400
Total operating profit	2,870	572	3,442	(108)	93	3,427
Net finance costs	(1,069)	76	(993)	–	–	(993)
Share of post-tax results of JVs and associates	40	–	40	–	–	40
Profit before tax	1,841	648	2,489	(108)	93	2,474
Tax	(339)	(149)	(488)	36	(24)	(476)
Profit after tax	1,502	499	2,001	(72)	69	1,998

Year ended 31 March 2018	Statutory £m	Exceptionals and remeasurements £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,041	–	1,041	14	–	1,055
UK Gas Transmission	487	–	487	18	–	505
US Regulated	1,734	(36)	1,698	(136)	142	1,704
NGV and Other	231	–	231	–	–	231
Total operating profit	3,493	(36)	3,457	(104)	142	3,495
Net finance costs	(882)	(119)	(1,001)	–	–	(1,001)
Share of post-tax results of JVs and associates	49	(5)	44	–	–	44
Profit before tax	2,660	(160)	2,500	(104)	142	2,538
Tax	889	(1,473)	(584)	42	(51)	(593)
Profit after tax	3,549	(1,633)	1,916	(62)	91	1,945

Year ended 31 March 2017	Statutory £m	Exceptionals and remeasurements £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,361	11	1,372	(137)	–	1,235
UK Gas Transmission	507	4	511	(62)	–	449
US Regulated	1,278	435	1,713	(199)	–	1,514
NGV and Other	62	115	177	–	–	177
Total operating profit	3,208	565	3,773	(398)	–	3,375
Net finance costs	(1,087)	58	(1,029)	–	–	(1,029)
Share of post-tax results of JVs and associates	63	–	63	–	–	63
Profit before tax	2,184	623	2,807	(398)	–	2,409
Tax	(374)	(292)	(666)	119	–	(547)
Profit after tax	1,810	331	2,141	(279)	–	1,862

Reconciliation of adjusted and underlying profits – at constant currency

		At constant currency				
Year ended 31 March 2018	Adjusted at actual exchange £m	Constant currency adjustment £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,041	–	1,041	14	–	1,055
UK Gas Transmission	487	–	487	18	–	505
US Regulated	1,698	68	1,766	(141)	148	1,773
NGV and Other	231	(4)	227	–	–	227
Total operating profit	3,457	64	3,521	(109)	148	3,560
Net finance costs	(1,001)	(27)	(1,028)	–	–	(1,028)
Share of post-tax results of JVs and associates	44	1	45	–	–	45
Profit before tax	2,500	38	2,538	(109)	148	2,577

		At constant currency				
Year ended 31 March 2017	Adjusted at actual exchange £m	Constant currency adjustment £m	Adjusted £m	Timing £m	Major storm costs £m	Underlying £m
UK Electricity Transmission	1,372	–	1,372	(137)	–	1,235
UK Gas Transmission	511	–	511	(62)	–	449
US Regulated	1,713	(38)	1,675	(195)	–	1,480
NGV and Other	177	1	178	–	–	178
Total operating profit	3,773	(37)	3,736	(394)	–	3,342
Net finance costs	(1,029)	12	(1,017)	–	–	(1,017)
Share of post-tax results of JVs and associates	63	–	63	–	–	63
Profit before tax	2,807	(25)	2,782	(394)	–	2,388

Earnings per share calculations from continuing operations – at actual exchange rates

The table below reconciles the profit before tax from continuing operations as per the previous tables back to the earnings per share from continuing operations for each of the adjusted profit measures. Earnings per share is only presented for those adjusted profit measures that are at actual exchange rates, and not for those at constant currency.

Year ended 31 March 2019	**Profit after tax £m**	**Non-controlling interest £m**	**Profit after tax attributable to shareholders £m**	**Weighted average number of shares millions**	**Earnings per share pence**
Statutory	**1,502**	**(3)**	**1,499**	**3,386**	**44.3**
Adjusted (also referred to as headline)	**2,001**	**(3)**	**1,998**	**3,386**	**59.0**
Underlying	**1,998**	**(3)**	**1,995**	**3,386**	**58.9**

Year ended 31 March 2018	Profit after tax £m	Non-controlling interest £m	Profit after tax attributable to shareholders £m	Weighted average number of shares millions	Earnings per share pence
Statutory	3,549	(1)	3,548	3,461	102.5
Adjusted (also referred to as headline)	1,916	(1)	1,915	3,461	55.3
Underlying	1,945	(1)	1,944	3,461	56.2

Year ended 31 March 2017	Profit after tax £m	Non-controlling interest £m	Profit after tax attributable to shareholders £m	Weighted average number of shares millions	Earnings per share pence
Statutory	1,810	–	1,810	3,763	48.1
Adjusted (also referred to as headline)	2,141	–	2,141	3,763	56.9
Underlying	1,862	–	1,862	3,763	49.5

Other unaudited financial information continued

Timing and regulated revenue adjustments

As described on pages 199 – 209, our allowed revenues are set in accordance with our regulatory price controls or rate plans. We calculate the tariffs we charge our customers based on the estimated volume of energy we expect will be delivered during the coming period. The actual volumes delivered will differ from the estimate. Therefore, our total actual revenue will be different from our total allowed revenue. These differences are commonly referred to as timing differences.

If we collect more than the allowed revenue, the balance must be returned to customers in subsequent periods, and if we collect less than the allowed level of revenue, we may recover the balance from customers in subsequent periods. In the US, a substantial portion of our costs are pass-through costs (including commodity and energy efficiency costs) and are fully recoverable from our customers. Timing differences between costs of this type being incurred and their recovery through revenue are also included in timing. The amounts calculated as timing differences are estimates and subject to change until the variables that determine allowed revenue are final.

Our continuing operating profit for the year includes a total estimated in-year over-collection of £108 million (2017/18: £104 million over-collection). Our closing balance at 31 March 2019 was £407 million over-recovered. In the UK, there was cumulative under-recovery of £59 million at 31 March 2019 (2018: over-recovery of £49 million for continuing operations). In the US, cumulative timing over-recoveries at 31 March 2019 were £248 million (2018: £230 million over-recovery). A sizeable part of that balance is expected to be returned to customers next year.

The total estimated in-year over- or under-collection excludes opening balance adjustments related to estimates or finalisation of balances as part of regulatory submissions.

In addition to the timing adjustments described above, as part of the RIIO price controls in the UK, outperformance against allowances as a result of the totex incentive mechanism, together with changes in output-related allowances included in the original price control, will almost always be adjusted in future revenue recoveries, typically starting in two years' time. We are also recovering revenues in relation to certain costs incurred (for example pension contributions made) in prior years.

Our current IFRS revenues and earnings include these amounts that relate to certain costs incurred in prior years or that will need to be repaid or recovered in future periods. Such adjustments will form an important part of the continuing difference between reported IFRS results and underlying economic performance based on our regulatory obligations.

For our UK Regulated businesses as a whole (excluding the UK Gas Distribution business), timing and regulated revenue adjustments totalled a return of £243 million in the year (2017/18: £40 million recovered). In the US, accumulated regulatory entitlements cover a range of different areas, with the most significant being environmental remediation and pension assets, as well as deferred storm costs.

All regulatory entitlements are recoverable (or repayable) over different periods, which are agreed with the regulators to match the expected payment profile for the liabilities. As at 31 March 2019, these extend until 2069.

	UK Electricity Transmission £m	**UK Gas Transmission £m**	**US Regulated £m**	**Total £m**
1 April 2018 opening balance[1]	**(41)**	**97**	**241**	**297**
Over/(under) recovery	**(77)**	**(38)**	**223**	**108**
31 March 2019 closing balance to (recover)/return	**(118)**	**59**	**464**	**405**

	UK Electricity Transmission £m	UK Gas Transmission £m	US Regulated £m	Total £m
1 April 2017 opening balance[1]	(30)	111	106	187
Over/(under) recovery[2]	(14)	(18)	141	109
31 March 2018 closing balance to (recover)/return[1]	(44)	93	247	296

	UK Electricity Transmission £m	UK Gas Transmission £m	US Regulated £m	Total £m
1 April 2016 opening balance[1]	(167)	50	(97)	(214)
Over/(under) recovery[2]	137	62	195	394
31 March 2017 closing balance to (recover)/return[1]	(30)	112	98	180

1. Opening balances have been restated to reflect the finalisation of calculated over/(under)-recoveries in the UK and the US.
2. US over/(under) recovery and all US Regulated balances have been translated using the average exchange rate for the year ended 31 March 2019. The over-recovered closing balance at 31 March 2019 was £407m (translated at the closing rate of $1.30:£1).

Capital investment

'Capital investment' or 'investment' refer to additions to property, plant and equipment and intangible assets, and contributions to joint ventures and associates, other than the St William Homes LLP joint venture during the period. We also include the Group's investments by National Grid Partners during the period which are classified for IFRS purposes as non-current financial assets in the Group's consolidated statement of financial position.

Investments made to our St William Homes LLP arrangement are excluded based on the nature of this joint venture arrangement. We typically contribute property assets to the joint venture in exchange for cash and accordingly do not consider these transactions to be in the nature of capital investment.

	At actual exchange rates			At constant currency		
Year ended 31 March	**2019 £m**	2018 £m	% change	**2019 £m**	2018 £m	% change
UK Electricity Transmission	**925**	999	(7)	**925**	999	(7)
UK Gas Transmission	**308**	310	(1)	**308**	310	(1)
US Regulated	**2,650**	2,424	9	**2,650**	2,521	5
NGV and Other	**438**	341	28	**438**	346	27
Group capex	**4,321**	4,074	6	**4,321**	4,176	3
Equity investment, funding contributions and loans to joint ventures and associates[1]	**185**	177	5	**185**	181	2
Group capital investment	**4,506**	4,251	6	**4,506**	4,357	3

1. Excludes £47 million (2018: £19 million) equity contribution to the St William Homes LLP joint venture. 2018/19 includes £58 million National Grid Partners investment, of which £6 million is in an associate.

Net debt

See note 29 on page 159 for the definition and reconciliation of net debt.

Funds from operations (FFO) and interest cover

FFO is the cash flows generated by the operations of the Group. Credit rating metrics, including FFO, are used as indicators of balance sheet strength.

Year ended 31 March	**2019 £m**	2018[1] £m	2017[1] £m
Interest expense (income statement)	**1,066**	1,128	1,082
Hybrid interest reclassified as dividend	**(51)**	(51)	(51)
Capitalised interest	**135**	128	109
Pensions interest adjustment	**(4)**	(49)	(60)
Interest on lease rentals adjustment	**11**	16	18
Unwinding of discount on provisions	**(74)**	(75)	(73)
Other interest adjustments	**1**	12	1
Interest paid (discontinued operations)	**–**	–	146
Adjusted interest expense	**1,084**	1,109	1,172
Net cash inflow from operating activities	**4,389**	4,710	4,320
Interest received on financial instruments	**68**	57	51
Interest paid on financial instruments	**(914)**	(853)	(839)
Dividends received	**201**	213	99
Working capital adjustment	**(40)**	(118)	(151)
Excess employer pension contributions	**260**	211	606
Hybrid interest reclassified as dividend	**51**	51	51
Lease rentals	**34**	86	86
Difference in net interest expense in income statement to cash flow	**(186)**	(178)	(170)
Difference in current tax in income statement to cash flow	**(13)**	(206)	(47)
Current tax related to prior periods	**(52)**	(22)	(46)
Cash flow from discontinued operations	**(71)**	(207)	909
Interest paid (discontinued operations)	**–**	–	(146)
Funds from operations (FFO)	**3,727**	3,744	4,723
FFO interest cover ((FFO + adjusted interest expense)/adjusted interest expense)	**4.4x**	4.4x	5.0x

1. Numbers for 2018 and 2017 reflect the calculations for the total Group as based on the published accounts for the respective years and have not been restated for discontinued operations.

Other unaudited financial information continued

Retained cash flow (RCF)/adjusted net debt

RCF/net debt is one of two credit metrics that we monitor in order to ensure the Group is generating sufficient cash to service its debts, consistent with maintaining a strong investment-grade credit rating. We calculated RCF/net debt applying the methodology used by Moody's, as this is one of the most constrained calculations of credit worthiness. The net debt denominator includes adjustments to take account of off-balance sheet leases and the equity component of hybrid debt.

Year ended 31 March	2019 £m	2018 £m	2017 £m
Funds from operations (FFO)	**3,727**	3,744	4,723
Hybrid interest reclassified as dividend	**(51)**	(51)	(51)
Ordinary dividends paid to shareholders	**(1,160)**	(1,316)	(1,463)
RCF (excluding share buybacks)	**2,516**	2,377	3,209
Repurchase of shares	**–**	(178)	(189)
RCF (net of share buybacks)	**2,516**	2,199	3,020
Borrowings	**28,730**	26,625	28,638
Less:			
50% hybrid debt	**(1,039)**	(1,050)	(1,033)
Cash and cash equivalents	**(252)**	(329)	(1,139)
Financial and other investments	**(1,311)**	(2,304)	(7,432)
Restricted cash	**–**	–	2
Underfunded pension obligations	**845**	857	1,487
Operating leases adjustment	**248**	408	526
Derivative balances removed from debt	**141**	(479)	52
Currency swaps	**38**	117	72
Nuclear decommissioning liabilities reclassified as debt	**18**	5	36
Collateral – cash received under collateral agreements	**(558)**	(878)	(709)
Accrued interest removed from short-term debt	**(223)**	(195)	(210)
Adjusted net debt (includes pension deficit)	**26,637**	22,777	20,290
RCF (excluding share buybacks)/adjusted net debt	**9.4%**	10.4%	15.8%
RCF (net of share buybacks)/adjusted net debt	**9.4%**	9.7%	14.9%

Regulatory Performance Measures

Regulated financial performance – UK

Regulatory financial performance is a pre-interest and tax measure, starting at segmental operating profit and making adjustments (such as the elimination of all pass-through items included in revenue allowances and timing) to approximate regulatory profit for the UK regulated activities. This measure provides a bridge for investors between a well-understood and comparable IFRS starting point and through the key adjustments required to approximate regulatory profit. This measure also provides the foundation to calculate Group Return on Equity (RoE).

For the reasons noted above, the table below shows the principal differences between the IFRS operating profit and the regulated financial performance, but is not a formal reconciliation to an equivalent IFRS measure.

UK Electricity Transmission

Year ended 31 March	2019 £m	2018 £m	2017 £m
Adjusted operating profit	**1,015**	1,041	1,372
Movement in regulatory 'IOUs'	**174**	51	(288)
Deferred taxation adjustment	**64**	70	62
RAV indexation (average 3% long-run inflation)	**391**	374	356
Regulatory vs IFRS depreciation difference	**(394)**	(377)	(379)
Fast money/other	**72**	69	34
Pensions	**(51)**	(49)	(47)
Performance RAV created	**90**	83	74
Regulated financial performance	**1,361**	1,262	1,184

UK Gas Transmission

Year ended 31 March	2019 £m	2018 £m	2017 £m
Adjusted operating profit	303	487	511
Movement in regulatory 'IOUs'	68	(91)	(120)
Deferred taxation adjustment	8	18	39
RAV indexation (average 3% long-run inflation)	179	173	168
Regulatory vs IFRS depreciation difference	(42)	(29)	(21)
Fast money/other	(10)	(11)	(14)
Pensions	(33)	(32)	(53)
Performance RAV created	(30)	(16)	(11)
Regulated financial performance	443	499	499

Regulated financial performance – US Regulated

Year ended 31 March	2019 £m	2018 £m	2017 £m
Adjusted operating profit	1,724	1,698	1,713
Major storm costs	93	142	–
Timing	(223)	(136)	(199)
US GAAP pension adjustment	(80)	(73)	(155)
Regulated financial performance	1,514	1,631	1,359

Total regulated financial performance

Year ended 31 March	2019 £m	2018 £m	2017 £m
UK Electricity Transmission	1,361	1,262	1,184
UK Gas Transmission	443	499	499
US Regulated	1,514	1,631	1,359
UK Gas Distribution	n/a	n/a	864
Total regulated financial performance	3,318	3,392	3,906

US timing, major storms and movement in UK regulatory 'IOUs' – Revenue related to performance in one year may be recovered in later years. Revenue may be recovered in one year but be required to be returned to customers in future years. In the UK, this is calculated as the movement in other regulated assets and liabilities.

Performance RAV – UK performance efficiencies are in-part remunerated by the creation of additional RAV which is expected to result in future earnings under regulatory arrangements. This is calculated as in-year totex outperformance multiplied by the appropriate regulatory capitalisation ratio and multiplied by the retained company incentive sharing ratio.

Pension adjustment – Cash payments against pension deficits in the UK are recoverable under regulatory contracts. In US Regulated operations, US GAAP pension charges are generally recoverable through rates. Revenue recoveries are recognised under IFRS but payments are not charged against IFRS operating profits in the year. In the UK this is calculated as cash payments against the regulatory proportion of pension deficits in the UK regulated business, whereas in the US, it is the difference between IFRS and US GAAP pension charges.

3% RAV indexation – Future UK revenues expected to be set using an asset base adjusted for inflation. This is calculated as UK RAV multiplied by 3% (long-run RPI inflation assumption).

UK deferred taxation adjustment – Future UK revenues are expected to recover cash taxation cost including the unwinding of deferred taxation balances created in the current year. This is the difference between: (a) IFRS underlying EBITDA less other regulatory adjustments; and (b) IFRS underlying EBITDA less other regulatory adjustments less current taxation (adjusted for interest tax shield) then grossed up at full UK statutory tax rate.

Regulatory depreciation – US and UK regulated revenues include allowance for a return of regulatory capital in accordance with regulatory assumed asset lives. This return does not form part of regulatory profit.

Fast/slow money adjustment – The regulatory remuneration of costs incurred is split between in-year revenue allowances and the creation of additional RAV. This does not align with the classification of costs as operating costs and fixed asset additions under IFRS accounting principles. This is calculated as the difference between IFRS classification of costs as operating costs or fixed asset additions and the regulatory classification.

Other unaudited financial information continued

Regulated asset base

The regulated asset base is a regulatory construct, based on predetermined principles not based on IFRS. It effectively represents the invested capital on which we are authorised to earn a cash return. By investing efficiently in our networks, we add to our regulated asset base over the long term and this in turn contributes to delivering shareholder value. Our regulated asset base is comprised of our regulatory asset value in the UK, plus our rate base in the US.

Maintaining efficient investment in our regulated asset base ensures we are well positioned to provide consistently high levels of service to our customers and increases our revenue allowances in future years. While we have no specific target, our overall aim is to achieve between 5% and 7% growth in regulated asset base each year through continued investment in our networks in both the UK and US.

In the UK, the way in which our transactions impact RAV is driven by principles set out by Ofgem. In a number of key areas these principles differ from the requirements of IFRS, including areas such as additions and the basis for depreciation. Further, our UK RAV is adjusted annually for inflation. RAV in each of our retained UK businesses has evolved over the period since privatisation in 1990, and as a result, historical differences between the initial determination of RAV and balances reported under UK GAAP at that time still persist. Due to the above, substantial differences exist in the measurement bases between RAV and an IFRS balance metric, and therefore, it is not possible to provide a meaningful reconciliation between the two.

In the US, rate base is a regulatory measure determined for each of our main US operating companies. It represents the value of property and other assets or liabilities on which we are permitted to earn a rate of return, as set out by the regulatory authorities for each jurisdiction. The calculations are based on the applicable regulatory agreements for each jurisdiction and include the allowable elements of assets and liabilities from our US companies. For this reason, it is not practical to provide a meaningful reconciliation from the US rate base to an equivalent IFRS measure. However, we include the calculation below.

'Total Regulated and other balances' includes the under- or over-recovery of revenues that National Grid's UK regulated businesses target to collect in any year, which are based on the regulator's forecasts for that year. Under the UK price control arrangements, revenues will be adjusted in future years to take account of actual levels of collected revenue, costs and outputs delivered when they differ from those regulatory forecasts. In the US, other regulatory assets and liabilities include regulatory assets and liabilities which are not included in the definition of rate base within that jurisdiction, including working capital where appropriate.

The investment in 'NGV and other businesses' includes net assets excluding pensions, tax and items related to the UK Gas Distribution sale.

As at 31 March (£m at constant currency)	RAV, rate base or other business assets		Total Regulated and other balances	
	2019	2018[1]	**2019**	2018[1]
UK Electricity Transmission	**13,537**	13,045	**13,302**	12,676
UK Gas Transmission	**6,155**	5,960	**6,112**	5,855
US Regulated	**17,565**	16,087	**19,463**	18,007
Total regulated	**37,257**	35,092	**38,877**	36,538
NGV and other businesses	**2,815**	2,300	**2,657**	1,957
Total Group regulated and other balances	**40,072**	37,392	**41,534**	38,495

1. Figures relating to prior periods have, where appropriate, been re-presented at constant currency, for opening balance adjustments following the completion of the UK regulatory reporting pack process in 2018, and finalisation of US balances.

US rate base and Total Regulated and other balances for 31 March 2018 have been restated in the table above at constant currency. At actual currency the values were £14.9 billion and £16.7 billion respectively.

Other business assets and other balances for NGV and Other businesses for 31 March 2018 have been restated in the table above at constant currency. At actual currency the values were £2.2 billion and £1.9 billion respectively.

Group Return on Equity (RoE)

Group RoE provides investors with a view of the performance of the Group as a whole compared with the amounts invested by the Group in assets attributable to equity shareholders. It is the ratio of our regulatory financial performance to our measure of equity investment in assets. It therefore reflects the regulated activities as well as the contribution from our non-regulated businesses together with joint ventures and non-controlling interests.

We use Group RoE to measure our performance in generating value for our shareholders, and targets for Group RoE are included in the incentive mechanisms for executive remuneration within both the APP and LTPP schemes.

Group RoE is underpinned by our regulated asset base. For the reasons noted above, no reconciliation to IFRS has been presented, as we do not believe it would be practical. However, we do include the calculations below.

Calculation: Regulatory financial performance including a long-run assumption of 3% RPI inflation, less adjusted interest and adjusted taxation divided by equity investment in assets:

- adjusted interest removes interest on pensions, capitalised interest in regulated operations and unwind of discount rate on provisions;
- adjusted taxation adjusts the Group taxation charge for differences between IFRS profit before tax and regulated financial performance less adjusted interest; and
- equity investment in assets is calculated as the total opening UK regulatory asset value, the total opening US rate base plus goodwill plus opening net book value of National Grid Ventures and Other activities and our share of joint ventures and associates, minus opening net debt as reported under IFRS restated to the weighted average £/$ exchange rate for the year.

Year ended 31 March	2019 £m	2018 £m	2017 £m
Regulated financial performance	**3,318**	3,392	3,906
Operating profit of other activities	**424**	255	204
Group financial performance	**3,742**	3,647	4,110
Share of post-tax results of joint ventures and associates	**40**	238	63
Non-controlling interests	**(3)**	(1)	1
Adjusted Group interest charge	**(1,037)**	(980)	(1,075)
Group tax charge	**(488)**	(639)	(808)
Tax on adjustments	**(34)**	27	166
Group financial performance after interest and tax	**2,220**	2,292	2,457
Opening rate base/RAV	**35,045**	32,446	40,435
Share of Cadent RAV	**–**	512	–
Opening other	**2,298**	1,787	1,987
Opening goodwill	**5,852**	5,626	5,984
Opening capital employed	**43,195**	40,371	48,406
Opening net debt	**(24,345)**	(21,770)	(27,346)
Opening equity	**18,850**	18,601	21,060
Return on Equity	**11.8%**	12.3%	11.7%

UK and US regulated RoE

		Achieved Return on Equity		Base or Allowed Return on Equity	
Years ended 31 March	Regulatory Debt: Equity assumption	2019 %	2018 %	2019 %	2018 %
UK Electricity Transmission	**60/40**	**13.7**	13.1	**10.2**	10.2
UK Gas Transmission	**62.5/37.5**	**9.5**	10.0	**10.0**	10.0
US Regulated	**Avg. 50/50**	**8.8**	8.9	**9.4**	9.4

UK regulated RoE

UK regulated RoEs are a measure of how the businesses are performing against the assumptions used by our UK regulator. These returns are calculated using the assumption that the businesses are financed in line with the regulatory adjudicated capital structure, at the cost of debt assumed by the regulator, and that RPI inflation is equal to a long-run assumption of 3%. They are calculated by dividing elements of out/under-performance versus the regulatory contract (i.e. regulated financial performance disclosed above) by the average equity RAV in line with the regulatory assumed capital structure and adding to the base allowed RoE.

This is an important measure of UK regulated business performance, and our operational strategy continues to focus on this metric. This measure can be used to determine how we are performing under the RIIO framework and also helps investors to compare our performance with similarly regulated UK entities. Reflecting the importance of this metric, it is also a key component of the APP scheme.

The UK RoE is underpinned by the UK RAV. For the reasons noted above, no reconciliation to IFRS has been presented, as we do not believe it would be practical.

US regulated RoE

US regulated RoE is a measure of how a business is performing against the assumptions used by the US regulators. This US operational return measure is calculated using the assumption that the businesses are financed in line with the regulatory adjudicated capital structure and allowed cost of debt. The returns are divided by the average rate base (or where a reported rate base is not available, an estimate based on rate base calculations used in previous rate filings) multiplied by the adjudicated equity portion in the regulatory adjudicated capital structure.

This is an important measure of our US regulated business performance, and our operational strategy continues to focus on this metric. This measure can be used to determine how we are performing and also helps investors compare our performance with similarly regulated US entities. Reflecting the importance of this metric, it is also a key component of the APP scheme.

The US return is based on a calculation which gives proportionately more weighting to those jurisdictions which have a greater rate base. For the reasons noted above, no reconciliation to IFRS for the RoE measure has been presented, as we do not believe it would be practical to reconcile our IFRS balance sheet to the equity base.

The table below shows the principal differences between the IFRS result of the US Regulated segment, and the 'return' used to derive the US RoE. In outlining these differences, we also include the result for the US regulated Operating Companies (OpCo) entities aggregated under US GAAP.

In respect of 2017/18 and 2016/17, this measure is the aggregate operating profit of our US OpCo entities' publicly available financial statements prepared under US GAAP. For 2018/19, this measure represents our current estimate, since local financial statements have yet to be prepared.

Other unaudited financial information continued

	2019 £m	2018 £m	2017 £m
Underlying IFRS profit for US regulated segment	**1,594**	1,704	1,514
Weighted average £/$ exchange rate	**$1.305**	$1.358	$1.277

	2019 $m	2018 $m	2017 $m
Underlying IFRS operating profit for US regulated segment	**2,081**	2,313	1,931
Adjustments to convert to US GAAP as applied in our US OpCo entities			
Adjustment in respect of customer contributions	**(50)**	(151)	(96)
Pension accounting differences[1]	**(10)**	(101)	(120)
Environmental charges recorded under US GAAP	**(117)**	(106)	(91)
Storm costs and recoveries recorded under US GAAP	**(112)**	(113)	(57)
Other regulatory deferrals, amortisation and other items	**121**	(146)	(29)
Results for US regulated OpCo entities, aggregated under US GAAP[2]	**1,913**	1,696	1,538
Adjustments to determine regulatory operating profit used in US RoE			
Levelisation revenue adjustment	**(48)**	82	46
Net other	**(1)**	40	70
Regulatory operating profit	**1,864**	1,818	1,654
Pensions[1]	**(95)**	–	–
Regulatory interest charge	**(457)**	(395)	(391)
Regulatory tax charge	**(345)**	(520)	(499)
Regulatory earnings used to determine US RoE	**967**	903	764

1. Following a change in US GAAP accounting rules, an element of the pensions charge is reported outside operating profit with effect from 2019.
2. Based on US GAAP accounting policies as applied by our US regulated OpCo entities.

	2019 $m	2018 $m	2017 $m
US equity base (average for the year)	**11,045**	10,092	9,267
US RoE	**8.8%**	8.9%	8.2%

Value Added and Value Added per share

Value Added is a measure that reflects the value to shareholders of our dividend and the growth in National Grid's regulated and non-regulated assets (as measured in our regulated asset base, for regulated entities), net of the growth in net debt. It is a key metric used to measure our performance and underpins our approach to sustainable decision-making and long-term management incentive arrangements.

Value Added is derived using our regulated asset base and, as such, it is not practical to provide a meaningful reconciliation from this measure to an equivalent IFRS measure due to the reasons set out for our regulated asset base. However, the calculation is set out in the Financial review on page 30. Value Added per share is calculated by dividing Value Added by the weighted average number of shares (3,386 million) set out in note 8 on page 126.

Asset growth

Asset growth is the annual percentage increase in our RAV and rate base and other business balances (including the assets of NGV and NGP) calculated at constant currency.

Regulatory gearing

Regulatory gearing is a measure of how much of our investment in RAV and rate base and other elements of our invested capital (including our investments in NGV, UK property and other assets and US other assets) is funded through debt. Comparative amounts as at March 2018 are presented at historical exchange rates and have not been restated for opening balance adjustments.

As at 31 March	2019 £m	2018 £m	
UK RAV	**19,692**	19,059	
US rate base	**17,565**	14,762	
Other invested capital included in gearing calculation	**2,815**	2,167	
Total assets included in gearing calculation	**40,072**	35,988	
Net debt (including 100% of hybrid debt)	**26,529**	23,002	change
Group gearing (based on 100% of net debt)	**66%**	64%	2% pts
Group gearing (excluding 50% of hybrid debt from net debt)	**64%**	61%	3% pts

Commentary on consolidated financial statements

for the year ended 31 March 2018

In compliance with SEC rules, we present a summarised analysis of movements in the income statement and an analysis of movements in adjusted operating profit (for the continuing group) by operating segment. This should be read in conjunction with the 31 March 2019 financial review included on pages 25 – 33.

Analysis of the income statement for the year ended 31 March 2018

Revenue

Revenue for the year ended 31 March 2018 increased by £215 million to £15,250 million. This increase was driven by higher revenues in our US Regulated and NGV and Other businesses, partially offset by lower revenues in our UK Electricity Transmission business. US Regulated revenues were £341 million higher year-on-year including increased pass-through costs, the impact of new rate plans and the benefit of capital trackers, partially offset by an unfavourable impact from foreign exchange. UK Electricity Transmission revenues decreased by £284 million, including a reduction in pass-through costs, the absence of the recovery of outstanding timing balances in 2016/17 and higher adjustments this year to return the benefits of efficiencies and lower required outputs to customers. Revenue from NGV and Other businesses increased by £57 million, primarily driven by support services provided to Cadent.

Operating costs

Operating costs for the year ended 31 March 2018 of £11,757 million were £70 million lower than the prior year. This decrease in costs included a £601 million decrease in exceptional items and remeasurements, which is discussed below. Excluding exceptional items and remeasurements, operating costs were £531 million higher, principally due to higher pass-through costs in the US, £142 million of major storm costs incurred in the US and higher depreciation as a result of continued asset investment, partially offset by the impact of movement in exchange rates.

Net finance costs

For the year ended 31 March 2018, net finance costs before exceptional items and remeasurements were £28 million lower than 2016/17 at £1,001 million, mainly as a result of the impact of the weaker US dollar, higher gains on the sale of financial assets and lower pension interest expense due to a reduction in pension deficits, partially offset by the impact of higher UK RPI inflation. Net finance costs in 2017/18 included remeasurement gains of £119 million on derivative financial instruments used to hedge our borrowings, compared to £58 million of remeasurement losses in 2016/17. In addition, during 2017/18 we had a £110 million remeasurement gain on a derivative financial instrument relating to the put/call option over a 14% interest in Quadgas HoldCo Limited.

Tax

The tax charge on profits before exceptional items and remeasurements of £584 million was £82 million lower than 2016/17. This was primarily due to lower UK and US corporate tax rates, partially offset by lower tax credits in respect of prior years.

Exceptional items and remeasurements

Operating costs for the year ended 31 March 2018 included a £26 million gain on settlement of outstanding balances related to the LIPA Management Services Agreement, together with a net £10 million gain on remeasurement of commodity contracts. In the previous year, operating costs included £633 million of exceptional costs primarily associated with environmental charges and gas holder decommissioning, offset by a net £68 million gain on remeasurement of commodity contracts.

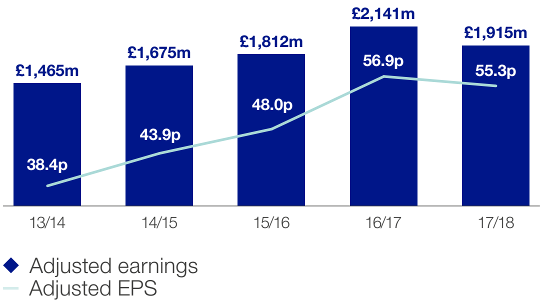
Finance costs for the year ended 31 March 2018 included a gain of £229 million on financial remeasurements of derivative financial instruments, including a £110 million gain on the put option to dispose of a 14% interest in Cadent. For the previous year ended 31 March 2017, we incurred a loss of £58 million on financial remeasurements.

Share of post-tax results of joint ventures and associates before exceptional items for the year ended 31 March 2018 of £44 million was £19 million lower, principally due to a lower contribution from BritNed.

Exceptional items and remeasurements relating to taxation for 2017/18 comprised a net credit of £1,473 million, including a £1,515 million decrease in net deferred tax liabilities due to the reduction in the US corporate tax rate.

Adjusted earnings and EPS from continuing operations

Adjusted earnings and EPS, which exclude exceptional items and remeasurements, are provided to reflect the Group's results on a 'business performance' basis, described further in note 5. The following chart shows the five-year trend in adjusted profit attributable to equity shareholders of the parent (adjusted earnings) and adjusted earnings per share. See page 227 for a reconciliation of adjusted basic EPS to EPS.



The above earnings performance translated into a decrease in adjusted EPS in 2017/18 of 1.6p (3%).

Exchange rates

Our financial results are reported in sterling. Transactions for our US operations are denominated in dollars, so the related amounts that are reported in sterling depend on the dollar to sterling exchange rate. The table below shows the average and closing exchange rates of sterling to US dollars.

	2017/18	2016/17	% change
Weighted average (income statement)	**1.36**	1.28	6%
Year-end (statement of financial position)	**1.40**	1.25	12%

The movement in foreign exchange during 2017/18 has resulted in a £536 million reduction in revenue, a £98 million reduction in adjusted operating profit and a £73 million reduction in operating profit.

Commentary on consolidated financial statements

for the year ended 31 March 2018 continued

Analysis of the adjusted operating profit by segment for the year ended 31 March 2018

UK Electricity Transmission

For the year ended 31 March 2018, revenue in the UK Electricity Transmission segment decreased by £285 million to £4,154 million, and adjusted operating profit decreased by £331 million to £1,041 million.

The revenue reduction of £285 million included a reduction in pass-through costs, such as system balancing costs charged on to customers. Excluding pass-through costs, net revenue was £235 million lower, reflecting the absence of 2016/17's recovery of outstanding timing balances along with higher adjustments this year to return the benefits of efficiencies and lower required outputs to customers. Regulated controllable costs were £35 million higher, reflecting inflation, increased headcount and workload, and initiative spend. Depreciation and amortisation was £54 million higher, reflecting the continued capital investment programme. Other costs were in line with 2016/17.

Capital expenditure decreased by £28 million compared with 2016/17 to £999 million.

UK Gas Transmission

Revenue in the UK Gas Transmission segment increased by £11 million to £1,091 million, and adjusted operating profit decreased by £24 million to £487 million.

After deducting pass-through costs, net revenue was £23 million lower than 2016/17. Increases in allowed revenues this year were more than offset by the end of certain legacy revenue allowances and the refund of prior year over-recoveries to customers. Regulated controllable costs were £9 million higher than 2016/17, mainly as a result of higher employee numbers to deliver additional outputs. Depreciation and amortisation costs were £8 million higher, reflecting ongoing investment. Other operating costs were £16 million lower than 2016/17, including the release of unused provisions relating to LNG plant closures.

Capital expenditure increased to £310 million, £96 million higher than last year, with increases in asset health spend and higher investment on compressor projects.

US Regulated

Revenue in our US Regulated business increased by £341 million to £9,272 million, and adjusted operating profit decreased by £15 million to £1,698 million.

The weaker US dollar decreased revenue and operating profit in 2017/18 by £534 million and £102 million respectively. Excluding the impact of foreign exchange rate movements, revenue increased by £875 million. Of this increase, £597 million was due to increases in pass-through costs charged on to customers. Excluding pass-through costs, net revenue increased by £278 million at constant currency, reflecting increased revenue allowances under new rate plans in downstate New York and Massachusetts Electric, and the benefit of capital trackers.

We incurred £142 million of major storm costs in 2017/18 including a sequence of heavy storms this winter that caused substantial damage to our electricity networks. Separate from these costs, regulated controllable costs were broadly in line with 2016/17 at constant currency, and bad debt costs were £13 million lower. Depreciation and amortisation was £31 million higher this year at constant currency as a result of ongoing investment in our networks. Other operating costs were £34 million higher at constant currency, reflecting higher property taxes.

Capital expenditure in the US Regulated business increased to £2,424 million in 2017/18, £177 million more than in 2016/17. At constant currency, this represented a £311 million increase in investment driven by higher investment in new and replacement gas mains.

NGV and Other

Revenue in NGV and Other increased by £63 million to £776 million, and adjusted operating profit increased by £54 million to £231 million. This reflects higher revenues and profit on disposal of property sites in the UK and lower levels of business change costs incurred, partially offset by lower auction revenues in the French Interconnector.

Capital expenditure in NGV and Other was £94 million higher than 2016/17 at £341 million, including the start of construction of a second French Interconnector and increases in smart meter installations in the UK.

Summary consolidated financial information

Financial summary (unaudited)

The financial summary set out below has been derived from the audited consolidated financial statements of National Grid for the five financial years ended 31 March 2019. It should be read in conjunction with the consolidated financial statements and related notes, together with the Strategic Report. The information presented below is adjusted for the matters described in footnote 1 for the years ended 31 March 2019, 2018, 2017, 2016 and 2015 and has been prepared under IFRS as issued by the IASB and as adopted by the EU[1].

Summary income statement (£m)	2019	2018[1]	2017	2016[2]	2015[2]
Continuing operations					
Revenue	**14,933**	15,250	15,035	13,212	13,357
Operating profit					
Before exceptional items, remeasurements	**3,442**	3,457	3,773	3,214	3,034
Exceptional items, remeasurements	**(572)**	36	(565)	11	(83)
Profit before tax					
Before exceptional items, remeasurements	**2,489**	2,500	2,807	2,417	2,208
Exceptional items, remeasurements	**(648)**	160	(623)	(88)	(248)
Profit after tax from continuing operations					
Before exceptional items, remeasurements	**2,001**	1,916	2,141	1,813	1,665
Exceptional items, remeasurements	**(499)**	1,633	(331)	89	(172)
Profit after tax from discontinued operations					
Before exceptional items, remeasurements	**57**	145	606	576	516
Exceptional items, remeasurements	**(45)**	(143)	57	116	2
Gain on disposal of UK Gas Distribution after tax	**–**	–	5,321	–	–
Total profit for the year	**1,514**	3,551	7,794	2,594	2,011
Profit for the year attributable to equity shareholders					
Before exceptional items, remeasurements	**2,055**	2,060	2,747	2,386	2,189
Exceptional items, remeasurements	**(544)**	1,490	(273)	205	(170)
Gain on disposal of UK Gas Distribution after tax	**–**	–	5,321	–	–
Total	**1,511**	3,550	7,795	2,591	2,019
Earnings per share					
Basic – continuing operations (pence)	**44.3**	102.5	48.1	50.4	39.4
Diluted – continuing operations (pence)	**44.1**	102.1	47.9	50.2	39.2
Basic – total (pence)	**44.6**	102.6	207.1	68.7	52.9
Diluted – total (pence)	**44.4**	102.1	206.2	68.4	52.7
Weighted average number of shares – basic (millions)	**3,386**	3,461	3,763	3,774	3,817
Weighted average number of shares – diluted (millions)	**3,401**	3,476	3,780	3,790	3,834
Dividends per ordinary share					
Paid during the year (pence)	**46.52**	128.965	43.51	43.16	42.25
Approved or proposed during the year (pence)[3]	**47.34**	45.93	128.65	43.34	42.87
Paid during the year ($)	**0.607**	1.751	0.555	0.664	0.697
Approved or proposed during the year ($)	**0.618**	0.624	1.642	0.635	0.672

1. Items previously reported for 2018 have been re-presented to reflect our investment in Quadgas HoldCo Limited being presented as a discontinued operation in the current year.
2. Items previously reported for 2015–2016 have been re-presented to reflect UK Gas Distribution being presented as a discontinued operation.
3. Following the disposal of UK Gas Distribution, 2017 includes a special interim dividend of 84.375 pence per share that was paid on 2 June 2017.

Summary statement of net assets (£m)	2019	2018	2017	2016	2015
Non-current assets	**55,017**	52,106	52,266	52,622	49,058
Current assets	**7,946**	6,681	13,574	6,312	6,031
Total assets	**62,963**	58,787	65,840	58,934	55,089
Current liabilities	**(9,129)**	(8,697)	(10,511)	(7,721)	(7,374)
Non-current liabilities	**(34,465)**	(31,242)	(34,945)	(37,648)	(35,741)
Total liabilities	**(43,594)**	(39,939)	(45,456)	(45,369)	(43,115)
Net assets	**19,369**	18,848	20,384	13,565	11,974
Total shareholders' equity	**19,349**	18,832	20,368	13,555	11,962

Definitions and glossary of terms

Our aim is to use plain English in this Annual Report and Accounts. However, where necessary, we do use a number of technical terms and abbreviations. We summarise the principal ones below, together with an explanation of their meanings. The descriptions below are not formal legal definitions. Alternative and Regulatory Performance Measures are defined on pages 225 – 234.

A

Adjusted interest

A measure of the interest charge of the Group, calculated by making adjustments to the Group reported interest charge.

Adjusted net debt

A measure of the indebtedness of the Group, calculated by making adjustments to the Group reported borrowings, including adjustments made to include elements of pension deficits and exclude elements of hybrid debt financing.

American Depositary Shares (ADSs)

Securities of National Grid listed on the New York Stock Exchange, each of which represents five ordinary shares. They are evidenced by American Depositary Receipts or ADRs.

Annual General Meeting (AGM)

Meeting of shareholders of the Company held each year to consider ordinary and special business as provided in the Notice of AGM.

B

BAME

Black, Asian, and Minority Ethnic (being the UK term used to refer to members of non-white communities).

bps

Basis point (bp, bps) is a unit that is equal to 1/100th of 1% and is typically used to denote the movement in a percentage-based metric such as interest rates or RoE. A 0.1% change in a percentage represents 10 basis points.

BEIS

The Department for Business, Energy and Industrial Strategy, the UK Government department responsible for business, industrial strategy, and science and innovation with energy and climate change policy.

Board

The Board of Directors of the Company (for more information see pages 48 – 49).

BritNed

BritNed Development Limited.

C

Cadent

Cadent Gas Limited, the former UK Gas Distribution business. A 61% equity interest in it was sold to the Consortium on 31 March 2017, and the sale of the remaining 39% is expected to complete in June 2019.

Called-up share capital

Shares (common stock) that have been issued and have been fully paid for.

Capital tracker

In the context of our US rate plans, this is a mechanism that allows the recovery of the revenue requirement of incremental capital investment above that embedded in base rates, including depreciation, property taxes and a return on the incremental investment.

Carrying value

The amount at which an asset or a liability is recorded in the Group's statement of financial position and the Company's balance sheet.

The Company, the Group, National Grid, we, our or us

We use these terms to refer to either National Grid plc itself or to National Grid plc and/or all or certain of its subsidiaries, depending on context.

Consolidated financial statements

Financial statements that include the results and financial position of the Company and its subsidiaries together as if they were a single entity.

Consortium

The Consortium that purchased a 61% equity interest in Cadent on 31 March 2017. It comprised Macquarie Infrastructure and Real Assets, Allianz Capital Partners, Hermes Investment Management, CIC Capital Corporation, Qatar Investment Authority, Dalmore Capital and Amber Infrastructure Limited/International Public Partnerships.

Constant currency

'Constant currency basis' refers to the reporting of the actual results against the results for the same period last year, which, in respect of any US$ currency denominated activity, have been translated using the average US$ exchange rate for the year ended 31 March 2019, which was $1.31 to £1. The average rate for the year ended 31 March 2018 was $1.36 to £1, and for the year ended 31 March 2017 was $1.28 to £1. Assets and liabilities as at 31 March 2018 have been retranslated at the closing rate at 31 March 2019 of $1.30 to £1. The closing rate for the balance sheet date 31 March 2018 was $1.40 to £1.

Contingent liabilities

Possible obligations or potential liabilities arising from past events for which no provision has been recorded, but for which disclosure in the financial statements is made.

CPIH

The UK Consumer Prices Index including Owner Occupiers' Housing Costs as published by the Office for National Statistics.

D

Dth

Decatherm, being an amount of energy equal to 1 million British thermal units (BTUs), equivalent to approximately 293 kWh.

DB

Defined benefit, relating to our UK or US (as the context requires) final salary pension schemes.

DC

Defined contribution, relating to our UK or US (as the context requires) pension schemes to which National Grid, as an employer, pays contributions based on a percentage of employees' salaries.

Deferred tax

For most assets and liabilities, deferred tax is the amount of tax that will be payable or receivable in respect of that asset or liability in future tax returns as a result of a difference between the carrying value for accounting purposes in the statement of financial position or balance sheet and the value for tax purposes of the same asset or liability.

Deposit agreement

The amended and restated deposit agreement entered into between National Grid plc, the Depositary and all the registered holders from time to time of ADRs, pursuant to which ADSs have been issued, dated 23 May 2013, and any related agreement.

Depositary
Depositary means The Bank of New York Mellon acting as depositary.

Derivative
A financial instrument or other contract where the value is linked to an underlying index, such as exchange rates, interest rates or commodity prices. In most cases, we exclude contracts for the sale or purchase of commodities that are used to supply customers or for our own needs from this definition.

Directors/Executive Directors/Non-executive Directors
The Directors/Executive Directors and Non-executive Directors of the Company, whose names are set out on pages 48 – 49 of this document.

Distributed Energy Resources (DER)
Decentralised assets, generally located behind the meter, covering a range of technologies including solar, storage, electric vehicle charging, district heating, smart street lighting and combined heat and power.

Dollars or $
Except as otherwise noted, all references to dollars or $ in this Annual Report and Accounts relate to the US currency.

E

Earnings per share (EPS)
Profit for the year attributable to equity shareholders of the Company allocated to each ordinary share.

Electricity Market Reform (EMR)
An energy policy initiative, introduced by the Energy Act 2013, designed to provide greater financial certainty to investors in both low-carbon and conventional generation in order to meet environmental targets and maintain security of supply, and to do so at the lowest cost to consumers.

Electricity System Operator (ESO)
The party responsible for the long-term strategy, planning and real-time operation (balancing supply and demand) of the electricity system in Great Britain.

Employee engagement
A key performance indicator (KPI), based on the percentage of favourable responses to certain indicator questions repeated in each employee survey. It is used to measure how employees think, feel and act in relation to National Grid. Research shows that a highly engaged workforce leads to increased productivity and employee retention. We use employee engagement as a measure of organisational health in relation to business performance.

Employee resource group (ERG)
A group of employees who join together in their workplace based on shared characteristics or life experiences.

Estate Tax Convention
The convention between the US and the UK for the avoidance of double taxation with respect to estate and gift taxes.

EU
The European Union (EU) is the economic and political union of 28 member states located in Europe, currently including the UK. As at the date of this document, the timing for Brexit and the UK's leaving the EU is not confirmed.

Exchange Act
The US Securities Exchange Act 1934, as amended.

F

FERC
The US Federal Energy Regulatory Commission.

Finance lease
A lease where the asset is treated as if it was owned for the period of the lease, and the obligation to pay future rentals is treated as if they were borrowings. Also known as a capital lease.

Financial year
For National Grid this is an accounting year ending on 31 March. Also known as a fiscal year.

FRS
A UK Financial Reporting Standard as issued by the UK Financial Reporting Council (FRC). It applies to the Company's individual financial statements on pages 189 – 195, which are prepared in accordance with FRS 101.

Funds from Operations (FFO)
A measure used by the credit rating agencies of the operating cash flows of the Group after interest and tax but before capital investment.

G

Grain LNG
National Grid Grain LNG Limited.

Great Britain
England, Wales and Scotland.

Group Value Growth
Group Value Growth is Group-wide value added expressed as a proportion of Group equity. See page 234 for an explanation of Value Added.

GW
Gigawatt, an amount of power equal to 1 billion watts (10^9 watts).

GWh
Gigawatt hours, an amount of energy equivalent to delivering 1 billion watts (10^9 watts) of power for a period of one hour.

GWm
Gigawatt month, an amount of energy equivalent to delivering 1 billion watts (10^9 watts) of power for a period of one month.

H

Hinkley-Seabank (HSB)
A project to connect the new Hinkley Point C nuclear power station to the electricity transmission network.

HMRC
HM Revenue & Customs. The UK tax authority.

HVDC
High-voltage, direct-current electric power transmission that uses direct current for the bulk transmission of electrical power in contrast to the more common alternating current systems.

Definitions and glossary of terms continued

I

IAS or IFRS
An International Accounting Standard (IAS) or International Financial Reporting Standard (IFRS), as issued by the International Accounting Standards Board (IASB). IFRS is also used as the term to describe international generally accepted accounting principles as a whole.

Individual financial statements
Financial statements of a company on its own, not including its subsidiaries or joint ventures and associates.

Injury frequency rate (IFR)
The number of lost time injuries (LTIs) per 100,000 hours worked in a 12-month period.

Interest cover
A measure used by the credit rating agencies, calculated as FFO plus adjusted interest divided by adjusted interest.

J

Joint venture (JV)
A company or other entity that is controlled jointly with other parties.

K

KEDLI
KeySpan Gas East Corporation, also known as KeySpan Energy Delivery Long Island.

KEDNY
The Brooklyn Union Gas Company, also known as KeySpan Energy Delivery New York.

KPI
Key performance indicator.

kV
Kilovolt, an amount of electric force equal to 1,000 volts.

kW
Kilowatt, an amount of power equal to 1,000 watts.

kWm
Kilowatt month, an amount of energy equivalent to delivering 1kW of power for a period of one month.

L

LIPA
The Long Island Power Authority.

LNG
Liquefied natural gas is natural gas that has been condensed into a liquid form, typically at temperatures at or below -161°C (-258°F).

Lost time injury (LTI)
An incident arising out of National Grid's operations that leads to an injury where the employee or contractor normally has time off for the following day or shift following the incident. It relates to one specific (acute) identifiable incident which arises as a result of National Grid's premises, plant or activities, and was reported to the supervisor at the time and was subject to appropriate investigation.

M

MADPU
The Massachusetts Department of Public Utilities.

MSA
The managed services agreement under which the Company maintained and operated the electricity transmission and distribution system on Long Island owned by LIPA, which was transitioned to a third party with effect from 31 December 2013.

MW
Megawatt, an amount of power equal to 1 million watts.

N

National Grid Metering (NGM)
National Grid Metering Limited is National Grid's UK regulated metering business.

National Grid Partners (NGP)
The Company's new unit, established in November 2018 as the venture investment and innovation arm of the Group.

National Grid Ventures (NGV)
The Company's division that operates outside its core UK and US regulated businesses, comprising a broad range of activities in the UK and US, including electricity interconnectors, the Grain LNG terminal and energy metering, as well as being tasked with investment in adjacent businesses, distributed energy opportunities and the development of new and evolving technologies.

Net Promoter Score (NPS)
A commonly used tool to measure customer experience to gauge the loyalty of a company's customer relationships. It is an index ranging from -100 to +100.

New UK Corporate Governance Code (the New Code)
Revised guidance, issued by the Financial Reporting Council in 2018 and having effect for financial years commencing on or after 1 January 2019.

New England
The term refers to a region within northeastern US that includes the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. National Grid's New England operations are primarily in the states of Massachusetts and Rhode Island.

Northeastern US
The Northeastern region of the US, comprising the states of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

National Transmission System (NTS)
The gas National Transmission System in Great Britain.

NYPSC
The New York Public Service Commission.

O

Ofgem
The UK Office of Gas and Electricity Markets is part of the UK Gas and Electricity Markets Authority (GEMA) that regulates the energy markets in the UK.

OPEB
Other post-employment benefits.

Ordinary shares
Voting shares entitling the holder to part ownership of a company. Also known as common stock. National Grid's ordinary shares have a nominal value of $12^{204/473}$ pence following the share consolidation approved at the General Meeting of the Company held on 19 May 2017.

P

Paris Agreement

The agreement, also known as the Paris Climate Accord, within the United Nations Framework Convention on Climate Change dealing with greenhouse gas emissions mitigation, adaptation and finance starting in the year 2020, and adopted by consensus on 12 December 2015.

Price control

The mechanism by which Ofgem sets restrictions on the amounts of revenue we are allowed to collect from customers in our UK businesses. The allowed revenues are intended to cover efficiently incurred operational expenditure, capital expenditure and financing costs, including a Return on Equity invested.

R

Rate base

The base investment on which the utility is authorised to earn a cash return. It includes the original cost of facilities, minus depreciation, an allowance for working capital and other accounts.

Rate plan

The term given to the mechanism by which a US utility regulator sets terms and conditions for utility service, including, in particular, tariffs and rate schedules. The term can mean a multi-year plan that is approved for a specified period, or an order approving tariffs and rate schedules that remain in effect until changed as a result of future regulatory proceedings. Such proceedings can be commenced through a filing by the utility or on the regulator's own initiative.

Regulated controllable costs

Total operating costs under IFRS less depreciation and certain regulatory costs where, under our regulatory agreements, mechanisms are in place to recover such costs in current or future periods.

Regulatory asset value (RAV)

The value ascribed by Ofgem to the capital employed in the relevant licensed business. It is an estimate of the initial market value of the regulated asset base at privatisation, plus subsequent allowed additions at historical cost, less the deduction of annual regulatory depreciation. Deductions are also made to reflect the value realised from the disposal of certain assets that formed part of the regulatory asset base. It is also indexed to the RPI to allow for the effects of inflation.

Regulatory IOUs

Net under/over-recoveries of revenue from output related allowance changes, the totex incentive mechanism, legacy price control cost true-up and differences between allowed and collected revenues.

Retained cash flow (RCF)

A measure of the cash flows of the Group used by the credit rating agencies. It is calculated as funds from operations less dividends paid and costs of repurchasing scrip shares.

Revenue decoupling

Revenue decoupling is the term given to the elimination of the dependency of a utility's revenue on the volume of gas or electricity transported. The purpose of decoupling is to eliminate the disincentive a utility otherwise has, to encourage energy-efficiency programmes.

RIIO

Revenue = Incentives + Innovation + Outputs, the regulatory framework for energy networks issued by Ofgem.

RIIO-T1

The regulatory framework for transmission networks that was implemented in the eight-year price controls that started on 1 April 2013.

RIIO-T2

The regulatory framework for transmission networks expected to be issued by Ofgem to start on 1 April 2021.

RIPUC

The Rhode Island Public Utilities Commission.

RPI

The UK retail price index as published by the Office for National Statistics.

S

Scope 1 greenhouse gas emissions

Scope 1 emissions are direct greenhouse gas emissions that occur from sources that are owned or controlled by the Company. Examples include emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.

Scope 2 greenhouse gas emissions

Scope 2 emissions are greenhouse gas emissions from the generation of purchased electricity consumed by the Company. Purchased electricity is defined as electricity, heat, steam or cooling that is purchased or otherwise brought into the organisational boundary of the Company. Scope 2 emissions physically occur at the facility where electricity is generated.

Scope 3 greenhouse gas emissions

Scope 3 emissions are indirect greenhouse gas emissions as a consequence of the operations of the Company, but are not owned or controlled by the Company, such as emissions from third-party logistics providers, waste management suppliers, travel suppliers, employee commuting, and combustion of sold gas by customers.

SEC

The US Securities and Exchange Commission, the financial regulator for companies with registered securities in the US, including National Grid and certain of its subsidiaries.

SF_6

Sulphur hexafluoride is an inorganic, colourless, odourless and non-flammable greenhouse gas. SF_6 is used in the electricity industry as a gaseous dielectric medium for high-voltage circuit breakers, switchgear and other electrical equipment. The Kyoto protocol estimated that the global warming potential over 100 years of SF_6 is 23,900 times more potent than that of CO_2.

Share premium

The difference between the amount shares are issued for and the nominal value of those shares.

Stranded cost recoveries

The recovery of historical generation-related costs in the US, related to generation assets that are no longer owned by us.

STEM

Science, technology, engineering and mathematics.

Subsidiary

A company or other entity that is controlled by National Grid.

Swaption

A swaption gives the buyer, in exchange for an option premium, the right, but not the obligation, to enter into an interest-rate swap at some specified date in the future. The terms of the swap are specified on the trade date of the swaption.

Definitions and glossary of terms continued

T

Taxes borne

Those taxes that represent a cost to the Company and are reflected in our results.

Taxes collected

Those taxes that are generated by our operations but do not affect our results. We generate the commercial activity giving rise to these taxes and then collect and administer them on behalf of HMRC.

Tax Convention

Tax Convention means the income tax convention between the US and the UK.

Tonne

A unit of mass equal to 1,000 kilogrammes, equivalent to approximately 2,205 pounds.

Tonnes carbon dioxide equivalent (CO2e)

A measure of greenhouse gas emissions in terms of the equivalent amount of carbon dioxide.

Totex

Total expenditure, comprising capital and operating expenditure.

Treasury shares

Shares that have been repurchased but not cancelled. These shares can then be allotted to meet obligations under the Company's employee share schemes.

TWh

Terawatt hours, an amount of energy equivalent to delivering 1 billion watts of power for a period of 1,000 hours.

U

UK

The United Kingdom, comprising England, Wales, Scotland and Northern Ireland.

UK Corporate Governance Code (the Code)

Guidance, issued by the Financial Reporting Council in 2016, on how companies should be governed, applicable to UK listed companies, including National Grid.

UK GAAP

Generally accepted accounting principles in the UK. These differ from IFRS and from US GAAP.

US

The United States of America, its territories and possessions, any state of the United States and the District of Columbia.

US GAAP

Generally accepted accounting principles in the US. These differ from IFRS and from UK GAAP.

US state regulators (state utility commissions)

In the US, public utilities' retail transactions are regulated by state utility commissions, including the New York Public Service Commission (NYPSC), the Massachusetts Department of Public Utilities (MADPU) and the Rhode Island Public Utilities Commission (RIPUC).

V

Value growth

Value growth is the value added expressed as a proportion of Group equity. See page 234.

Want more information or help?

Equiniti

For queries about ordinary shares:

0800 169 7775
This is a Freephone number from landlines within the UK, mobile costs may vary. Lines are open 8.30am to 5.30pm, Monday to Friday, excluding public holidays. If calling from outside the UK: +44 (0) 121 415 0931. Calls from outside the UK will be charged at the applicable international rate.

Visit help.shareview.co.uk for information regarding your shareholding (from here you will also be able to email a query securely).

National Grid Share Register
Equiniti
Aspect House
Spencer Road, Lancing
West Sussex BN99 6DA

The Bank of New York Mellon

For queries about American Depositary Shares:

1-800-466-7215
If calling from outside the US:
+1-201-680-6825

www.mybnymdr.com
Email: shrrelations@cpushareownerservices.com

BNY Mellon – ADR
PO Box 505000
Louisville, KY 40233-5000

Further information about National Grid, including share price and interactive tools, can be found on our website: https://investors.nationalgrid.com

Beware of share fraud

Investment scams are often sophisticated and difficult to spot. Shareholders are advised to be wary of any unsolicited advice or offers, whether over the telephone, through the post or by email. If you receive any unsolicited communication, please check the company or person contacting you is properly authorised by the Financial Conduct Authority (FCA) before getting involved. Be ScamSmart and visit www.fca.org.uk/scamsmart. You can report calls from unauthorised firms to the FCA by calling 0800 111 6768.

Financial calendar

The following dates have been announced or are indicative:

16 May 2019	2018/19 full-year results
30 May 2019	Ordinary shares and ADRs go ex-dividend for 2018/19 final dividend
31 May 2019	Record date for 2018/19 final dividend
6 June 2019	Scrip reference price announced
17 July 2019 (5pm London time)	Scrip election date
29 July 2019	2019 AGM
14 August 2019	2018/19 final dividend paid to qualifying shareholders
14 November 2019	2019/20 half-year results
27 November 2019	ADRs go ex-dividend for 2019/20 interim dividend
28 November 2019	Ordinary shares go ex-dividend for 2019/20 interim dividend
29 November 2019	Record date for 2019/20 interim dividend
5 December 2019	Scrip reference price announced
16 December 2019 (5pm London time)	Scrip election date for 2019/20 interim dividend
15 January 2020	2019/20 interim dividend paid to qualifying shareholders

Dividends

The Directors are recommending a final dividend of 31.26 pence per ordinary share ($2.0256 per ADS) to be paid on 14 August 2019 to shareholders on the register as at 31 May 2019. Further details on dividend payments can be found on page 33. If you live outside the UK, you may be able to request that your dividend payments are converted into your local currency.

Under the Deposit agreement, a fee of up to $0.05 per ADS can be charged for any cash distribution made to ADS holders, including cash dividends. ADS holders who receive cash in relation to the 2018/19 final dividend will be charged a fee of $0.02 per ADS by the Depositary prior to the distribution of the cash dividend.

Have your dividends paid directly into your bank or building society account:

- your dividend reaches your account on the payment day;
- it is more secure – cheques sometimes get lost in the post; and
- no more trips to the bank.

Elect to receive your dividends as additional shares:

Join our scrip dividend scheme; no stamp duty or commission to pay.

Electronic communications

Please register at www.shareview.co.uk.

It only takes a few minutes to register – just have your 11-digit Shareholder Reference Number to hand. You will be sent a PIN number to complete registration.

Once you have registered, you can elect to receive your shareholder communications electronically.

Registered office

National Grid plc was incorporated on 11 July 2000. The Company is registered in England and Wales No. 4031152, with its registered office at 1–3 Strand, London WC2N 5EH.

Share dealing

Postal share dealing: Equiniti offer our European Economic Area resident shareholders a share dealing service by post. This service is available to private shareholders resident within the European Economic Area, the Channel Islands or the Isle of Man. If you hold your shares in CREST, you are not eligible to use this service. For more information and to obtain a form, please visit www.shareview.co.uk or call Equiniti on 0800 169 7775.

Internet and telephone share dealing: Equiniti also offer telephone and online share dealing at live prices. For full details together with terms and conditions, please visit www.shareview.co.uk. You can call Equiniti on 03456 037037 for further details, or to arrange a trade. Lines are open Monday to Friday, 8.00am to 4.30pm for dealing, and until 6.00pm for enquiries.

ShareGift: If you only have a small number of shares that would cost more for you to sell than they are worth, you may wish to consider donating them to ShareGift. ShareGift is a registered charity (No. 1052686) which specialises in accepting such shares as donations. For more information, visit www.sharegift.org or contact Equiniti.

Individual Savings Accounts (ISAs): ISAs for National Grid shares are available from Equiniti. For more information, call Equiniti on 0345 300 0430 or visit www.shareview.co.uk/ISA.

Cautionary statement

This document comprises the Annual Report and Accounts for the year ended 31 March 2019 for National Grid and its subsidiaries.

It contains the Directors' Report and Financial Statements, together with the independent auditor's report thereon, as required by the Companies Act 2006. The Directors' Report, comprising pages 2 – 90 and 196-237 has been drawn up in accordance with the requirements of English law, and liability in respect thereof is also governed by English law. In particular, the liability of the Directors for these reports is solely to National Grid.

This document contains certain statements that are neither reported financial results nor other historical information. These statements are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements include information with respect to our financial condition, our results of operations and businesses, strategy, plans and objectives. Words such as 'aims', 'anticipates', 'expects', 'should', 'intends', 'plans', 'believes', 'outlook', 'seeks', 'estimates', 'targets', 'may', 'will', 'continue', 'project' and similar expressions, as well as statements in the future tense, identify forward-looking statements. These forward-looking statements are not guarantees of our future performance and are subject to assumptions, risks and uncertainties that could cause actual future results to differ materially from those expressed in or implied by such forward-looking statements. Many of these assumptions, risks and uncertainties relate to factors that are beyond our ability to control or estimate precisely, such as changes in laws or regulations, including any arising as a result of the United Kingdom's exit from the European Union; announcements from and decisions by governmental bodies or regulators, including proposals relating to the RIIO-T2 price controls as well as increased political and economic uncertainty; the timing of construction and delivery by third parties of new generation projects requiring connection; breaches of, or changes in, environmental, climate change, and health and safety laws or regulations, including breaches or other incidents arising from the potentially harmful nature of our activities; network failure or interruption, the inability to carry out critical non-network operations, and damage to infrastructure, due to adverse weather conditions, including the impact of major storms as well as the results of climate change, due to counterparties being unable to deliver physical commodities, or due to the failure of or unauthorised access to or deliberate breaches of our IT systems and supporting technology; failure to adequately forecast and respond to disruptions in energy supply; performance against regulatory targets and standards and against our peers with the aim of delivering stakeholder expectations regarding costs and efficiency savings; and customers and counterparties (including financial institutions) failing to perform their obligations to the Company. Other factors that could cause actual results to differ materially from those described in this document include fluctuations in exchange rates, interest rates and commodity price indices; restrictions and conditions (including filing requirements) in our borrowing and debt arrangements, funding costs and access to financing; regulatory requirements for us to maintain financial resources in certain parts of our business and restrictions on some subsidiaries' transactions, such as paying dividends, lending or levying charges; the delayed timing of recoveries and payments in our regulated businesses and whether aspects of our activities are contestable; the funding requirements and performance of our pension schemes and other post-retirement benefit schemes; the failure to attract, develop and retain employees with the necessary competencies, including leadership and business capabilities, and any significant disputes arising with our employees or the breach of laws or regulations by our employees; the failure to respond to market developments, including competition for onshore transmission, the threats and opportunities presented by emerging technology, development activities relating to changes to the energy mix and the integration of distributed energy resources; and the need to grow our business to deliver our strategy, as well as incorrect or unforeseen assumptions or conclusions (including unanticipated costs and liabilities) relating to business development activity.

For further details regarding these and other assumptions, risks and uncertainties that may affect National Grid, please read the Strategic Report and the Risk factors on pages 212 – 215 of this document. In addition, new factors emerge from time to time and we cannot assess the potential impact of any such factor on our activities or the extent to which any factor, or combination of factors, may cause actual future results to differ materially from those contained in any forward-looking statement. Except as may be required by law or regulation, the Company undertakes no obligation to update any of its forward-looking statements, which speak only as of the date of this document.

The contents of any website references in this document do not form part of this document.

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London WC2N 5EH
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www.nationalgrid.com

Further Information

Share ownership

At 31 May 2019, the latest practicable date, none of the directors had an individual beneficial interest amounting to greater than 1% of the Company's shares.

Material interests in shares

The following summarizes the significant changes in the percentage ownership held by our major shareholders during the past three years:

BlackRock, Inc. has held 5.21% of our outstanding share capital as 5 June 2015, which holdings increased to 5.88% as at 31 March 2016, decreased to 3.92% as at 3 June 2016, increased to 5.88% as at 31 March 2016, increased to 6.01% of our outstanding share capital as at 31 March 2017 and further increased to 7.29% as at 31 March 2018. As noted on page 218 of the 2018/2019 Annual Report and Accounts, we have been notified that BlackRock, Inc. held 7.29% as at 31 March 2019, and such holdings increased as at 28 May 2019 to 7.30%, which percentage remained unchanged as at 31 May 2019.

The Capital Group Companies, Inc. held 4.98% of our outstanding share capital as at 31 March 2015, which holdings decreased to 3.88% as at 31 March 2016. As noted on page 218 of the 2018/2019 Annual Report and Accounts, we have been notified that Capital Group Companies, Inc. held 3.88% of our outstanding share capital as at 31 March 2019, and such holdings remained unchanged as at 31 May 2019.

Competrol International Investments Limited held 3.65% of our outstanding share capital as at 31 March 2017 which holdings increased to 3.72% of our outstanding share capital as at 31 March 2018. As noted on page 218 of the 2018/2019 Annual Report and Accounts, we have been notified that Competrol International Investments Limited held 3.69% of our outstanding share capital as at 31 March 2019, and such holdings remained unchanged as at 31 May 2019.

Since 31 March 2019, we have not been notified of any other subsequent significant change in the percentage of shares held by the shareholders listed on page 218 of the 2018/2019 Annual Report and Accounts.

Material interest in American Depositary Shares

As at 31 May 2019, we had 12,793 registered holders of our American Depositary Shares (ADSs) representing ownership of 11.17% of our issued and outstanding share capital, excluding ordinary shares held in treasury. As at 31 May 2019, based on information available to us, we believe that approximately 11.19% of our issued and outstanding share capital (whether in the form of shares or ADSs), excluding shares held in treasury, was held beneficially in the United States.

Subsequent Events

Except for the disclosure relating to the UK Electricity System Operator becoming a legally separate company as described on page 33 of this Annual Report, and the disclosure on page 218 of this Annual Report, there are no further subsequent events to disclose.

Representations and Warranties in the Exhibits

Pursuant to the rules and regulations of the SEC, National Grid has filed certain agreements as exhibits to this Annual Report on Form 20-F. These agreements may contain representations and warranties by the parties to them. These representations and warranties have been made solely for the benefit of the other party or parties to such agreement and (i) may be intended not as statements of fact, but rather as a way of allocating the risk to one of the parties to such agreements if those statements turn out to be inaccurate, (ii) may have been qualified by disclosures that were made to such other party or parties and that either have been reflected in the company's filings or are not required to be disclosed in those filings, (iii) may apply materiality standards different from what may be viewed as material to investors and (iv) were made only as of the date of such agreements or such other date or dates as may be specified in such agreements.

In accordance with the instructions to Item 2(b)(i) of the Instructions to Exhibits to the Form 20-F, National Grid agrees to furnish to the SEC, upon request, a copy of any instrument relating to long-term debt that does not exceed 10 percent of the total assets of National Grid and its subsidiaries on a consolidated basis.

Reports of Independent Registered Public Accounting Firms-Audit opinions for Form 20-F

In addition to the financial information set forth on the pages referenced under Item 18 in the Form 20-F Cross Reference Table on page i, the reports of Deloitte LLP and PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firms, are presented below:

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of National Grid plc

Opinion on the Financial Statements

We have audited the accompanying consolidated statement of financial position of National Grid plc and subsidiaries (the "Company") as at 31 March 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity, and cash flow for each of the two years in the period ended 31 March 2019, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as at 31 March 2019 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended 31 March 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as at 31 March 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated 15 May 2019, expressed an unqualified opinion on the Company’s internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte LLP

London, United Kingdom

15 May 2019

The first accounting period we audited was 31 March 2018. In 2017, we began preparing for audit firm transition.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of National Grid plc

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of National Grid plc and subsidiaries (the "Company") as at 31 March 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as at 31 March 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as at and for the year ended 31 March 2019, of the Company and our report dated 15 May 2019, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Internal control over financing reporting section appearing on page 212 of the Additional Information section. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte LLP

London, United Kingdom

15 May 2019

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of National Grid plc

In our opinion, the consolidated income statement, consolidated statement of comprehensive income, consolidated cash flow statement and consolidated statement of changes in equity for the year ended 31 March 2017 present fairly, in all material respects, the results of operations and cash flows of National Grid plc and its subsidiaries for the year ended 31 March 2017, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board and in conformity with International Financial Reporting Standards as adopted by the European Union.

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP
London
United Kingdom
17 May 2017

	Description	
1.1	Articles of Association of National Grid plc adopted by Special Resolution passed on 30 July 2012. (Exhibit 1.1 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
2(a)	Amended and restated Deposit Agreement dated as of 23 May 2013 among National Grid plc and The Bank of New York Mellon, as Depository, and all Owners and Holders from time to time of American Depositary Shares issued thereunder. (Exhibit 1 to National Grid plc Form F-6 dated 15 May 2013 File No. 333-178045)	Incorporated by reference
2(b).1	Amended and Restated Trust Deed dated 26 July 2010 among National Grid plc, National Grid Electricity Transmission plc and the Law Debenture Trust Corporation p.l.c. relating to a €15,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).1 to National Grid plc Form 20-F dated 13 June 2011 File No. 1-14958)	Incorporated by reference
2(b).2	Amended and Restated Trust Deed dated 18 February 2011 among National Grid Gas plc, National Grid Gas Finance (no 1) plc and the Law Debenture Trust Corporation p.l.c. relating to a €10,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).2 to National Grid plc Form 20-F dated 13 June 2011 File No. 1-14958)	Incorporated by reference
2(b).3	Amended and Restated Trust Deed dated 22 February 2012 among National Grid Gas plc, National Grid Gas Finance (No 1) plc and the Law Debenture Trust Corporation p.l.c. relating to a €10,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).3 to National Grid plc Form 20-F dated 12 June 2012 File No. 1-14958)	Incorporated by reference
2(b).4	Amended and Restated Trust Deed dated 2 August 2011 among National Grid plc, National Grid Electricity Transmission plc and the Law Debenture Trust Corporation p.l.c. relating to a €15,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).5 to National Grid plc Form 20-F dated 12 June 2012 File No. 1-14958)	Incorporated by reference
2(b).5	Amended and Restated Trust Deed dated 27 March 2013 among National Grid Gas plc, National Grid Gas Finance (No 1) plc and the Law Debenture Trust Corporation p.l.c. relating to a €10,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).5 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
2(b).6	Amended and Restated Trust Deed dated 10 September 2012 among National Grid plc, National Grid Electricity Transmission plc and the Law Debenture Trust Corporation p.l.c. relating to a €15,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).6 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
2(b).7	Amended and Restated Trust Deed dated 12 September 2013 among National Grid plc, National Grid Electricity Transmission plc and the Law Debenture Trust Corporation p.l.c. relating to National Grid plc and National Grid Electricity Transmission plc €15,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).7 to National Grid plc Form 20-F dated 5 June 2014 File No. 1-14958)	Incorporated by reference
2(b).8	Amended and Restated Trust Deed dated 20 December 2013 among National Grid USA, National Grid North America Inc. and the Law Debenture Trust Corporation p.l.c. relating to National Grid USA €4,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).8 to National Grid plc Form 20-F dated 5 June 2014 File No. 1-14958)	Incorporated by reference

2(b).9	Amended and Restated Trust Deed dated 12 September 2014 among National Grid plc, National Grid Electricity Transmission plc and the Law Debenture Trust Corporation p.l.c. relating to National Grid plc and National Grid Electricity Transmission plc €15,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).9 to National Grid plc Form 20-F dated 5 June 2015 File No. 1-14958)	Incorporated by reference
2(b).10	Amended and Restated Trust Deed dated 18 December 2014 among National Grid USA, National Grid North America Inc. and the Law Debenture Trust Corporation p.l.c. relating to National Grid USA €4,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).10 to National Grid plc Form 20-F dated 5 June 2015 File No. 1-14958)	Incorporated by reference
2(b).11	Amended and Restated Trust Deed dated 18 July 2014 among National Grid Gas plc, National Grid Gas Finance (No 1) plc and the Law Debenture Trust Corporation p.l.c. relating to a €10,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).11 to National Grid plc Form 20-F dated 5 June 2015 File No. 1-14958)	Incorporated by reference
2(b).12	Amended and Restated Trust Deed dated 14 August 2015 among National Grid Gas plc, National Grid Gas Finance (No 1) plc and the Law Debenture Trust Corporation p.l.c. relating to a €10,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).12 to National Grid plc Form 20-F dated 7 June 2016 File No. 1-14958)	Incorporated by reference
2(b).13	Amended and Restated Trust Deed dated 21 September 2015 among National Grid plc, National Grid Electricity Transmission plc and the Law Debenture Trust Corporation p.l.c. relating to National Grid plc and National Grid Electricity Transmission plc €15,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).13 to National Grid plc Form 20-F dated 7 June 2016 File No. 1-14958)	Incorporated by reference
2(b).14	Amended and Restated Trust Deed dated 9 December 2015 among National Grid USA, National Grid North America Inc. and the Law Debenture Trust Corporation p.l.c. relating to National Grid USA €4,000,000,000 Euro Medium Term Note Programme. (Exhibit 2(b).14 to National Grid plc Form 20-F dated 7 June 2016 File No. 1-14958)	Incorporated by reference
2(b).15	Amended and Restated Trust Deed dated 21 December 2018 among National Grid North America Inc. and the Law Debenture Trust Corporation p.l.c. relating to National Grid USA €8,000,000,000 Euro Medium Term Note Programme.	Filed herewith
4(b).1	Acquisition Agreement between National Grid Holdings One plc and Quadgas Investments BidCo Limited and Quadgas HoldCo Limited and Quadgas PledgeCo Limited and Quadgas MidCo Limited relating to the subscription of shares in GasD HoldCo and the acquisition of GasD OpCo and GasD PropCo, dated 8 December 2016, as amended and restated on 30 March 2017. Confidential treatment has been requested. Confidential material has been redacted and separately filed with the SEC. (Exhibit 4(b).1 to National Grid plc Form 20-F dated 6 June 2017 File No. 1-14958)	Incorporated by Reference
4(b).2	Further Acquisition Agreement between National Grid Holdings One plc and Quadgas Investments Bidco Limited relating to the acquisition of shares in GasD HoldCo, dated 31 March 2017. Confidential treatment has been requested. Confidential material has been redacted and separately filed with the SEC. (Exhibit 4(b).2 to National Grid plc Form 20-F dated 6 June 2017 File No. 1-14958)	Incorporated by Reference
4(b).3	Remaining Acquisition Agreement between National Grid Holdings One plc and Quadgas Investments Bidco Limited relating to the acquisition of shares in GasD HoldCo, dated 30 April 2018. Confidential treatment has been requested. Confidential material has been redacted and separately filed with the SEC.	Incorporated by Reference
4(c).1	Service Agreement among The National Grid plc and Andrew Bonfield dated 1 November 2010. (Exhibit 4(c).20 to National Grid plc Form 20-F dated 13 June 2011 File No 1-14958)	Incorporated by reference

4(c).2	Service Agreement among National Grid Electricity Transmission plc and John Mark Pettigrew dated 28 February 2014. (Exhibit 4(c).5 to National Grid plc Form 20-F dated 5 June 2014 File No. 1-14958)	Incorporated by reference
4(c).3	Amendment to Service Agreement. (Exhibit 4(c).4 to National Grid plc Form 20-F dated 5 June 2014 File No. 1-14958) among National Grid Electricity Transmission plc and John Mark Pettigrew dated 2 November 2015	Incorporated by reference
4(c).4	Service Agreement among National Grid Electricity Transmission plc and Nicola Shaw dated 23 March 2016. (Exhibit 4(c).4 to National Grid plc Form 20-F dated 6 June 2017 File No. 1-14958)	Incorporated by reference
4(c).5	Service Agreement among National Grid plc and Andrew Agg dated 21 December 2018.	Filed herewith
4(c).6	Letter of Appointment—Sir Peter Gershon. (Exhibit 4(c).10 to National Grid plc Form 20-F dated 12 June 2012 File No. 1-14958)	Incorporated by reference
4(c).7	Letter of Appointment—Paul Golby. (Exhibit 4(c).11 to National Grid plc Form 20-F dated 12 June 2012 File No. 1-14958)	Incorporated by reference
4(c).8	Letter of Appointment—Ruth Kelly. (Exhibit 4(c).14 to National Grid plc Form 20-F dated 12 June 2012 File No. 1-14958)	Incorporated by reference
4(c).9	Letter of Appointment—Nora Mead Brownell. (Exhibit 4(c).13 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
4(c).10	Letter of Appointment—Mark Williamson. (Exhibit 4(c).14 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
4(c).11	Letter of Appointment—Jonathan Dawson. (Exhibit 4(c).15 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
4(c).12	Letter of Appointment—Therese Esperdy. (Exhibit 4(c).14 to National Grid plc Form 20-F dated 10 June 2013 File No. 1-14958)	Incorporated by reference
4(c).13	Letter of Appointment—Pierre Dufour (Exhibit 4(c).12 to National Grid plc Form 20-F dated 6 June 2017 File No. 1-14958)	Incorporated by reference
4(c).14	Letter of Appointment—Amanda Mesler	Incorporated by reference
4(c).15	Letter of Appointment—Earl Shipp	Filed herewith
4(c).16	Employment Agreement among National Grid plc, National Grid USA and Dean Seavers dated 22 October 2014. (Exhibit 4(c).15 to National Grid plc FOrm 20-F dated 5 June 2015 File no.1-14958	Incorporated by reference
4(c).17	National Grid plc Deferred Share Plan. (Exhibit 4.2 to National Grid plc S-8 dated 28 July 2011 File No. 333-175852)	Incorporated by reference
4(c).18	National Grid Executive Share Option Plan 2002. (Exhibit 4 (c) to National Grid Group Form 20-F dated 21 June 2002 File No. 1-14958)	Incorporated by reference
4(c).19	National Grid Group Share Matching Plan 2002. (Exhibit 4 (c) to National Grid Group Form 20-F dated 21 June 2002 File No. 1-14958)	Incorporated by reference

4(c).20	National Grid Transco Performance Share Plan 2002 (as approved 23 July 2002 by a resolution of the shareholders of National Grid Group plc, adopted 17 October 2002 by a resolution of the Board of National Grid Group plc, amended 26 June 2003 by the Share Schemes Sub-Committee of National Grid Transco plc, and amended 5 May 2004 by the Share Schemes Sub-Committee of National Grid Transco plc). (Exhibit 4.19 to National Grid Transco Form 20-F dated 16 June 2004 File No. 1-14958)	Incorporated by reference
4(c).21	National Grid Executive Share Option Scheme. (Exhibit 4D to National Grid Group S-8 dated 26 July 2001 File No. 333-65968)	Incorporated by reference
4(c).22	Lattice Group Short Term Incentive Scheme (approved by a resolution of the shareholders of BG Group plc effective 23 October 2000; approved by a resolution of the Board of National Grid Transco plc on 30 April 2004; amended by resolutions of the Board of Lattice Group plc effective on 21 October 2002 and 13 May 2004). (Exhibit 4.23 to National Grid Transco Form 20-F dated 16 June 2004 File No. 1-14958)	Incorporated by reference
4(c).23	National Grid USA Companies' Defined Contribution Supplemental Executive Retirement Plan. (Exhibit 4.2 to National Grid plc S-8 dated 23 October 2012 File No. 333-184558)	Incorporated by reference
8	List of subsidiaries - The list of the Company's significant subsidiaries as of 31 March 2019 is incorporated by reference to "Financial Statements-Notes to the consolidated financial statements-34. Subsidiary undertakings, joint venture and associates-Subsidiary undertakings" on pages 174-176 included in the Annual Report on Form 20-F for the financial year ended 31 March 2019. This list excludes subsidiaries that do not, in aggregate, constitute a "significant subsidiary" as defined in Rule 1-02(w) of Regulation S-X as at 31 March 2019.	Incorporated by reference
12.1	Certification of John Pettigrew pursuant to Rule 13a-14(a) of the Exchange Act.	Filed herewith
12.2	Certification of Andrew Agg pursuant to Rule 13a-14(a) of the Exchange Act.	Filed herewith
13.1	Certifications of John Pettigrew and Andrew Agg furnished pursuant to Rule 13a-14(b) of the Exchange Act (such certifications are not deemed filed for purpose of Section18 of the Exchange Act and not incorporated by reference in any filing under the Securities Act).	Filed herewith
15.1	Consent of Deloitte LLP, independent registered public accounting firm to National Grid plc.	Filed herewith
15.2	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm to National Grid plc.	Filed herewith

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorised the undersigned to sign this annual report on its behalf.

	NATIONAL GRID PLC
Date: 4 June 2019	/s/ AndrewAgg Andrew Agg Title: Chief Finance Officer National Grid plc

Exhibit 2(b).15

EXECUTION VERSION

Dated 21 December 2018

NATIONAL GRID NORTH AMERICA INC.

as Issuer

and

THE LAW DEBENTURE TRUST CORPORATION p.l.c.

as Trustee

AMENDED AND RESTATED TRUST DEED

relating to
National Grid North America Inc.
Euro 8,000,000,000
Euro Medium Term Note Programme

arranged by
HSBC Bank plc

Linklaters

Ref: EXM/RR/BB

Linklaters LLP

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This Trust Deed is made on 21 December 2018 **between**:

(1) **NATIONAL GRID NORTH AMERICA INC.** (the "**Issuer**"); and

(2) **THE LAW DEBENTURE TRUST CORPORATION p.l.c.** (the "**Trustee**", which expression, where the meaning so admits, includes any other trustee for the time being of this Trust Deed).

Whereas:

(A) The Issuer proposes to issue from time to time debt instruments in registered form (the "**Instruments**") in an aggregate nominal amount outstanding at any one time, not exceeding the Programme Limit in accordance with the Dealer Agreement (the "**Programme**") and to be constituted by this Trust Deed.

(B) This Trust Deed amends and restates the amended and restated trust deed dated 9 December 2015 between National Grid USA, National Grid North America Inc. and The Law Debenture Trust Corporation p.l.c. (the "**Original Trust Deed**") in respect of all Instruments issued pursuant to the Programme on or after the date of this Trust Deed. The Original Trust Deed will continue in full force and effect in respect of all Instruments issued prior to the date of this Trust Deed and any Instruments issued on or after the date of this Trust Deed which are to be consolidated and form a single series with any Instruments issued prior to the date hereof.

(C) The Trustee has agreed to act as trustee of this Trust Deed on the following terms and conditions.

This Deed witnesses and it is declared as follows:

1 Interpretation

1.1 Definitions

In this Trust Deed:

"**Agency Agreement**" means the amended and restated agency agreement (as amended, supplemented and/or restated from time to time) relating to the Programme dated 9 December 2015, between the Issuer, the Trustee, The Bank of New York Mellon, London Branch as Issuing and Paying Agent, The Bank of New York Mellon (Luxembourg) S.A. as Registrar, BNY Trust Company of Canada as Canadian Paying Agent and the other agent(s) mentioned in it;

"**Agents**" has the meaning given to it in the Agency Agreement;

"**Calculation Agent**" means any person named as such in the Conditions or any Successor Calculation Agent;

"**Canadian Paying Agent**" means BNY Trust Company as Canadian Paying Agent under the Agency Agreement (or such Canadian Paying Agent as may be appointed from time to time under the Agency Agreement);

"**CDS**" means CDS Clearing and Depository Services Inc.;

"**Certificate**" means a registered certificate representing one or more Instruments of the same Series and, save as provided in the Conditions, comprising the entire holding by an Instrumentholder of his Instruments of that Series and, save in the case of Global Certificates, being substantially in the form set out in Schedule1 Part B;

“**Common Safekeeper**” means, in relation to a Series where the relevant Global Certificate is held under the NSS, the common safekeeper for Euroclear and Clearstream, Luxembourg appointed in respect of such Instruments;

“**Clearstream, Luxembourg**” means Clearstream Banking S.A.;

“**Conditions**” means in respect of the Instruments of each Series the terms and conditions applicable to them which shall be substantially in the form set out in Schedule 2 (Terms and Conditions of the Instruments) as modified, with respect to any Instruments represented by a Global Certificate, by the provisions of such Global Certificate, and shall incorporate any additional provisions forming part of such terms and conditions set out in Part A of the Final Terms relating to the Instruments of that Series and any reference to a particularly numbered Condition shall be construed accordingly;

“**Contractual Currency**” means, in relation to any payment obligation of any Instrument, the currency in which that payment obligation is expressed and, in relation to Clause 8 (Provisions Supplemental to the Trustee Acts), such currency as may be agreed between the Issuer and the Trustee from time to time;

“**Dealer Agreement**” means the amended and restated dealer agreement (as amended, supplemented and/or restated from time to time) relating to the Programme dated 21 December 2018 between the Issuer, the Arranger and the dealers named in it;

“**Definitive Instrument**” means a Certificate other than a Global Certificate and includes any replacement Instrument or Certificate issued pursuant to the Conditions;

“**Effective Date**” means the date on which the Arranger, has received, on behalf of the Dealers, each of the condition precedent documents listed in Schedule 2 to the Dealer Agreement and that each is, in form and substance, satisfactory to it;

“**Euroclear**” means Euroclear Bank SA/NV;

“**Event of Default**” means an event described in Condition 8 and that, if so required by that Condition, has been certified by the Trustee to be, in its opinion, materially prejudicial to the interests of the Instrumentholders;

“**Extraordinary Resolution**” has the meaning set out in Schedule 3 (Provisions for Meetings of Instrumentholders);

“**Final Terms**” means, in relation to a Tranche, the final terms document substantially in the form set out in the Prospectus which will be completed at or around the time of the agreement to issue each Tranche of Instruments and which will constitute final terms for the purposes of Article 5.4 of the Prospectus Directive. For the avoidance of doubt, in the case of Instruments issued under the Programme which are not admitted to trading on the London Stock Exchange’s regulated market, all references to the Final Terms shall be construed as references to the pricing supplement substantially in the form set forth in the Prospectus;

“**Global Certificate**” means a Temporary Global Certificate and/or the Permanent Global Certificate substantially in the forms set out in Part A of Schedule 1 representing Instruments of one or more Tranches of the same Series;

“**holder**” in relation to an Instrument and “**Instrumentholder**” have the meanings given to them in the Conditions;

“**Instruments**” means the debt instruments to be issued by the Issuer pursuant to the Dealer Agreement, constituted by this Trust Deed and for the time being outstanding or, as the context may require, a specific number of them;

“**Issuing and Paying Agent**” means the person named as such in the Conditions or any Successor Issuing and Paying Agent in each case at its specified office;

“**month**” means a calendar month;

“**NSS**” means the new safekeeping structure which applies to Instruments held in global form by a Common Safekeeper for Euroclear and Clearstream, Luxembourg and which is required for such Instruments to be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations;

“**outstanding**” means, in relation to the Instruments, all the Instruments issued except (a) those that have been redeemed in accordance with the Conditions, (b) those in respect of which the date for redemption has occurred and the redemption moneys (including all interest accrued on such Instruments to the date for such redemption and any interest payable after such date) have been duly paid to the Trustee or to the Issuing and Paying Agent or the Canadian Paying Agent, as applicable, as provided in Clause 2 (Issue of Instruments and Covenant to Pay) and remain available for payment against presentation and surrender of such Instruments, (c) those which have become void or in respect of which claims have become prescribed, (d) those which have been purchased and cancelled as provided in the Conditions, (e) those mutilated or defaced Instrument(s) which have been surrendered in exchange for replacement Certificate(s), (f) those Instruments alleged to have been lost, stolen or destroyed and in respect of which replacement Instruments have been issued, and (g) any Temporary Global Certificate to the extent that such Certificates have been exchanged for a Permanent Global Certificate, provided that for the purposes of (i) ascertaining the right to attend at any meeting of Instrumentholders and vote at any meeting of the Instrumentholders or to participate in any Written Resolution or Electronic Consent, (ii) the determination of how many Instruments are outstanding for the purposes of Conditions 8 and 10 and Schedule 3 (Provisions for Meetings of Instrumentholders), (iii) the exercise of any discretion, power or authority that the Trustee is required, expressly or impliedly, to exercise in or by reference to the interests of the Instrumentholders and (iv) the certification (where relevant) by the Trustee as to whether a Potential Event of Default is in its opinion materially prejudicial to the interests of the Instrumentholders, those Instruments which are beneficially held by or on behalf of the Issuer or any of its subsidiary undertakings and not cancelled shall (unless no longer so held) be deemed not to remain outstanding;

“**Paying Agents**” means the persons (including the Issuing and Paying Agent and the Canadian Paying Agent, as applicable) referred to as such in the Conditions or any Successor Paying Agents in each case at their respective specified offices;

“**Permanent Global Certificate**” means a permanent Global Certificate in the form set out in Part A of Schedule 1 hereto, issued in a denomination equal to the outstanding principal amount of the Temporary Global Certificate upon expiration of the Restricted Period and certification of non-U.S. beneficial ownership;

“**Potential Event of Default**” means an event or circumstance that could with the giving of notice, lapse of time, issue of a certificate and/or fulfilment of any other requirement provided for in Condition 8 become an Event of Default;

“**Programme Limit**” means the maximum aggregate nominal amount of Instruments which may be issued and outstanding at any time under the Programme, as such limit may be increased pursuant to the Dealer Agreement;

"**Prospectus**" means the prospectus prepared in connection with the Programme and constituting (i) a base prospectus in respect of the Issuer for the purposes of Article 5.4 of the Prospectus Directive and (ii) listing particulars in respect of the Issuer for the purposes of Listing Rule 2.2.11 of the Listing Rules of the Financial Conduct Authority, as revised, supplemented or amended from time to time by the Issuer including any documents which are from time to time incorporated in the Prospectus by reference except that in relation to each Tranche of Instruments only the applicable Final Terms shall be deemed to be included in the Prospectus;

“**Prospectus Directive**” means Directive 2003/71/EC, as amended or superseded, of the European Parliament and of the Council;

“**Redemption Amount**” means the Final Redemption Amount, Early Redemption Amount or Optional Redemption Amount, as the case may be, all as defined in the Conditions;

“**Register**” means the register maintained by the Registrar;

“**Registrar**” means the person named as such in the Conditions or any Successor Registrar in each case at its specified office;

“**Restricted Period**” means the 40-day distribution compliance period as defined in Regulation S under the Securities Act;

“**Securities Act**” means the U.S. Securities Act of 1933, as amended;

“**Series**” means a series of Instruments comprising one or more Tranches, whether or not issued on the same date, that (except in respect of the first payment of interest and their issue price) have identical terms on issue and are expressed to have the same series number;

“**specified office**” means, in relation to a Paying Agent, the Registrar or a Transfer Agent the office identified with its name at the end of the Conditions or any other office approved by the Trustee and notified to Instrumentholders pursuant to Clause 6.6 (Notices to Instrumentholders);

“**Successor**” means, in relation to an Agent such other or further person as may from time to time be appointed by the Issuer as such Agent with the written approval of, and on terms approved in writing by, the Trustee and notice of whose appointment is given to Instrumentholders pursuant to Clause 6.6 (Notices to Instrumentholders);

“**successor in business**” means (a) an entity which acquires all or substantially all of the undertaking and/or assets of the Issuer or of a successor in business of the Issuer; or (b) any entity into which any of the previously referred to entity is amalgamated, merged or reconstructed and is itself not the continuing company;

“**TARGET System**” means the Trans-European Automated Real-Time Gross Settlement Express Transfer (known as TARGET2) System which was launched on 19 November 2007 or any successor thereto;

“**Temporary Global Certificate**” means a temporary Global Certificate in the form set out in Part A of Schedule 1 hereto, bearing the Temporary Global Certificate Legend;

“**Temporary Global Certificate Legend**” means the legend set forth in Clause 3;

“**Tranche**” means, in relation to a Series, those Instruments of that Series which are issued on the same date at the same issue price and in respect of which the first payment of interest is identical;

“**Transfer Agents**” means the persons (including the Registrar) referred to as such in the Conditions or any Successor Transfer Agents in each case at their specified offices;

“**trust corporation**” means a trust corporation (as defined in the Law of Property Act 1925) or a corporation entitled to act as a trustee pursuant to applicable foreign legislation relating to trustees; and

“**Trustee Acts**” means both the Trustee Act 1925 and the Trustee Act 2000 of England and Wales.

1.2 Construction of Certain References

Unless the context otherwise requires, all references in this Trust Deed to:

1.2.1 the records of Euroclear and Clearstream, Luxembourg shall be to the records that each of Euroclear and Clearstream, Luxembourg holds for its customers which reflect the amount of such customers’ interests in the Instruments;

1.2.2 costs, charges, remuneration or expenses include any value added, turnover or similar tax charged in respect of them;

1.2.3 an action, remedy or method of judicial proceedings for the enforcement of creditors’ rights include references to the action, remedy or method of judicial proceedings in jurisdictions other than England as shall most nearly approximate to it;

1.2.4 the Trustee’s approval or consent shall, unless expressed otherwise, be subject to the requirement that any such approval or consent shall not be unreasonably withheld or delayed, such reasonableness to be determined by reference to acting in the interests of Instrumentholders as a whole; and

1.2.5 the appointment or employment of or delegation to any person by the Trustee shall be deemed to include a reference to, if in the opinion of the Trustee it is reasonably practicable, the prior notification of and consultation with the Issuer and, in any event, the notification forthwith of such appointment, employment or delegation, as the case may be.

1.3 Headings

Headings shall be ignored in construing this Trust Deed.

1.4 Contracts

References in this Trust Deed to this Trust Deed or any other document are to this Trust Deed or those documents as amended, supplemented or replaced from time to time in relation to the Programme and include any document that amends, supplements or replaces them.

1.5 Schedules

The Schedules are part of this Trust Deed and have effect accordingly.

1.6 Alternative Clearing System

References in this Trust Deed to Euroclear and/or Clearstream, Luxembourg shall, wherever the context so permits, be deemed to include reference to any additional or alternative clearing system approved by the Issuer, the Trustee and the Issuing and Paying Agent. In the case of Global Certificates held under the NSS, such alternative clearing system must also be authorised to hold Instruments as eligible collateral for Eurosystem monetary policy and intra-day credit operations.

1.7 Other Terms

Other terms defined in the Dealer Agreement or the Conditions have the same meaning in this Trust Deed.

1.8 Contracts (Rights of Third Parties) Act 1999

A person who is not a party to this Trust Deed has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Trust Deed.

1.9 Effectiveness

Upon execution of this Trust Deed by all the parties hereto, the Original Trust Deed shall be replaced by this Trust Deed and the Original Trust Deed shall be of no further force and effect, except in respect of Instruments issued prior to the date of this Trust Deed.

2 Issue of Instruments and Covenant to Pay

2.1 Issue of Instruments

The Issuer may from time to time issue Instruments in Tranches of one or more Series on a continuous basis with no minimum issue size in accordance with the Dealer Agreement. Before issuing any Tranche and not later than 3.00 p.m. (London time) on the second business day in London which for this purpose shall be a day on which commercial banks are open for general business in London preceding each proposed issue date, the Issuer shall give written notice or procure that it is given to the Trustee of the proposed issue of such Tranche, specifying the details to be included in the relevant Final Terms. Upon the issue by the Issuer of any Instruments expressed to be constituted by this Trust Deed, such Instruments shall forthwith be constituted by this Trust Deed without any further formality and irrespective of whether or not the issue of such debt securities contravenes any covenant or other restriction in this Trust Deed or the Programme Limit.

2.2 Separate Series

The provisions of Clauses 2.3 (Covenant to Pay), 2.4 (Discharge), 2.5 (Payment after a Default) and 2.6 (Rate of Interest after a Default) and of Clauses 3 (Form of the Instruments) to 15 (Currency Indemnity) and Schedule 3 (Provisions for Meetings of Instrumentholders) (all inclusive) shall apply *mutatis mutandis* separately and independently to the Instruments of each Series and in such Clauses and Schedule the expressions "**Instrumentholders**", and "**Certificates**", together with all other terms that relate to Instruments or their Conditions, shall be construed as referring to those of the particular Series in question and not of all Series unless expressly so provided, so that each Series shall be constituted by a separate trust pursuant to Clause 2.3 (Covenant to Pay) and that, unless expressly provided, events affecting one Series shall not affect any other.

2.3 Covenant to Pay

The Issuer shall on any date when any Instruments become due to be redeemed, in whole or in part, unconditionally pay to or to the order of the Trustee in the Contractual Currency, in the case of any Contractual Currency other than Euro, in the principal financial centre for the Contractual Currency and, in the case of Euro, in a city in which banks have access to the TARGET System, in same day funds the Redemption Amount of the Instruments becoming due for redemption on that date together with any applicable premium and shall (subject to the Conditions and other than in respect of Zero Coupon Instruments) until such payment (both before and after judgment) unconditionally so pay to or to the order of the Trustee interest in respect of the nominal amount of the Instruments outstanding as set out in the Conditions (subject to Clause 2.6 (Rate of Interest after a Default)) provided that (a) subject to the provisions of Clause 2.5, payment of any sum due in respect of the Instruments made to the Issuing and Paying Agent or Canadian Paying Agent, as applicable, as provided in the Agency Agreement shall, to that extent, satisfy such obligation except to the extent that there is failure in its subsequent payment to the relevant Instrumentholders under the Conditions and (b) a payment made after the due date or as a result of the Instrument becoming repayable following an Event of Default shall be deemed to have been made when the full amount due has been received by the Issuing and Paying Agent or Canadian Paying Agent, as applicable, or the Trustee and notice to that effect has been given to the Instrumentholders (if required under Clause 6.8 (Notice of Late Payment)), except to the extent that there is failure in its subsequent payment to the relevant Instrumentholders under the Conditions. This covenant shall only have effect each time Instruments are issued and outstanding, when the Trustee shall hold the benefit of this covenant on trust for the Instrumentholders of the relevant Series.

2.4 Discharge

Subject to Clause 2.5 (Payment after a Default), any payment to be made in respect of the Instruments by the Issuer or the Trustee may be made as provided in the Conditions and any payment so made shall (subject to Clause 2.5 (Payment after a Default)) to that extent be a good discharge to the Issuer or the Trustee, as the case may be, except to the extent that there is failure in its subsequent payment to the relevant Instrumentholders under the Conditions.

2.5 Payment after a Default

At any time after an Event of Default or a Potential Event of Default has occurred the Trustee may:

2.5.1 by notice in writing to the Issuer and the Paying Agents, require the Paying Agents, until notified by the Trustee to the contrary, so far as permitted by applicable law:

(i) to act as Paying Agents and the Transfer Agents of the Trustee under this Trust Deed and the Instruments on the terms of the Agency Agreement (with consequential amendments as necessary and except that the Trustee's liability for the indemnification, remuneration and expenses of the Paying Agents shall be limited to the amounts for the time being held by the Trustee in respect of the Instruments on the terms of this Trust Deed) and thereafter to hold all Instruments and Certificates, and all moneys, documents and records held by them in respect of Instruments and Certificates to the order of the Trustee; or

(ii) to deliver all Instruments and Certificates and all moneys, documents and records held by them in respect of the Instruments and Certificates to the Trustee or as the Trustee directs in such notice; and

2.5.2 by notice in writing to the Issuer, require the Issuer to make all subsequent payments in respect of the Instruments to or to the order of the Trustee and not to the Issuing and Paying Agent or Canadian Paying Agent, as applicable, and with effect from the receipt of any such notice by the Issuer, until such notice is withdrawn, the first proviso to Clause 2.3 (Covenant to Pay) shall cease to have effect.

2.6 Rate of Interest after a Default

If the Instruments bear interest at a floating or other variable rate and they become immediately payable under the Conditions following an Event of Default, the rate of interest payable in respect of them shall continue to be calculated by the Calculation Agent in accordance with the Conditions (with consequential amendments as necessary) except that the rates of interest need not be notified to Instrumentholders. The first period in respect of which interest shall be so calculable shall commence on the expiry of the Interest Period during which the Instruments become so repayable.

3 Form of the Instruments

3.1 The Global Certificates

The Instruments shall initially be represented by one or more Temporary Global Certificates in the nominal amount of the Tranche being issued. Each Global Certificate shall be printed or typed substantially in the form set out in Part A of Schedule 1 and may be a facsimile. Interests in the Temporary Global Certificate shall be exchangeable for interests in a Permanent Global Certificate upon expiration of the Restricted Period and certification of non-U.S. beneficial ownership.

Following termination of the Restricted Period and receipt by the Issuing and Paying Agent of copies of certificates from Euroclear and Clearstream, Luxembourg (if available) certifying that they have received certification of non-U.S. beneficial ownership of 100 per cent. of the aggregate principal amount of each Temporary Global Certificate, the Issuing and Paying Agent or Canadian Paying Agent, as applicable, shall complete a Permanent Global Certificate (being substantially in the form set out in Schedule 1 Part A of the Trust Deed) in an aggregate nominal amount up to that of the relevant Tranche, authenticate it (or cause its agent on its behalf to do so), and deliver the Permanent Global Certificate to the Common Safekeeper which is holding the Temporary Global Certificate representing the Tranche for the time being on behalf of Euroclear and/or Clearstream, Luxembourg together with instructions to the Common Safekeeper to effectuate the same, and, in each case, procure the exchange of interests in such Temporary Global Certificate for interests in an equal nominal amount of such Permanent Global Certificate in accordance with such Temporary Global Certificate. In the case of a total exchange of interests in the Temporary Global Certificate, the Issuing and Paying Agent or Canadian Paying Agent, as applicable, shall cancel or arrange for the cancellation of the Temporary Global Certificate.

3.2 Temporary Global Certificate Legend

The Temporary Global Certificate shall bear a legend in substantially the following form:

"BY ITS ACQUISITION HEREOF, THE HOLDER HEREOF REPRESENTS THAT IT IS NOT A U.S. PERSON, AS DEFINED IN THE U.S. SECURITIES ACT OF 1933 (THE "SECURITIES ACT"), NOR IS IT PURCHASING FOR THE ACCOUNT OR BENEFIT OF A U.S. PERSON, AND IS ACQUIRING THIS SECURITY IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH REGULATION S UNDER THE SECURITIES ACT."

3.3 The Certificates

The Certificates shall be printed in accordance with applicable legal and stock exchange requirements substantially in the form set out in Part B of Schedule 1. The Certificates (other than the Global Certificates) shall be endorsed with the Conditions.

3.4 Signature

The Instruments and Certificates (other than the Instruments settling in CDS) shall be signed manually or in facsimile by an authorised signatory of the Issuer and the Certificates shall be authenticated by or on behalf of the Registrar. Instruments and Certificates settling in CDS will be signed manually by an authorised signatory of the Issuer (unless CDS agrees that it will accept a facsimile signature) and such Certificates shall be authenticated by or on behalf of the Canadian Paying Agent. The Issuer may use the facsimile signature of any person who at the date of this Trust Deed is such an authorised signatory even if at the time of issue of any Instruments or Certificates he no longer holds that office. In the case of a Global Certificate which is held under the NSS, the Issuing and Paying Agent or the Registrar shall also instruct the Common Safekeeper to effectuate the same. Certificates so executed and authenticated (and effectuated, if applicable) shall represent binding and valid obligations of the Issuer. Execution in facsimile of any Instruments and any photostatic copying or other duplication of any Global Certificates (in unauthenticated form, but executed manually on behalf of the Issuer as stated above) shall represent binding obligations upon the Issuer in the same manner as if such Certificates were signed manually by such signatories.

3.5 Title

The holder of any Instrument whose name is entered in the Register as being entitled to such Instrument shall (save as otherwise required by law) be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest in it, any writing on it or its theft or loss) and no person will be liable for so treating the holder.

4 Stamp Duties and Taxes

4.1 Stamp Duties

The Issuer shall pay any stamp, issue, documentary or other taxes and duties payable in the United States of America in respect of the creation, issue and offering of the Instruments and/or Certificates issued by it and the execution or delivery of this Trust Deed. The Issuer shall also indemnify the Trustee and the relevant Instrumentholders from and against all stamp, issue, documentary or other taxes paid by any of them in any jurisdiction in connection with any action taken by or on behalf of the Trustee or, as the case may be (where entitled to do so), the relevant Instrumentholders to enforce the Issuer's obligations under this Trust Deed or the relevant Instruments or Certificates.

4.2 Change of Taxing Jurisdiction

If the Issuer becomes subject generally to the taxing jurisdiction of a territory or a taxing authority of or in that territory with power to tax other than, or in addition to, the United States of America or any political sub-division of the United States of America then the Issuer shall (unless the Trustee otherwise agrees) give the Trustee an undertaking satisfactory to the Trustee in terms corresponding to the terms of Condition 6 with the substitution for, or (as the case may require) the addition to, the references in that Condition to the United States of America of references to that other or additional territory or authority to whose taxing jurisdiction the Issuer has become so subject. In such event this Trust Deed and the relevant Instruments and Certificates shall be read accordingly.

5 Application of Moneys Received by the Trustee

5.1 Declaration of Trust

All moneys received by the Trustee in respect of the Instruments or amounts payable under this Trust Deed shall, despite any appropriation of all or part of them by the Issuer, be held by the Trustee on trust to apply them (subject to Clause 5.2 (Accumulation)):

5.1.1 first, in payment of all costs, charges, expenses and liabilities reasonably incurred by the Trustee (including remuneration payable to it) in carrying out its functions under this Trust Deed;

5.1.2 secondly, in payment of any amounts owing in respect of the relevant Instruments *pari passu* and rateably; and

5.1.3 thirdly, in payment of any balance to the Issuer for itself.

If the Trustee holds any moneys which represent principal, premium or interest in respect of Instruments which have become void in accordance with the Conditions the Trustee shall hold them on these trusts.

5.2 Accumulation

If the amount of the moneys at any time available for payment in respect of the Instruments under Clause 5.1 (Declaration of Trust) is less than 10 per cent. of the nominal amount of the Instruments then outstanding, the Trustee may, at its discretion, invest such moneys as provided in Clause 5.3 (Investment). The Trustee may retain such investments and accumulate the resulting income until the investments and the accumulations, together with any other funds for the time being under its control and available for such payment, amount to at least 10 per cent. of the nominal amount of the Instruments then outstanding and then such investments, accumulations and funds (after deduction of, or provision for, any applicable taxes) shall be applied as specified in Clause 5.1 (Declaration of Trust).

5.3 Investment

Moneys held by the Trustee may be invested in its name or under its control in any investments or other assets anywhere, whether or not they produce income, or deposited in its name or under its control at such bank or other financial institution in such currency as the Trustee may, in its absolute discretion, think fit. If that bank or institution is the Trustee or a subsidiary, parent or associated undertaking of the Trustee, it need only account for an amount of interest equal to the standard amount of interest payable by it on such a deposit to an independent customer. The Trustee may at any time vary or transpose any such investments or assets or convert any moneys so deposited into any other currency, and shall not be responsible for any resulting loss, whether by depreciation in value, change in exchange rates or otherwise.

6 Covenants

So long as any Instrument issued by it is outstanding, the Issuer shall:

6.1 Books of Account

Keep, and procure that each of its subsidiary undertakings keeps, proper books of account and, at any time after an Event of Default has occurred or if the Trustee reasonably believes that such an event has occurred, so far as permitted by applicable law, allow, and procure that each such subsidiary undertaking shall allow, the Trustee and anyone appointed by it to whom the Issuer and/or the relevant subsidiary undertaking has no reasonable objection, access to its books of account at all reasonable times during normal business hours.

6.2 Notice of Events of Default

Notify the Trustee in writing immediately on becoming aware of the occurrence of any Event of Default or Potential Event of Default.

6.3 Information

So far as permitted by applicable law, give the Trustee such information as it reasonably requires to perform its functions.

6.4 Financial Statements etc.

Send to the Trustee at the time of their issue and, in the case of annual financial statements, in any event within 180 days of the end of each financial year, three copies in English of every balance sheet, profit and loss account, report or other notice, statement or circular issued, or that legally or contractually should be issued, to the members or creditors (or any class of them) of the Issuer or any parent undertaking of it generally in their capacity as such.

6.5 Certificate of a Director, etc.

6.5.1 Send to the Trustee, within 14 days of its annual audited financial statements being made available to its members, and also within 21 days of any request by the Trustee a certificate of the Issuer signed by a director that, having made all reasonable enquiries, to the best of the knowledge, information and belief of the Issuer as at a date (the "**Certification Date**") not more than five days before the date of the certificate no Event of Default or Potential Event of Default had occurred (and, in the case of a Potential Event of Default, was continuing) since the Certification Date of the last such certificate or (if none) the date of this Trust Deed or, if such an event had occurred (and, in the case of a Potential Event of Default, was continuing), giving details of it and certifying that it has complied with its obligations under this Trust Deed or, to the extent that it has failed so to comply, stating such.

6.5.2 Give to the Trustee, as soon as reasonably practicable after the acquisition of any company which thereby becomes a Principal Subsidiary or after any transfer is made to any member of the Group (as defined in Condition 8) which thereby becomes a Principal Subsidiary, a certificate by the auditors of the Issuer at that time (the "**Auditors**") addressed to the Trustee to such effect.

6.6 Notices to Instrumentholders

Obtain the prior written approval of the Trustee to, and promptly give to the Trustee two copies of, the form of every notice given to the Instrumentholders in accordance with Condition 13 (such approval, unless so expressed, not to constitute approval for the purposes of Section 21 of the Financial Services and Markets Act 2000 of a communication within the meaning of that section).

6.7 Further Acts

So far as permitted by applicable law, do such further things as may be necessary in the reasonable opinion of the Trustee to give effect to this Trust Deed.

6.8 Notice of Late Payment

Forthwith upon request by the Trustee (if the Trustee determines such notice is necessary) give notice to the Instrumentholders of any unconditional payment to the Issuing and Paying Agent (or the Canadian Paying Agent, as applicable) or the Trustee of any sum due in respect of the Instruments made after the due date for such payment.

6.9 Listing

If the Instruments are so listed, use all reasonable endeavours to maintain the listing of the Instruments but, if it is unable to do so, having used such endeavours, or if the maintenance of such listing is agreed by the Trustee to be unduly onerous and the Trustee is satisfied that the interests of the Instrumentholders would not by such action be materially prejudiced, instead use all reasonable endeavours to obtain and maintain a listing of the Instruments on another stock exchange approved in writing by the Trustee.

6.10 Change in Agents

Give at least 14 days' prior notice to the Instrumentholders in accordance with the Conditions of any future appointment, resignation or removal of an Agent or of any change by an Agent of its specified office.

6.11 Provision of Legal Opinions

Procure the delivery of legal opinions addressed to the Trustee dated the date of such delivery, in form and content acceptable to the Trustee:

6.11.1 from Allen & Overy LLP as to the laws of England and as New York Counsel and the Issuer's internal counsel as to the laws of the United States (or such other legal advisers as may be agreed between the Issuer and the Trustee) before the first issue of Instruments occurring after each anniversary of this Trust Deed or, if later, 12 months after the date of delivery of the latest such legal opinion and on the date of any amendment to this Trust Deed;

6.11.2 unless the Issuer has notified the Dealers and the Trustee in writing that it does not intend to issue Instruments under the Programme for the time being, from legal advisers reasonably acceptable to the Trustee as to such law as may reasonably be requested by the Trustee and in such form and with such content as the Trustee may require, on such occasions as the Trustee so requests on the basis that the Trustee considers it prudent in view of a change (or proposed change) in (or in the interpretation or application of) any applicable law, regulation or circumstance materially affecting the Issuer, the Trustee, the relevant Instruments, the Certificates, this Trust Deed or the Agency Agreement; and

6.11.3 on each occasion on which a legal opinion is given to any Dealer pursuant to the Dealer Agreement from the legal adviser giving such opinion.

6.12 Instruments Held by the Issuer

Send to the Trustee as soon as practicable after being so requested by the Trustee a certificate of the Issuer signed by any director or the Company Secretary stating the number of Instruments held at the date of such certificate by or on behalf of the Issuer or its subsidiary undertakings.

6.13 Obligations of Agents

Comply with and perform all its obligations under the Agency Agreement and use all reasonable endeavours to procure that the Agents comply with and perform all their respective obligations thereunder and not make any amendment or modification to the Agency Agreement without the prior written approval of the Trustee.

6.14 Copies of Dealer Agreement

Provide the Trustee promptly with copies of all supplements and/or amendments to, and/or restatements of, the Dealer Agreement.

7 Remuneration and Indemnification of the Trustee

7.1 Normal Remuneration

So long as any Instrument is outstanding the Issuer shall pay the Trustee as remuneration for its services as Trustee such sum on such dates in each case as they may from time to time agree. Such remuneration shall accrue from day to day from the date of this Trust Deed. However, if any payment to an Instrumentholder of moneys due in respect of any Instrument is improperly withheld or refused, such remuneration shall again accrue as from the date of such withholding or refusal until payment to such Instrumentholder is duly made.

7.2 Extra Remuneration

If an Event of Default or a Potential Event of Default shall have occurred or if the Trustee finds it expedient or necessary or is requested by the Issuer to undertake duties that they both agree to be of an exceptional nature or otherwise outside the scope of the Trustee's normal duties under this Trust Deed, the Issuer shall pay such additional remuneration as they may agree (and which may be calculated by reference to the Trustee's normal hourly rates in force from time to time) or, failing agreement as to any of the matters in this Clause 7 (or as to such sums referred to in Clause 7.1 (Normal Remuneration)), as determined by a person (acting as an expert) selected by the Trustee and approved by the Issuer or, failing such approval, nominated by the President for the time being of The Law Society of England and Wales. The expenses involved in such nomination and such person's fee shall be shared equally between the Trustee and the Issuer. The determination of the relevant person shall be conclusive and binding on the Issuer, the Trustee and the relevant Instrumentholders.

7.3 Expenses

The Issuer shall also, on demand by the Trustee, pay or discharge all costs, charges, liabilities and expenses reasonably incurred by the Trustee in the preparation and execution of this Trust Deed and the performance of its functions under this Trust Deed including, but not limited to, legal and travelling expenses and any United Kingdom stamp, documentary or other taxes or duties paid by the Trustee in connection with any legal proceedings reasonably brought or contemplated by the Trustee against the Issuer to enforce any provision of this Trust Deed, the relevant Instruments and in addition shall pay to the Trustee (if required) an amount equal to the amount of any value added tax or similar tax chargeable in respect of the Trustee's remuneration under this Trust Deed. Such costs, charges, liabilities and expenses shall:

7.3.1 in the case of payments made by the Trustee before such demand, carry interest from the date of the demand at the rate of the Trustee's cost of funding on the date on which the Trustee made such payments; and

7.3.2 in other cases, carry interest at such rate from 30 days after the date of the demand or (where the demand specifies that payment is to be made on an earlier date) from such earlier date provided that in such event no such interest shall accrue unless payment is actually made on such earlier date.

7.4 Notice of Costs

The Trustee shall wherever practicable give prior notice to the Issuer of any costs, charges and expenses properly to be incurred and of payments to be made by the Trustee in the lawful exercise of its powers under this Trust Deed so as to afford the Issuer a reasonable opportunity to meet such costs, charges and expenses itself or to put the Trustee in funds to make payment of such costs, charges and expenses. However, failure of the Trustee to give any such prior notice shall not prejudice its rights to reimbursement of such costs, charges and expenses under this Clause 7.

7.5 Indemnity

The Issuer shall indemnify the Trustee in respect of all liabilities and expenses properly incurred by it or by anyone appointed by it or to whom any of its functions may be delegated by it in the carrying out of its functions and against any loss, liability, cost, claim, action, demand or expense (including, but not limited to, all costs, charges and expenses properly paid or incurred in disputing or defending any of the foregoing) which any of them may incur in relation to the Issuer or that may be made against any of them arising out of or in relation to or in connection with, its appointment or the exercise of its functions in relation to the Issuer.

7.6 Continuing Effect

Clauses 7.3 (Expenses) and 7.5 (Indemnity) shall continue in full force and effect as regards the Trustee even if it no longer is Trustee.

7.7 Determination of Series

The Trustee shall be entitled in its absolute discretion to determine in respect of which Series of Instruments any costs, charges, liabilities and expenses incurred under this Trust Deed have been incurred or to allocate any such costs, charges, liabilities and expenses between the Instruments of any two or more Series.

8 Provisions Supplemental to the Trustee Acts

8.1 Advice

The Trustee may act on the opinion or advice of, or information obtained from, any expert (including, without limitation, any report or advice received from an independent financial adviser or from any accountant pursuant to the Conditions), whether or not (1) such opinion, advice or information is addressed to the Trustee or any other person, and (2) such expert's liability in respect of the same is limited by reference to a monetary cap or otherwise and shall not be responsible to anyone for any loss occasioned by so acting. Any such opinion, advice or information may be sent or obtained by letter or fax and the Trustee shall not be liable to anyone for acting in good faith on any opinion, advice or information purporting to be conveyed by such means even if it contains some error or is not authentic.

8.2 Trustee to Assume Performance

The Trustee need not notify anyone of the execution of this Trust Deed or do anything to find out if an Event of Default or Potential Event of Default has occurred. Until it has actual knowledge or express notice to the contrary, the Trustee may assume that no such event has occurred and that the Issuer is performing all of its obligations under this Trust Deed and the relevant Instruments provided that the Trustee shall not be treated for any purposes as having any notice or knowledge which has been obtained by it or any officer or employee of it in some capacity other than as Trustee under this Trust Deed or in a private or confidential capacity such that it would not be proper to disclose to third parties.

8.3 Resolutions of Instrumentholders

The Trustee shall not be responsible for having acted in good faith on a resolution purporting (i) to have been passed at a meeting of Instrumentholders in respect of which minutes have been made and signed, or (ii) to be a Written Resolution or an Electronic Consent made in accordance with paragraphs 24, 25 and 26 of Schedule 3 of this Trust Deed, even if it is later found that there was a defect in the constitution of the meeting or the passing of the resolution or that the resolution was not valid or binding on the Instrumentholders.

8.4 Certificate Signed by Directors, etc.

If the Trustee, in the exercise of its functions, requires to be satisfied or to have information as to any fact or the expediency of any act, it may call for and accept as sufficient evidence of that fact or the expediency of that act a certificate signed by any two directors of the Issuer as to that fact or to the effect that, in their opinion, that act is expedient and the Trustee need not call for further evidence and shall not be responsible for any loss occasioned by acting on such a certificate.

8.5 Deposit of Documents

The Trustee may deposit this Trust Deed and any other documents with any bank or entity whose business includes the safe custody of documents or with any lawyer or firm of lawyers believed by it to be of good repute and may pay all sums due in respect of them.

8.6 Discretion

The Trustee shall have absolute and uncontrolled discretion as to the exercise of its functions and shall not be responsible for any loss, liability, cost, claim, action, demand, expense or inconvenience which may result from their exercise or non-exercise.

8.7 Agents

Whenever it considers it expedient in the interests of the Instrumentholders, the Trustee may, in the conduct of its trust business, instead of acting personally, employ and pay an agent selected by it, whether or not a lawyer or other professional person, to transact or conduct, or concur in transacting or conducting, any business and to do or concur in doing all acts required to be done by the Trustee (including the receipt and payment of money). The Trustee shall not be responsible to anyone for any misconduct or omission by any such agent so employed by it or be bound to supervise the proceedings or acts of any such agent.

8.8 Delegation

Whenever it considers it expedient in the interests of the Instrumentholders, the Trustee may delegate to any person on any terms (including power to sub-delegate) all or any of its functions. If the Trustee exercises reasonable care in selecting such delegate, it shall not have any obligation to supervise such delegate or be responsible for any loss, liability, cost, claim, action, demand or expense incurred by reason of any misconduct or default by any such delegate or sub-delegate.

8.9 Nominees

In relation to any asset held by it under this Trust Deed, the Trustee may appoint any person to act as its nominee on any terms.

8.10 Forged Instruments

The Trustee shall not be liable to the Issuer or any relevant Instrumentholder by reason of having accepted as valid or not having rejected any relevant Instrument or Certificate purporting to be such and later found to be forged or not authentic.

8.11 Confidentiality

Unless ordered to do so by a court of competent jurisdiction, the Trustee shall not be required to disclose to any Instrumentholder any confidential financial or other information made available to the Trustee by the Issuer.

8.12 Determinations Conclusive

As between itself and the Instrumentholders, the Trustee may determine all questions and doubts arising in relation to any of the provisions of this Trust Deed. Such determinations, whether made upon such a question actually raised or implied in the acts or proceedings of the Trustee, shall be conclusive and shall bind the Trustee and the Instrumentholders.

8.13 Currency Conversion

Where it is necessary or desirable to convert any sum from one currency to another, it shall (unless otherwise provided hereby or required by law) be converted at such rate or rates, in accordance with such method and as at such date as may reasonably be specified by the Trustee but having regard to current rates of exchange, if available. Any rate, method and date so specified shall be binding on the Issuer and the relevant Instrumentholders.

8.14 Payment for and Delivery of Instruments

The Trustee shall not be responsible for the receipt or application by the Issuer of the proceeds of the issue of any relevant Instruments, any exchange of relevant Instruments or the delivery of relevant Instruments to the persons entitled to them.

8.15 Trustee's consent

Any consent given by the Trustee for the purposes of this Trust Deed may be given on such terms as the Trustee thinks fit. In giving such consent the Trustee may require the Issuer to agree to such modifications or additions to this Trust Deed as the Trustee may deem expedient in the interest of the Instrumentholders.

8.16 Instruments Held by the Issuer etc.

In the absence of knowledge or express notice to the contrary, the Trustee may assume without enquiry (other than requesting a certificate under Clause 6.12 (Instruments Held by the Issuer)) that no Instruments are for the time being held by or on behalf of the Issuer or its subsidiary undertakings.

8.17 Legal Opinions

The Trustee shall not be responsible to any person for failing to request, require or receive any legal opinion relating to any Instruments or for checking or commenting upon the content of any such legal opinion.

8.18 Programme Limit

The Trustee shall not be concerned, and need not enquire, as to whether or not any Instruments are issued in breach of the Programme Limit.

8.19 Events of Default

The Trustee may determine whether or not an Event of Default is in its opinion capable of remedy or (in relation to Condition 8(b)) materially prejudicial to the interests of relevant Instrumentholders. Any such determination shall be conclusive and binding on the Issuer and the relevant Instrumentholders.

8.20 Appointment of Independent Financial Adviser

In connection with the Trustee's right to appoint an independent financial adviser pursuant to Clause 8.1 (if applicable), the Trustee:

8.20.1 shall use its reasonable endeavours to identify and appoint the independent financial adviser but shall have no liability to any person if, having used its reasonable endeavours, it is unable to identify and appoint a suitable independent financial adviser;

8.20.2 shall not be responsible for carrying on the role of independent financial adviser itself during the time it is attempting to identify such independent financial adviser or thereafter if it is unable to find such independent financial adviser; and

8.20.3 shall not be required to take any action to find an independent financial adviser unless it has been previously indemnified and/or secured to its satisfaction or expend any of its own funds in the appointment of such an independent financial adviser.

8.21 Illegality

No provision of this Trust Deed or the Conditions shall require the Trustee to do anything which may in its opinion be illegal or contrary to applicable law or regulation.

8.22 Banker, Lawyer, Broker or other Professional acting as Trustee

Any trustee being a banker, lawyer, broker or other person engaged in any profession or business shall be entitled to charge and be paid all usual professional and other charges for business transacted and acts done by him or his partner or firm on matters arising in connection with the trusts of this Trust Deed and also his properly incurred charges in addition to disbursements for all other work and business done and all time spent by him or his partner or firm on matters arising in connection with the Trust Deed, including matters which might or should have been attended to in person by a trustee not being a banker, lawyer, broker or other professional person.

8.23 No Obligation to Risk Own Funds or Incur Financial Liability

Nothing contained in this Trust Deed shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of its duties or the exercise of any right, power, authority or discretion hereunder if it has grounds for believing the repayment of such funds or adequate indemnity against, or security for, such risk or liability is not assured to it.

8.24 No Obligation to Act without Indemnity, Security or Prefunding

The Trustee shall not be bound to take any steps to enforce the performance of any provisions of this Trust Deed, the Instruments to appoint an independent financial advisor pursuant to the Conditions of the Instruments unless it shall be indemnified and/or secured and/or prefunded by the relevant Instrumentholders to its satisfaction against all proceedings, claims and demands to which it may be liable and against all costs, charges, liabilities and expenses which may be incurred by it in connection with such enforcement or appointment, including the cost of its managements' time and/or other internal resources, calculated using its normal hourly rates in force from time to time.

8.25 Evaluation of Risk

When determining whether an indemnity or any security is satisfactory to it, the Trustee shall be entitled to evaluate its risk in given circumstances by considering the worst-case scenario and, for this purpose, it may take into account, without limitation, the potential costs of defending or commencing proceedings in England or elsewhere and the risk however remote, of any award of damages against it in England or elsewhere.

8.26 Quality of Indemnity or Security

The Trustee shall be entitled to require that any indemnity or security given to it by the Instrumentholders or any of them be given on a joint and several basis and be supported by evidence satisfactory to it as to the financial standing and creditworthiness of each counterparty and/or as to the value of the security and an opinion as to the capacity, power and authority of each counterparty and/or the validity and effectiveness of the security.

9 Disapplication and Trustee Liability

9.1 Disapplication

Section 1 of the Trustee Act 2000 shall not apply to the duties of the Trustee in relation to the trusts constituted by this Trust Deed. Where there are any inconsistencies between the Trustee Acts and the provisions of this Trust Deed, the provisions of this Trust Deed shall, to the extent allowed by law, prevail and, in the case of any such inconsistency with the Trustee Act 2000, the provisions of this Trust Deed shall constitute a restriction or exclusion for the purposes of that Act.

9.2 Trustee Liability

Subject to Sections 750 and 751 of the Companies Act 2006 (if applicable) and notwithstanding anything to the contrary in this Trust Deed, the Instruments or the Agency Agreement, the Trustee shall not be liable to any person for any matter or thing done or omitted in any way in connection with or in relation to this Trust Deed, the Instruments or the Agency Agreement save in relation to its own gross negligence, wilful default or fraud.

10 Waiver and Proof of Default

10.1 Waiver

The Trustee may, without the consent of the Instrumentholders and without prejudice to its rights in respect of any subsequent breach, from time to time and at any time, if in its opinion the interests of the Instrumentholders will not be materially prejudiced thereby, waive or authorise, on such terms as seem expedient to it, any breach or proposed breach by the Issuer of this Trust Deed or the Conditions or determine that an Event of Default or Potential Event of Default shall not be treated as such provided that the Trustee shall not do so in contravention of an express direction given by an Extraordinary Resolution or a request made pursuant to Condition 8. No such direction or request shall affect a previous waiver, authorisation or determination. Any such waiver, authorisation or determination shall be binding on the relevant Instrumentholders and, if the Trustee so requires, shall be notified to the Instrumentholders as soon as practicable.

10.2 Proof of Default

Proof that the Issuer has failed to pay a sum due to the holder of any one Instrument shall (unless the contrary be proved) be sufficient evidence that it has made the same default as regards all other Instruments which are then payable.

11 Trustee not Precluded from Entering into Contracts

The Trustee and any other person, whether or not acting for itself, may acquire, hold or dispose of any Instrument, Certificate or other security (or any interest therein) of the Issuer or any other person, may enter into or be interested in any contract or transaction with any such person and may act on, or as depositary or agent for, any committee or body of holders of any securities of any such person in each case with the same rights as it would have had if the Trustee were not acting as Trustee and need not account for any profit.

12 Modification and Substitution

12.1 Modification

The Trustee may agree without the consent of the Instrumentholders to any modification to this Trust Deed of a formal, minor or technical nature or to correct a manifest error. The Trustee may also agree to any other modification to this Trust Deed which is in its opinion not materially prejudicial to the interests of the Instrumentholders of the relevant Series, but such power does not extend to any such modification as is mentioned in the proviso to paragraph 2 of Schedule 3 (Provisions for Meetings of Instrumentholders). Any such modification, authorisation or waiver shall be binding on the relevant Instrumentholders and if the Trustee so requires, such modification shall be notified to the relevant Instrumentholders as soon as practicable. In addition, the Trustee shall be obliged to concur with the Issuer in effecting any Benchmark Amendments in the circumstances and as otherwise set out in Condition 3.10 without the consent of the Instrumentholders. Any such modification shall be binding on Instrumentholders and, unless the Trustee otherwise agrees, the Issuer shall cause notice of such modification to be given to the Instrumentholders as soon as practicable thereafter.

12.2 Substitution

12.2.1 The Trustee may, without the consent of the Instrumentholders, agree to the substitution of any other company (the "**Substituted Obligor**") in place of the Issuer (or of any previous substitute under this Clause 12) as the principal debtor under this Trust Deed and the relevant Instruments provided that such substitution would not, in the opinion of the Trustee, be materially prejudicial to the interests of the Instrumentholders, and **further provided that**:

(i) a deed is executed or undertaking given by the Substituted Obligor to the Trustee, in form and manner satisfactory to the Trustee, agreeing to be bound by this Trust Deed and the relevant Instruments (with consequential amendments as the Trustee may deem appropriate) as if the Substituted Obligor had been named in this Trust Deed and the relevant Instruments and Certificates as the principal debtor in place of the Issuer;

(ii) if the Substituted Obligor is subject generally to the taxing jurisdiction of a territory or any authority of or in that territory with power to tax (the "**Substituted Territory**") other than the territory to the taxing jurisdiction of which (or to any such authority of or in which) the Issuer is subject generally (the "**Issuer's Territory**"), the Substituted Obligor shall (unless the Trustee otherwise agrees) give to the Trustee an undertaking satisfactory to the Trustee in terms corresponding to Condition 6 with the substitution for the references in that Condition to the Issuer's Territory of references to the Substituted Territory whereupon the Trust Deed, and the relevant Instruments and Certificates shall be read accordingly;

(iii) if any two directors of the Substituted Obligor certify that it will be solvent immediately after such substitution, the Trustee need not have regard to the Substituted Obligor's financial condition, profits or prospects or compare them with those of the Issuer;

(iv) the Issuer and the Substituted Obligor comply with such other requirements as the Trustee may direct in the interests of the relevant Instrumentholders; and

(v) the Trustee is satisfied that (i) the Substituted Obligor has obtained all necessary governmental and regulatory approvals and consents necessary for its assumption of liability as principal debtor in respect of the relevant Instruments in place of the Issuer (or a previous substitute), (ii) all necessary governmental and regulatory approvals and consents necessary for or in connection with the assumption by the Substituted Obligor of its obligations under the relevant Instruments and (iii) such approvals and consents are at the time of substitution in full force and effect.

12.2.2 **Release of Substituted Issuer**

An agreement by the Trustee pursuant to Clause 12.2 (Substitution) shall, if so expressed, release the Issuer (or a previous substitute) from any or all of its obligations under this Trust Deed and the relevant Instruments. Notice of the substitution shall be given to the Instrumentholders within 14 days of the execution of such documents and compliance with such requirements.

12.2.3 **Completion of Substitution**

On completion of the formalities set out in Clause 12.2 (Substitution), the Substituted Obligor shall be deemed to be named in this Trust Deed and the relevant Instruments and Certificates as the principal debtor in place of the Issuer (or of any previous substitute) and this Trust Deed and the relevant Instruments and Certificates, shall be deemed to be amended as necessary to give effect to the substitution.

13 Appointment, Retirement and Removal of the Trustee

13.1 Appointment

The Issuer has the power of appointing new trustees but no one may be so appointed unless previously approved by an Extraordinary Resolution. The Trustee shall at all times be a trust corporation and such trust corporation may be the sole Trustee. Any appointment of a new Trustee shall be notified by the Issuer to its Instrumentholders in accordance with Condition 13 as soon as practicable.

13.2 Retirement and Removal

Any Trustee may retire at any time on giving at least three months' written notice to the Issuer without giving any reason or being responsible for any costs occasioned by such retirement and the Instrumentholders may by Extraordinary Resolution remove any Trustee provided that the retirement or removal of a sole trust corporation shall not be effective until a trust corporation is appointed as successor Trustee. If a sole trust corporation gives notice of retirement or an Extraordinary Resolution is passed for its removal, it shall use all reasonable endeavours to procure that another trust corporation is appointed as Trustee.

13.3 Co-Trustees

The Trustee may, despite Clause 13.1 (Appointment), by written notice to (i) the Issuer, appoint anyone to act as an additional Trustee jointly with the Trustee, or (ii) the Issuer appoint anyone to act as a separate Trustee in respect of any issue or:

13.3.1 if the Trustee considers the appointment to be in the interests of the Instrumentholders; or

13.3.2 to conform with a legal requirement, restriction or condition in a jurisdiction in which a particular act is to be performed; or

13.3.3 to obtain a judgment or to enforce a judgment or any provision of this Trust Deed in any jurisdiction.

Subject to the provisions of this Trust Deed the Trustee may, in the instrument of appointment, confer on any person so appointed such functions as it thinks fit. The Trustee may by written notice to the Issuer and that person remove that person. At the Trustee's request, the Issuer shall forthwith do all things as may be required to perfect such appointment or removal and the Issuer irrevocably appoints the Trustee as its attorney in its name and on its behalf to do so.

Before appointing such person to act as separate Trustee or additional Trustee the Trustee shall (unless it is not, in the opinion of the Trustee, reasonably practicable to do so) give notice to the Issuer of its intention to make such appointment (and the reason for that) and shall give due consideration to representations made by the Issuer concerning such appointment. Where, as a result of this provision, not all the Instruments have the same Trustee, the provisions of this Trust Deed shall apply in respect of each such Trustee as if each were named as a party to this Trust Deed.

13.4 Competence of a Majority of Trustees

If there are more than two Trustees the majority of them shall be competent to perform the Trustee's functions provided the majority includes a trust corporation.

14 Instruments held in Clearing Systems

14.1 Instruments Held in Clearing Systems

So long as any Instruments represented by a Global Certificate are held on behalf of a clearing system, in considering the interests of Instrumentholders, the Trustee may have regard to any information provided to it by such clearing system or its operator as to the identity (either individually or by category) of its accountholders or participants with entitlements to any such Instrument and may consider such interests on the basis that such accountholders or participants were the holder(s) of such Instrument.

14.2 Evidence of Holdings

The Trustee and the Issuer may call for and, except in the case of manifest error, shall be at liberty to accept and place full reliance on as sufficient evidence thereof any certificate, letter of confirmation or other document issued on behalf of the relevant clearing system or any form of record made by the relevant clearing system or such other evidence and/or information and/or certification as it shall, in its absolute discretion, think fit to the effect that at any particular time or throughout any particular period any particular person is, was, or will be, shown in its records as the holder of a particular nominal amount of Instruments represented by a Global Certificate and if the Trustee or the Issuer does so rely, such letter of confirmation, form of record, evidence, information or certification shall be conclusive and binding on all concerned for all purposes. Any such certificate may comprise any form of statement or print out of electronic records provided by the relevant clearing system (including Euroclear's EUCLID or Clearstream, Luxembourg's Creation Online system) in accordance with its usual procedures and in which the holder of a particular nominal amount of Instruments is clearly identified together with the amount of such holding. Neither the Issuer nor the Trustee shall be liable to any person by reason of having accepted as valid or not having rejected any certificate or other document to such effect purporting to be issued by the relevant clearing system and subsequently found to be forged or not authentic.

15 Currency Indemnity

15.1 Currency of Account and Payment

The Contractual Currency is the sole currency of account and payment for all sums payable by the Issuer under or in connection with this Trust Deed and the Instruments, including damages.

15.2 Extent of Discharge

An amount received or recovered in a currency other than the Contractual Currency (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the insolvency, winding-up or dissolution of the Issuer), by the Trustee or any Instrumentholder in respect of any sum expressed to be due to it from the Issuer, shall only discharge the Issuer to the extent of the Contractual Currency amount which the recipient is able to purchase with the amount so received or recovered in that other currency on the date of that receipt or recovery (or, if it is not practicable to make that purchase on that date, on the first date on which it is practicable to do so).

15.3 Indemnity

If that Contractual Currency amount is less than the Contractual Currency amount expressed to be due to the recipient under this Trust Deed or the Instruments, the Issuer shall indemnify the recipient against any loss sustained by it as a result. In any event, the Issuer shall indemnify the recipient against the cost of making any such purchase.

15.4 Indemnity Separate

The indemnities in this Clause 15 and in Clause 7.5 (Indemnity) constitute separate and independent obligations from the other obligations in this Trust Deed, shall give rise to a separate and independent course of action, shall apply irrespective of any indulgence granted by the Trustee and/or any Instrumentholder and shall continue in full force and effect despite any judgment, order, claim or proof for a liquidated amount in respect of any sum due under this Trust Deed or the Instruments or any other judgment or order.

16 Enforcement

16.1 Trustee to enforce

Only the Trustee may enforce the rights of the Instrumentholders against the Issuer, whether the same arise under the general law, this Trust Deed, the Instruments or otherwise, and no Instrumentholder shall be entitled to proceed directly against the Issuer unless the Trustee, having become bound to proceed, fails to do so within a reasonable time and such failure is continuing.

16.2 Trustee's Indemnity

The Trustee shall not be bound to take any steps to enforce the performance of any provisions of this Trust Deed or the Instruments or to appoint an independent financial advisor pursuant to the Conditions of the Instruments unless it shall be indemnified and/or secured and/or prefunded by the relevant Instrumentholders to its satisfaction against all proceedings, claims and demands to which it may be liable and against all costs, charges, liabilities and expenses which may be incurred by it in connection with such enforcement or appointment, including the cost of its managements' time and/or other internal resources, calculated using its normal hourly rates in force from time to time.

16.3 Legal proceedings

If the Trustee (or any Instrumentholder where entitled in accordance with this Trust Deed so to do) institutes legal proceedings against the Issuer to enforce any obligations under this Trust Deed, proof in such proceedings that as regards any specified Instrument the Issuer has made default in paying any principal or interest due to the relevant Instrumentholder shall (unless the contrary be proved) be sufficient evidence that the Issuer has made the same default as regards all other Instruments which are then repayable or, as the case may be, in respect of which interest is then payable.

16.4 Powers additional to general powers

The powers conferred on the Trustee by this Clause 16 shall be in addition to any powers which may from time to time be vested in the Trustee by general law or as the holder of any Instruments.

17 Communications

17.1 Method

Each communication under this Trust Deed shall be made by fax or otherwise in writing. Each communication or document to be delivered to any party under this Trust Deed shall be sent to that party at the fax number or address, and marked for the attention of the person (if any), from time to time designated by that party to each other party for the purpose of this Trust Deed. The initial telephone number, fax number, address and person so designated by the parties under this Trust Deed are set out in the Procedures Memorandum.

17.2 Deemed Receipt

Any communication from any party to any other under this Trust Deed shall be effective, (if by fax) when good receipt is confirmed by the recipient following enquiry by the sender and (if in writing) when received, except that a communication received after 5:00 p.m. on a business day or any non-business day shall be deemed to be received on the next business day in the city in which the recipient is located.

18 Governing Law and Jurisdiction

18.1 Governing Law

This Trust Deed and any non-contractual obligations arising out of or in connection with it shall be governed by, and construed in accordance with, English law.

18.2 Jurisdiction

The courts of England are to have exclusive jurisdiction to settle any disputes that may arise out of or in connection with this Trust Deed or the Instruments and accordingly any legal action or proceedings arising out of or in connection with this Trust Deed or the Instruments ("**Proceedings**") may be brought in such courts. The Issuer irrevocably submits to the jurisdiction of such courts and waives any objection to Proceedings in such courts on the ground of venue or on the ground that the Proceedings have been brought in an inconvenient forum. This Clause is for the benefit of each of the Trustee and the relevant Instrumentholders and shall not limit the right of any of them to take Proceedings in any other court of competent jurisdiction nor shall the taking of Proceedings in any one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction (whether concurrently or not).

18.3 Service of Process

The Issuer irrevocably appoints National Grid plc of 1-3 Strand, London WC2N 5EH to receive, for it and on its behalf, service of process in any Proceedings in England. Such service shall be deemed completed on delivery to such process agent (whether or not it is forwarded to and received by the Issuer). If for any reason such process agent ceases to be able to act as such or no longer has an address in England the Issuer irrevocably agrees to appoint a substitute process agent acceptable to the Trustee and shall immediately notify the Trustee of such appointment. Nothing shall affect the right to serve process in any other manner permitted by law.

Schedule 1
Part A
Form of Global Certificates

Form of Global Certificate (Euroclear, Clearstream, Luxembourg and other Clearing Systems (other than CDS))

ISIN:

Common Code:

[BY ITS ACQUISITION HEREOF, THE HOLDER HEREOF REPRESENTS THAT IT IS NOT A U.S. PERSON, AS DEFINED IN THE U.S. SECURITIES ACT OF 1933 (THE "SECURITIES ACT"), NOR IS IT PURCHASING FOR THE ACCOUNT OR BENEFIT OF A U.S. PERSON, AND IS ACQUIRING THIS SECURITY IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH REGULATION S UNDER THE SECURITIES ACT.][*]

NATIONAL GRID NORTH AMERICA INC.
(incorporated in the State of Delaware, United States of America)

EURO MEDIUM TERM NOTE PROGRAMME
Series No. [•]
Tranche No. [•]

[TEMPORARY / PERMANENT] GLOBAL CERTIFICATE

Global Certificate No. [●]

This Global Certificate is issued in respect of the Instruments (the "**Instruments**") of the Tranche and Series specified in Part A of the Schedule hereto of National Grid North America Inc. (the "**Issuer**"). This Global Certificate certifies that the person whose name is entered in the Register (the "**Registered Holder**") is registered as the holder of an issue of Instruments of the nominal amount, specified currency and specified denomination set out in Part A of the Schedule hereto.

Interpretation and Definitions

References in this Global Certificate to the "Conditions" are to the Terms and Conditions applicable to the Instruments (which are in the form set out in Schedule 2 (*Terms and Conditions of the Instruments*) to the amended and restated trust deed (as amended or supplemented as at the Issue Date, the "**Trust Deed**") dated 21 December 2018 between the Issuer and The Law Debenture Trust Corporation p.l.c. as trustee, as such form is supplemented and/or modified and/or superseded by the provisions of this Global Certificate (including the supplemental definitions and any modifications or additions set out the Schedule hereto), which in the event of any conflict shall prevail). Other capitalised terms used in this Global Certificate shall have the meanings given to them in the Conditions or the Trust Deed.

Promise to Pay

The Issuer, for value received, promises to pay to the holder of the Instruments represented by this Global Certificate (subject to surrender of this Global Certificate if no further payment falls to be made in respect of such Instruments) on the Maturity Date (or on such earlier date as the amount payable upon redemption under the Conditions may become repayable in accordance with the

[*] To be included on the face of the Temporary Global Certificate and may be removed no earlier than 40 days after the issue date upon certification of non-U.S. beneficial ownership.

Conditions) the amount payable upon redemption under the Conditions in respect of the Instruments represented by this Global Certificate and (unless the Instruments represented by this Certificate do not bear interest) to pay interest in respect of such Instruments from the Interest Commencement Date in arrear at the rates, on the dates for payment, and in accordance with the methods of calculation provided for in the Conditions, save that the calculation is made in respect of the total aggregate amount of the Instruments represented by this Global Certificate, together with such other sums and additional amounts (if any) as may be payable under the Conditions, in accordance with the Conditions. Each payment will be made to, or to the order of, the person whose name is entered on the Register at the close of business on the Clearing System Business Day immediately prior to the date for payment, where **Clearing System Business Day** means Monday to Friday inclusive except 25 December and 1 January.

For the purposes of this Global Certificate, (a) the holder of the Instruments represented by this Global Certificate is bound by the provisions of the Agency Agreement, (b) the Issuer certifies that the Registered Holder is, at the date hereof, entered in the Register as the holder of the Instruments represented by this Global Certificate, (c) this Global Certificate is evidence of entitlement only, (d) title to the Instruments represented by this Global Certificate passes only on due registration on the Register, and (e) only the holder of the Instruments represented by this Global Certificate is entitled to payments in respect of the Instruments represented by this Global Certificate.

Transfer of Instruments represented by Global Certificates

If the Schedule hereto states that the Instruments are to be represented by a Global Certificate on issue, transfers of the holding of Instruments represented by this Global Certificate pursuant to Condition 17(a) may only be made in part:

(i) if the Instruments represented by this Global Certificate are held on behalf of Euroclear or Clearstream, Luxembourg or any other clearing system (an "**Alternative Clearing System**") other than CDS and any such clearing system is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or does in fact do so; or

(ii) with the consent of the Issuer provided that, in the case of the first transfer of part of a holding pursuant to (ii) above, the holder of the Instruments represented by this Global Certificate has given the Registrar not less than 30 days' notice at its specified office of such holder's intention to effect such transfer. Where the holding of Instruments represented by this Global Certificate is only transferable in its entirety, the Certificate issued to the transferee upon transfer of such holding shall be a Global Certificate. Where transfers are permitted in part, Certificates issued to transferees shall not be Global Certificates unless the transferee so requests and certifies to the Registrar that it is, or is acting as a nominee for, Clearstream, Luxembourg, Euroclear and/or an Alternative Clearing System.

Meetings

For the purposes of any meeting of Instrumentholders, the holder of the Instruments represented by this Global Certificate shall (unless this Global Certificate represents only one Instrument) be treated as two persons for the purposes of any quorum requirements of a meeting of Instrumentholders and as being entitled to one vote in respect of each integral currency unit of the Specified Currency of the Instruments.

This Global Certificate shall not become valid for any purpose until authenticated by or on behalf of the Registrar and in the case of instruments held under the NSS only, effectuated by the entity appointed as Common Safekeeper by the relevant Clearing Systems.

This Global Certificate and any non-contractual obligations arising out of or in connection with it shall be governed by and construed in accordance with English law.

In witness whereof the Issuer has caused this Global Certificate to be signed on its behalf.

Dated as of the Issue Date.

NATIONAL GRID NORTH AMERICA INC.

By:

CERTIFICATE OF AUTHENTICATION

This Global Certificate is authenticated
by or on behalf of the Registrar.

THE BANK OF NEW YORK MELLON (LUXEMBOURG) S.A. as Registrar

By:

Authorised Signatory

For the purposes of authentication only.

[Effectuation

This Global Certificate is effectuated
by or on behalf of the Common Safekeeper

CLEARSTREAM BANKING S.A.
as Common Safekeeper

By:

Authorised Signatory
For the purposes of effectuation of Instruments held through the NSS only.]

Form of Transfer

For value received the undersigned transfers to

....

....

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF TRANSFEREE)

[●] nominal amount of the Instruments represented by this Global Certificate, and all rights under them.

Dated	....
Signed	Certifying Signature

Notes:

(i) The signature of the person effecting a transfer shall conform to a list of duly authorised specimen signatures supplied by the holder of the Instruments represented by this Global Certificate or (if such signature corresponds with the name as it appears on the face of this Global Certificate) be certified by a notary public or a recognised bank or be supported by such other evidence as a Transfer Agent or the Registrar may reasonably require.

(ii) A representative of the Instrumentholder should state the capacity in which he signs e.g. executor.

Schedule

[Insert the provisions of the relevant Final Terms that relate to the Conditions or the Global Certificate as the Schedule.]

Form of Global Certificate (CDS)

Unless this certificate is presented by an authorised representative of CDS Clearing and Depository Services Inc. to National Grid North America Inc. or its agent for registration of transfer, exchange or payment, and any certificate issued in respect thereof is registered in the name of CDS & CO., or in such other name as is requested by an authorised representative of CDS (and any payment is made to CDS & CO. or to such other entity as is requested by an authorised representative of CDS), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL since the registered holder hereof, CDS & CO., has a property interest in the securities represented by this certificate herein and it is a violation of its rights for another person to hold, transfer or deal with this certificate.

ISIN:

[CUSIP:]*

[BY ITS ACQUISITION HEREOF, THE HOLDER HEREOF REPRESENTS THAT IT IS NOT A U.S. PERSON, AS DEFINED IN THE U.S. SECURITIES ACT OF 1933 (THE "SECURITIES ACT"), NOR IS IT PURCHASING FOR THE ACCOUNT OR BENEFIT OF A U.S. PERSON, AND IS ACQUIRING THIS SECURITY IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH REGULATION S UNDER THE SECURITIES ACT.]*

NATIONAL GRID NORTH AMERICA INC.
(incorporated in the State of Delaware, United States of America)

EURO MEDIUM TERM NOTE PROGRAMME
Series No. [•]
Tranche No. [•]

[TEMPORARY / PERMANENT] GLOBAL CERTIFICATE

Global Certificate No. [●]

This Global Certificate is issued in respect of the Instruments (the "**Instruments**") of the Tranche and Series specified in Part A of the Schedule hereto of National Grid North America Inc. (the "**Issuer**"). This Global Certificate certifies that the person whose name is entered in the Register being CDS & CO. of 85 Richmond Street West, Toronto, Ontario, Canada M5H 2C9 (the "**Registered Holder**") is registered as the holder of an issue of Instruments of the nominal amount, specified currency and specified denomination set out in Part A of the Schedule hereto.

Interpretation and Definitions

References in this Global Certificate to the "Conditions" are to the Terms and Conditions applicable to the Instruments (which are in the form set out in Schedule 2 (*Terms and Conditions of the Instruments*) to the amended and restated trust deed (as amended or supplemented as at the Issue Date, the "**Trust Deed**") dated 21 December 2018 between the Issuer and The Law Debenture Trust Corporation p.l.c. as trustee, as such form is supplemented and/or modified and/or superseded by the provisions of this Global Certificate (including the supplemental definitions and any modifications or additions set out the Schedule hereto), which in the event of any conflict shall prevail). Other capitalised terms used in this Global Certificate shall have the meanings given to them in the Conditions or the Trust Deed.

* To be included on the face of the Temporary Global Certificate and may be removed no earlier than 40 days after the issue date upon certification of non-U.S. beneficial ownership.

Promise to Pay

The Issuer, for value received, promises to pay to the holder of the Instruments represented by this Global Certificate (subject to surrender of this Global Certificate if no further payment falls to be made in respect of such Instruments) on the Maturity Date (or on such earlier date as the amount payable upon redemption under the Conditions may become repayable in accordance with the Conditions) the amount payable upon redemption under the Conditions in respect of the Instruments represented by this Global Certificate and (unless the Instruments represented by this Certificate do not bear interest) to pay interest in respect of such Instruments from the Interest Commencement Date in arrear at the rates, on the dates for payment, and in accordance with the methods of calculation provided for in the Conditions, save that the calculation is made in respect of the total aggregate amount of the Instruments represented by this Global Certificate, together with such other sums and additional amounts (if any) as may be payable under the Conditions, in accordance with the Conditions. Each payment will be made to, or to the order of, the person whose name is entered on the Register at the close of business on the Clearing System Business Day immediately prior to the date for payment, where **Clearing System Business Day** means Monday to Friday inclusive except 25 December and 1 January.

For the purposes of this Global Certificate, (a) the holder of the Instruments represented by this Global Certificate is bound by the provisions of the Agency Agreement, (b) the Issuer certifies that the Registered Holder is, at the date hereof, entered in the Register as the holder of the Instruments represented by this Global Certificate, (c) this Global Certificate is evidence of entitlement only, (d) title to the Instruments represented by this Global Certificate passes only on due registration on the Register, (e) only the holder of the Instruments represented by this Global Certificate is entitled to payments in respect of the Instruments represented by this Global Certificate, and (f) the rights of a person holding an interest in any Instruments held in or through CDS Clearing & Depository Services Inc. ("**CDS**") are subject to the rules and procedures of CDS (as amended or replaced from time to time), established by CDS, together with any procedures (as amended or replaced from time to time), established by CDS in respect of the CDSX system.

Transfer of Instruments represented by Global Certificates

If the Schedule hereto states that the Instruments are to be represented by a Global Certificate on issue, transfers of the holding of Instruments represented by this Global Certificate pursuant to Condition 17(a) may only be made in part:

(i) if the Global Certificate is held by or on behalf of CDS and (A) CDS has notified the Issuer that it is unwilling or unable to continue to act as a depositary for the Instruments and a successor depositary is not appointed by the Issuer within 90 working days after receiving such notice; or (B) CDS ceases to be a recognised clearing agency under applicable Canadian securities legislation and no successor clearing system satisfactory to the Trustee is available within 90 working days after the Issuer becomes aware that CDS is no longer so recognised; or

(ii) if the Instruments represented by this Global Certificate are held on behalf of any other clearing system (an "**Alternative Clearing System**") other than CDS and any such clearing system is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or does in fact do so; or

(iii) with the consent of the Issuer provided that, in the case of the first transfer of part of a holding pursuant to (ii) above, the holder of the Instruments represented by this Global Certificate has given the Registrar not less than 30 days' notice at its specified office of such holder's intention to effect such transfer. Where the holding of Instruments represented by this Global Certificate is only transferable in its entirety, the Certificate issued to the transferee upon transfer of such holding shall be a Global Certificate. Where transfers are permitted in part, Certificates issued to transferees shall not be Global Certificates unless the transferee so requests and certifies to the Registrar that it is, or is acting as a nominee for, CDS and/or an Alternative Clearing System.

Meetings

For the purposes of any meeting of Instrumentholders, the holder of the Instruments represented by this Global Certificate shall (unless this Global Certificate represents only one Instrument) be treated as two persons for the purposes of any quorum requirements of a meeting of Instrumentholders and as being entitled to one vote in respect of each integral currency unit of the Specified Currency of the Instruments.

This Global Certificate shall not become valid for any purpose until authenticated by or on behalf of the Canadian Paying Agent and in the case of instruments held under the NSS only, effectuated by the entity appointed as Common Safekeeper by the relevant Clearing Systems.

This Global Certificate and any non-contractual obligations arising out of or in connection with it shall be governed by and construed in accordance with English law.

In witness whereof the Issuer has caused this Global Certificate to be signed on its behalf.

Dated [*include actual issue date for Instruments settling in CDS*].

NATIONAL GRID NORTH AMERICA INC.

By:

CERTIFICATE OF AUTHENTICATION

This Global Certificate is authenticated
by or on behalf of the Canadian Paying Agent.

BNY TRUST COMPANY OF CANADA as Canadian Paying Agent

By:

Authorised Signatory

For the purposes of authentication only.

[Effectuation

This Global Certificate is effectuated
by or on behalf of the Common Safekeeper

CLEARSTREAM BANKING S.A.
as Common Safekeeper

By:

Authorised Signatory
For the purposes of effectuation of Instruments held through the NSS only.]

Form of Transfer

For value received the undersigned transfers to

....

....

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF TRANSFEREE)

[●] nominal amount of the Instruments represented by this Global Certificate, and all rights under them.

Dated	....
Signed	Certifying Signature

Notes:

(i) The signature of the person effecting a transfer shall conform to a list of duly authorised specimen signatures supplied by the holder of the Instruments represented by this Global Certificate or (if such signature corresponds with the name as it appears on the face of this Global Certificate) be certified by a notary public or a recognised bank or be supported by such other evidence as a Transfer Agent or the Registrar may reasonably require.

(ii) A representative of the Instrumentholder should state the capacity in which he signs e.g. executor.

Schedule

[Insert the provisions of the relevant Final Terms that relate to the Conditions or the Global Certificate as the Schedule.]

Schedule 1
Part B
Form of Certificate

NATIONAL GRID NORTH AMERICA INC.
(incorporated in the State of Delaware, United States of America)

EURO MEDIUM TERM NOTE PROGRAMME

Series No. [●]

Tranche No. [●]

[Title of issue]

This Certificate certifies that [●] of [●] (the "**Registered Holder**") is, as at the date hereof, registered as the holder of [*nominal amount*] of Instruments of the Series of Instruments referred to above (the "**Instruments**") of National Grid North America Inc. (the "**Issuer**"), designated as specified in the title hereof. The Instruments are subject to the Terms and Conditions (the "**Conditions**") endorsed hereon and are issued subject to, and with the benefit of, the Trust Deed referred to in the Conditions. Expressions defined in the Conditions have the same meanings in this Certificate.

The Issuer, for value received, promises to pay to the holder of the Instrument(s) represented by this Certificate (subject to surrender of this Certificate if no further payment falls to be made in respect of such Instruments) on the Maturity Date (or on such earlier date as the amount payable upon redemption under the Conditions may become repayable in accordance with the Conditions) the amount payable upon redemption under the Conditions in respect of the Instruments represented by this Certificate and (unless the Instrument(s) represented by this Certificate do not bear interest) to pay interest in respect of such Instruments from the Interest Commencement Date in arrear at the rates, in the amounts and on the dates for payment provided for in the Conditions together with such other sums and additional amounts (if any) as may be payable under the Conditions, in accordance with the Conditions.

For the purposes of this Certificate, (a) the holder of the Instrument(s) represented by this Certificate is bound by the provisions of the Agency Agreement, (b) the Issuer certifies that the Registered Holder is, at the date hereof, entered in the Register as the holder of the Instrument(s) represented by this Certificate, (c) this Certificate is evidence of entitlement only, (d) title to the Instrument(s) represented by this Certificate passes only on due registration on the Register, and (e) only the holder of the Instrument(s) represented by this Certificate is entitled to payments in respect of the Instrument(s) represented by this Certificate.

This Certificate shall not become valid for any purpose until authenticated by or on behalf of the Registrar or the Canadian Paying Agent, as the case may be.

In witness whereof the Issuer has caused this Certificate to be signed on its behalf.

Dated as of the Issue Date [*to include actual issue date for Instruments settling in CDS*].

NATIONAL GRID NORTH AMERICA INC.

By:

CERTIFICATE OF AUTHENTICATION

This Certificate is authenticated
by or on behalf of the [Registrar][Canadian Paying Agent].

[**THE BANK OF NEW YORK MELLON (LUXEMBOURG) S.A.** as Registrar]

[**BNY TRUST COMPANY OF CANADA** as Canadian Paying Agent]

By:

Authorised Signatory
For the purposes of authentication only.

On the back:

Terms and Conditions of the Instruments

[The Terms and Conditions that are set out in Schedule 2 to the Trust Deed as amended by and incorporating any additional provisions forming part of such Terms and Conditions and set out in Part A of the relevant Final Terms shall be set out here.]

Form of Transfer

For value received the undersigned transfers to

....

....

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF TRANSFEREE)

[●] nominal amount of the Instruments represented by this Certificate, and all rights under them.

Dated ....

Signed .... Certifying Signature

Notes:

(i) The signature of the person effecting a transfer shall conform to a list of duly authorised specimen signatures supplied by the holder of the Instruments represented by this Certificate or (if such signature corresponds with the name as it appears on the face of this Certificate) be certified by a notary public or a recognised bank or be supported by such other evidence as a Transfer Agent or the Registrar may reasonably require.

(i) A representative of the Instrumentholder should state the capacity in which he signs.

Unless the context otherwise requires capitalised terms used in this Form of Transfer have the same meaning as in the amended and restated Trust Deed dated 21 December 2018 between the Issuer and the Trustee, [OTHER].

[TO BE COMPLETED BY TRANSFEREE:

[INSERT ANY REQUIRED TRANSFEREE REPRESENTATIONS, CERTIFICATIONS, ETC.]]

ISSUING AND PAYING AGENT, TRANSFER AGENT AND REGISTRAR

ISSUING AND PAYING AGENT

The Bank of New York Mellon, London Branch
One Canada Square
London E14 5AL

CANADIAN PAYING AGENT

BNY Trust Company of Canada
320 Bay Street, 11th Floor
Toronto, ON
Canada M5H 4A6

REGISTRAR

The Bank of New York Mellon (Luxembourg) S.A.
Vertigo Building - Polaris
2-4 rue Eugène Ruppert
L-2453 Luxembourg

PAYING AGENTS AND TRANSFER AGENTS

KBL European Private Bankers S.A.
43 Boulevard Royal
L-2955 Luxembourg

Schedule 2
Terms and Conditions of the Instruments

National Grid North America Inc. ("**NGNA**" and, the "**Issuer**") has established a Euro Medium Term Note Programme (the "**Programme**") for the issuance of up to Euro 8,000,000,000 in aggregate principal amount of debt instruments (the "**Instruments**"). The Instruments are constituted by an amended and restated Trust Deed (as amended or supplemented from time to time, the "**Trust Deed**") dated 21 December 2018 between the Issuer and The Law Debenture Trust Corporation p.l.c. (the "**Trustee**", which expression shall include all persons for the time being the trustee or trustees under the Trust Deed) as trustee for the Instrumentholders (as defined below). These terms and conditions (the "**Conditions**") include summaries of, and are subject to, the detailed provisions of the Trust Deed which includes the form of the Certificates. An amended and restated Agency Agreement (as amended or supplemented from time to time, the "**Agency Agreement**") dated 9 December 2015 has been entered into in relation to the Instruments between the Issuer, the Trustee, The Bank of New York Mellon, London Branch as initial issuing and paying agent, The Bank of New York Mellon (Luxembourg) S.A. as the registrar and the other agent(s) named in it. The issuing and paying agent, the paying agent(s), the registrar, the transfer agents and the calculation agent(s) for the time being (if any) are referred to below respectively as the "**Issuing and Paying Agent**", the "**Paying Agents**" (which expression shall include the Issuing and Paying Agent), the "**Registrar**", the "**Transfer Agents**" (which expression shall include the Registrar) and the "**Calculation Agent(s)**". Copies of the Trust Deed and the Agency Agreement are available for inspection by prior appointment during usual business hours at the registered office of the Trustee (as at 21 December 2018 at Fifth Floor, 100 Wood Street, London EC2V 7EX) and at the specified offices of the Paying Agents.

1 Form, Denomination and Title

The Instruments are issued in registered form in the Specified Denomination(s) specified in the relevant Final Terms and are serially numbered. Instruments of one Specified Denomination are not exchangeable for Instruments of another Specified Denomination.

This Instrument is a Fixed Rate Instrument, a Floating Rate Instrument, a Zero Coupon Instrument, or a combination of any of the preceding kinds of Instruments, depending upon the Interest and Redemption Basis specified in the relevant Final Terms.

Instruments are represented by registered certificates ("**Certificates**") and, save as provided in Condition 17(a), each Certificate shall represent the entire holding of Instruments by the same holder. Certificates will initially be represented by a Temporary Global Certificate. Beneficial interests in a Temporary Global Certificate will be exchangeable for a Permanent Global Certificate not earlier than 40 days after the issue date upon certification of non-U.S. beneficial ownership.

Title to the Instruments shall pass by registration in the register (the "**Register**") that the Issuer shall procure to be kept by the Registrar in accordance with the provisions of the Agency Agreement. Except as ordered by a court of competent jurisdiction or as required by law, the Issuer and the Paying Agents shall be entitled to treat the holder (as defined below) of any Instrument as the absolute owner of that Instrument, whether or not it is overdue and regardless of any notice of ownership, trust or an interest in it, any writing on it (or on the Certificate representing it) or its theft or loss (or that of the related Certificate) and shall not be required to obtain any proof of ownership as to the identity of the holder.

In these Conditions, "**Instrumentholder**" and "**holder**" means the person in whose name an Instrument is registered and capitalised terms have the meanings given to them herein, the absence of any such meaning indicating that such term is not applicable to the Instruments.

2 Status and Negative Pledge

2.1 Status

The Instruments constitute direct, unconditional and unsecured obligations of the Issuer and rank *pari passu* without any preference or priority among themselves. The payment obligations of the Issuer under the Instruments shall, subject to such exceptions as are from time to time applicable under the laws of England, rank equally with all other present and future unsecured obligations (other than subordinated obligations, if any) of the Issuer.

2.2 Negative Pledge

So long as any Instrument remains outstanding (as defined in the Trust Deed) the Issuer will not create or permit to subsist any mortgage, charge, pledge, lien or other form of encumbrance or security interest ("**Security**") upon the whole or any part of its undertaking, assets or revenues present or future to secure any Relevant Indebtedness, or any guarantee of or indemnity in respect of any Relevant Indebtedness unless, at the same time or prior thereto, the Issuer's obligations under the Instruments and the Trust Deed (a) are secured equally and rateably therewith or benefit from a guarantee or indemnity in substantially identical terms thereto, as the case may be, in each case to the satisfaction of the Trustee, or (b) have the benefit of such other security, guarantee, indemnity or other arrangement as the Trustee in its absolute discretion shall deem to be not materially less beneficial to the Instrumentholders or as shall be approved by an Extraordinary Resolution (as defined in the Trust Deed) of the Instrumentholders.

For the purposes of these Conditions, "**Relevant Indebtedness**" means any present or future indebtedness in the form of, or represented by, bonds, notes, debentures, loan stock or other securities which are for the time being, or are intended, with the agreement of the Issuer, to be quoted, listed or ordinarily dealt in on any stock exchange.

3 Interest

3.1 Interest on Fixed Rate Instruments

Each Fixed Rate Instrument bears interest on its outstanding nominal amount from the Interest Commencement Date at the rate per annum (expressed as a percentage) equal to the Rate of Interest, payable in arrear on each Interest Payment Date. The amount of Interest payable shall be determined in accordance with Condition 3.6.

If a Fixed Coupon Amount or a Broken Amount is specified in the relevant Final Terms, the amount of interest payable on each Interest Payment Date will amount to the Fixed Coupon Amount, or, if applicable, the Broken Amount so specified and in the case of a Broken Amount will be payable on the particular Interest Payment Date(s) specified in the relevant Final Terms.

3.2 Interest on Floating Rate Instruments

3.2.1 Interest Payment Dates

Each Floating Rate Instrument bears interest on its outstanding nominal amount from the Interest Commencement Date at the rate per annum (expressed as a percentage) equal to the Rate of Interest, such interest being payable in arrear on each Interest Payment Date. The amount of Interest payable shall be determined in accordance with Condition 3.6. Such Interest Payment Date(s) is/are either specified in the relevant Final Terms as Specified Interest Payment Dates or, if no Specified Interest Payment Date(s) is/are specified in the relevant Final Terms, Interest Payment Date shall mean each date which falls the number of months or other period shown on this Instrument as the Interest Period after the preceding Interest Payment Date or, in the case of the first Interest Payment Date, after the Interest Commencement Date.

3.2.2 Business Day Convention

If any date which is specified to be subject to adjustment in accordance with a Business Day Convention would otherwise fall on a day which is not a Business Day, then, if the Business Day Convention specified is (a) the Floating Rate Convention, such date shall be postponed to the next day which is a Business Day unless it would then fall into the next calendar month, in which event (x) such date shall be brought forward to the immediately preceding Business Day and (y) each subsequent such date shall be the last Business Day of the month in which such date would have fallen had it not been subject to adjustment, (b) the Following Business Day Convention, such date shall be postponed to the next day which is a Business Day, (c) the Modified Following Business Day Convention, such date shall be postponed to the next day which is a Business Day unless it would then fall into the next calendar month, in that event such date shall be brought forward to the immediately preceding Business Day or (d) the Preceding Business Day Convention, such date shall be brought forward to the immediately preceding Business Day.

3.2.3 Rate of Interest for Floating Rate Instruments

The Rate of Interest in respect of Floating Rate Instruments for each Interest Accrual Period shall be determined in the manner specified in the relevant Final Terms and the provisions below relating to either ISDA Determination or Screen Rate Determination shall apply, depending upon which is specified on this Instrument.

(a) ISDA Determination for Floating Rate Instruments: Where ISDA Determination is specified in the relevant Final Terms as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Accrual Period shall be determined by the Calculation Agent as a rate equal to the relevant ISDA Rate. For the purposes of this sub-paragraph (a), "**ISDA Rate**" for an Interest Accrual Period means a rate equal to the Floating Rate which would be determined by the Calculation Agent under a Swap Transaction under the terms of an agreement incorporating the ISDA Definitions and under which:

(i) the Floating Rate Option is as specified in the relevant Final Terms;

(ii) the Designated Maturity is a period specified in the relevant Final Terms; and

(iii) the relevant Reset Date is the first day of that Interest Accrual Period unless otherwise specified in the relevant Final Terms.

For the purposes of this sub-paragraph (a), "**Floating Rate**", "**Calculation Agent**", "**Floating Rate Option**", "**Designated Maturity**", "**Reset Date**" and "**Swap Transaction**" have the meanings given to those terms in the ISDA Definitions.

(b) Screen Rate Determination for Floating Rate Instruments:

(i) Where Screen Rate Determination is specified in the relevant Final Terms as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Accrual Period will, subject as provided below, be either:

(x) the offered quotation; or

(y) the arithmetic mean of the offered quotations,

(expressed as a percentage rate per annum) for the Reference Rate (being either LIBOR, EURIBOR or CDOR, as specified in the applicable Final Terms) which appears or appear, as the case may be, on the Relevant Screen Page (or such replacement page on that service which displays the information) as at either 11.00 a.m. (London time in the case of LIBOR or Brussels time in the case of EURIBOR) or 10:00 a.m. Toronto time, in the case of CDOR, on the Interest Determination Date in question as determined by the Calculation Agent. If five or more of such offered quotations are available on the Relevant Screen Page, the highest (or, if there is more than one such highest quotation, one only of such quotations) and the lowest (or, if there is more than one such lowest quotation, one only of such quotations) shall be disregarded by the Calculation Agent for the purpose of determining the arithmetic mean of such offered quotations.

(ii) if the Relevant Screen Page is not available or if, sub-paragraph (i)(x) applies and no such offered quotation appears on the Relevant Screen Page or if sub-paragraph (i)(y) above applies and fewer than three such offered quotations appear on the Relevant Screen Page in each case as at the time specified above, subject as provided below, the Calculation Agent shall request, if the Reference Rate is LIBOR, the principal London office of each of the Reference Banks or, if the Reference Rate is EURIBOR, the principal Euro-zone office of each of the Reference Banks or, if the Reference Rate is CDOR, the principal Toronto office of each of the Reference Banks, to provide the Calculation Agent with its offered quotation (expressed as a percentage rate per annum) for the Reference Rate if the Reference Rate is LIBOR, at approximately 11.00 a.m. (London time), or if the Reference Rate is EURIBOR, at approximately 11.00 a.m. (Brussels time) or, if the Reference Rate is CDOR, at approximately 10:00 a.m. (Toronto time) on the Interest Determination Date in question. If two or more of the Reference Banks provide the Calculation Agent with such offered quotations, the Rate of Interest for such Interest Period shall be the arithmetic mean of such offered quotations as determined by the Calculation Agent; and

(iii) if paragraph (ii) above applies and the Calculation Agent determines that fewer than two Reference Banks are providing offered quotations, subject as provided below, the Rate of Interest shall be the arithmetic mean of the rates per annum (expressed as a percentage) as communicated to (and at the request of) the Calculation Agent by the Reference Banks or any two or more of them, at which such banks were offered, (A) if the Reference Rate is LIBOR, at approximately 11.00 a.m. (London time) or, if the Reference Rate is EURIBOR, at approximately 11.00 a.m. (Brussels time) on the relevant Interest Determination Date, deposits in the Specified Currency for a period equal to that which would have been used for the Reference Rate by leading banks in, if the Reference Rate is LIBOR, the London inter-bank market or, if the Reference Rate is EURIBOR, the Euro-zone inter-bank market, as the case may be, or, if fewer than two of the Reference Banks provide the Calculation Agent with such offered rates, the offered rate for deposits in the Specified Currency for a period equal to that which would have been used for the Reference Rate, or the arithmetic mean of the offered rates for deposits in the Specified Currency for a period equal to that which would have been used for the Reference Rate, at which, if the Reference Rate is LIBOR, at approximately 11.00 a.m. (London time) or, if the Reference Rate is EURIBOR, at approximately 11.00 a.m. (Brussels time), on the relevant Interest Determination Date, any one or more banks (which bank or banks is or are in the opinion of the Trustee and the Issuer suitable for such purpose) informs the Calculation Agent it is quoting to leading banks in, if the Reference Rate is LIBOR, the London inter-bank market or, if the

Reference Rate is EURIBOR, the Euro-zone inter-bank market, as the case may be, or (B) if the Reference Rate is CDOR, the arithmetic mean of the bid rates as communicated to (and at the request of) the Calculation Agent by Schedule I chartered banks in Toronto, for Canadian Dollar bankers acceptances for a period of the applicable Interest Period in an amount representative for a single transaction in the relevant market at the relevant time accepted by those banks as of 10:00 a.m. (Toronto time), provided that, if the Rate of Interest cannot be determined in accordance with the foregoing provisions of this paragraph, the Rate of Interest shall be determined as at the last preceding Interest Determination Date (though substituting, where a different Margin or Maximum or Minimum Rate of Interest is to be applied to the relevant Interest Accrual Period from that which applied to the last preceding Interest Accrual Period, the Margin or Maximum or Minimum Rate of Interest relating to the relevant Interest Accrual Period, in place of the Margin or Maximum or Minimum Rate of Interest relating to that last preceding Interest Accrual Period).

(c) Linear Interpolation: Where Linear Interpolation is specified hereon as applicable in respect of an Interest Accrual Period, the Rate of Interest for such Interest Accrual Period shall be calculated by the Calculation Agent by straight line linear interpolation by reference to two rates based on the relevant Reference Rate (where Screen Rate Determination is specified hereon as applicable) or the relevant Floating Rate Option (where ISDA Determination is specified hereon as applicable), one of which shall be determined as if the Applicable Maturity were the period of time for which rates are available next shorter than the length of the relevant Interest Accrual Period and the other of which shall be determined as if the Applicable Maturity were the period of time for which rates are available next longer than the length of the relevant Interest Accrual Period provided however that if there is no rate available for the period of time next shorter or, as the case may be, next longer, then the Issuer shall determine, or shall appoint an agent to determine, such rate at such time and by reference to such sources as it determines appropriate, acting in good faith and in a commercially reasonable manner.

"**Applicable Maturity**" means: (a) in relation to Screen Rate Determination, the period of time designated in the Reference Rate and (b) in relation to ISDA Determination, the Designated Maturity.

3.3 Zero Coupon Instruments

Where an Instrument, the Interest Basis of which is specified to be Zero Coupon, is repayable prior to the Maturity Date and is not paid when due, the amount due and payable prior to the Maturity Date shall be the Early Redemption Amount of such Instrument. As from the Maturity Date, the Rate of Interest for any overdue principal of such an Instrument shall be a rate per annum (expressed as a percentage) equal to the Amortisation Yield (as defined in Condition 4.4.1(b)).

3.4 Accrual of Interest

Interest shall cease to accrue on each Instrument on the due date for redemption unless, upon due presentation, payment is improperly withheld or refused, in which event interest shall continue to accrue (as well after as before judgment) at the Rate of Interest in the manner provided in this Condition 3 to the Relevant Date (as defined in Condition 6).

3.5 Margin, Maximum/Minimum Rates of Interest, Redemption Amounts and Rounding

(i) If any Margin is specified in the relevant Final Terms (either (x) generally, or (y) in relation to one or more Interest Accrual Periods), an adjustment shall be made to all Rates of Interest, in the case of (x), or the Rates of Interest for the specified Interest Accrual Periods, in the case of (y), calculated in accordance with Condition 3.2.3 above, by adding (if a positive number) or subtracting (if a negative number) the absolute value of such Margin, subject always to the next paragraph.

(ii) If any Maximum or Minimum Rate of Interest, or Redemption Amount is specified in the relevant Final Terms, then any Rate of Interest, or Redemption Amount shall be subject to such maximum or minimum, as the case may be.

(iii) For the purposes of any calculations required pursuant to these Conditions (unless otherwise specified), (x) all percentages resulting from such calculations shall be rounded, if necessary, to the nearest one hundred thousandth of a percentage point (with halves being rounded up), (y) all figures shall be rounded to seven significant figures (with halves being rounded up) and (z) all currency amounts that fall due and payable shall be rounded to the nearest unit of such currency (with halves being rounded up), save in the case of yen, which shall be rounded down to the nearest yen. For these purposes "**unit**" means the lowest amount of such currency which is available as legal tender in the country of such currency.

3.6 Calculations

The amount of interest payable per Calculation Amount in respect of any Instrument for any Interest Accrual Period shall be equal to the product of the Rate of Interest, the Calculation Amount as specified in the relevant Final Terms, and the Day Count Fraction for such Interest Accrual Period, unless an Interest Amount (or a formula for its calculation) is applicable to such Interest Accrual Period, in which case the amount of interest payable per Calculation Amount in respect of such Instrument for such Interest Accrual Period shall equal such Interest Amount (or be calculated in accordance with such formula). Where any Interest Period comprises two or more Interest Accrual Periods, the amount of interest payable per Calculation Amount in respect of such Interest Period shall be the sum of the Interest Amounts payable in respect of each of those Interest Accrual Periods. In respect of any other period for which interest is required to be calculated, the provisions above shall apply save that the Day Count Fraction shall be for the period for which interest is required to be calculated.

3.7 Determination and Publication of Rates of Interest, Interest Amounts, Final Redemption Amounts, Early Redemption Amounts and Optional Redemption Amounts

The Calculation Agent shall as soon as practicable on each Interest Determination Date or such other time on such date as the Calculation Agent may be required to calculate any rate or amount, obtain any quotation or make any determination or calculation, determine such rate and calculate the Interest Amounts for the relevant Interest Accrual Period, calculate the Redemption Amount, obtain such quote or make such determination or calculation, as the case may be, and cause the Rate of Interest and the Interest Amounts for each Interest Accrual Period and the relevant Interest Payment Date and, if required to be calculated, the Final Redemption Amount, Early Redemption Amount, or any Optional Redemption Amount to be notified to the Trustee, the Issuer, each of the Paying Agents, the Instrumentholders, any other Calculation Agent appointed in respect of the Instruments that is to make a further calculation upon receipt of such information and, if the Instruments are listed on a stock exchange and the rules of such exchange so require, such exchange as soon as possible after their determination but in no event later than (i) the commencement of the relevant Interest Period, if determined prior to such time, in the case of notification to such exchange of a Rate of Interest and Interest Amount, or (ii) in all other cases, the fourth Business Day after such determination. Where any Interest Payment Date or Interest Period Date is subject to adjustment pursuant to Condition 3.2.3, the Interest Amounts and the Interest Payment Date so published may subsequently be amended (or appropriate alternative arrangements made with the consent of the Trustee by way of adjustment) without notice in the event of an extension or shortening of the Interest Period. If the Instruments become due and payable under Condition 8, the accrued interest and the Rate of Interest payable in respect of the Instruments shall nevertheless continue to be calculated as previously in accordance with this Condition but no publication of the Rate of Interest or the Interest Amount so calculated need be made unless the Trustee otherwise requires. The determination of any rate or amount, the obtaining of each quotation and the making of each determination or calculation by the Calculation Agent(s) shall (in the absence of manifest error) be final and binding upon all parties.

3.8 Definitions

In these Conditions, unless the context otherwise requires, the following defined terms shall have the meanings set out below:

"**Business Day**" means:

(a) in the case of a currency other than Euro, a day (other than a Saturday or Sunday) on which commercial banks and foreign exchange markets settle payments in the principal financial centre for such currency (which in the case of Canadian dollars is Toronto, and where the Reference Rate is LIBOR, the financial centres shall be London and Toronto); and/or

(b) in the case of Euro, a day on which the TARGET System is operating (a "**TARGET Business Day**"); and/or

(c) in the case of a currency and/or one or more Business Centres as specified in the relevant Final Terms, a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments in such currency or, if no currency is indicated, generally in each of the Business Centres.

"**Day Count Fraction**" means, in respect of the calculation of an amount of interest on any Instrument for any period of time (from and including the first day of such period to but excluding the last) (whether or not constituting an Interest Period or Interest Accrual Period, the "**Calculation Period**"):

(a) if "**Actual/Actual**" or "**Actual/Actual-ISDA**" is specified in the relevant Final Terms, the actual number of days in the Calculation Period divided by 365 (or, if any portion of that Calculation Period falls in a leap year, the sum of (i) the actual number of days in that portion of the Calculation Period falling in a leap year divided by 366 and (ii) the actual number of days in that portion of the Calculation Period falling in a non-leap year divided by 365);

(b) if "**Actual/365 (Fixed)**" is specified in the relevant Final Terms, the actual number of days in the Calculation Period divided by 365;

(c) if "**Actual/360**" is specified in the relevant Final Terms, the actual number of days in the Calculation Period divided by 360;

(d) if "**30/360**", "**360/360**" or "**Bond Basis**" is specified in the relevant Final Terms, the number of days in the Calculation Period divided by 360 calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"**Y1**" is the year, expressed as a number, in which the first day of the Calculation Period falls;

"**Y2**" is the year, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**M1**" is the calendar month, expressed as a number, in which the first day of the Calculation Period falls;

"**M2**" is the calendar month, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**D_1**" is the first calendar day, expressed as a number, of the Calculation Period, unless such number would be 31, in which case D_1 will be 30; and

"**D_2**" is the calendar day, expressed as a number, immediately following the last day included in the Calculation Period, unless such number would be 31 and D_1 is greater than 29, in which case D_2 will be 30;

(e) if "**30E/360**" or "**Eurobond Basis**" is specified in the relevant Final Terms, the number of days in the Calculation Period divided by 360 calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"**Y1**" is the year, expressed as a number, in which the first day of the Calculation Period falls;

"**Y2**" is the year, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**M1**" is the calendar month, expressed as a number, in which the first day of the Calculation Period falls;

"**M2**" is the calendar month, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**D1**" is the first calendar day, expressed as a number, of the Calculation Period, unless such number would be 31, in which case D1 will be 30; and

"**D2**" is the calendar day, expressed as a number, immediately following the last day included in the Calculation Period, unless such number would be 31, in which case D2 will be 30;

(f) if "**30E/360 (ISDA)**" is specified in the relevant Final Terms, the number of days in the Calculation Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"**Y1**" is the year, expressed as a number, in which the first day of the Calculation Period falls;

"**Y2**" is the year, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**M1**" is the calendar month, expressed as a number, in which the first day of the Calculation Period falls;

"**M2**" is the calendar month, expressed as a number, in which the day immediately following the last day included in the Calculation Period falls;

"**D1**" is the first calendar day, expressed as a number, of the Calculation Period, unless (i) that day is the last day of February or (ii) such number would be 31, in which case D1 will be 30; and

"**D2**" is the calendar day, expressed as a number, immediately following the last day included in the Calculation Period, unless (i) that day is the last day of February but not the Maturity Date or (ii) such number would be 31, in which case D_2 will be 30;

(g) if "**Actual/Actual-ICMA**" is specified in the relevant Final Terms:

(i) if the Calculation Period is equal to or shorter than the Determination Period during which it falls, the actual number of days in the Calculation Period divided by the product of (x) the actual number of days in such Determination Period and (y) the number of Determination Periods in any year; and

(ii) if the Calculation Period is longer than one Determination Period, the sum of:

(A) the actual number of days in such Calculation Period falling in the Determination Period in which it begins divided by the product of (a) the actual number of days in such Determination Period and (b) the number of Determination Periods in any year; and

(B) the actual number of days in such Calculation Period falling in the next Determination Period divided by the product of (a) the actual number of days in such Determination Period and (b) the number of Determination Periods in any year,

where:

"**Determination Period**" means the period from and including a Determination Date in any year to but excluding the next Determination Date; and

"**Determination Date**" means the date specified as such in the relevant Final Terms or, if none is so specified, the Interest Payment Date; and

(h) if "**Actual/Actual Canadian Compound Method**" is specified in the relevant Final Terms, it means, in respect of an Interest Amount other than a Fixed Coupon Amount or Broken Amount, the actual number of days in the relevant period from and including the date from which interest begins to accrue to but excluding the date on which it falls due, divided by 365.

"**Euro-zone**" means the region comprising of member states of the European Union that adopt the single currency in accordance with the Treaty establishing the European Community as amended.

"**Interest Accrual Period**" means the period beginning on (and including) the Interest Commencement Date and ending on (but excluding) the first Interest Period Date and each successive period beginning on (and including) an Interest Period Date and ending on (but excluding) the next succeeding Interest Period Date.

"**Interest Amount**" means:

(a) in respect of an Interest Accrual Period, the amount of interest payable per Calculation Amount for that Interest Accrual Period and which, in the case of Fixed Rate Instruments, and unless otherwise specified in the relevant Final Terms, shall mean the Fixed Coupon Amount or Broken Amount specified in the relevant Final Terms as being payable on the

Interest Payment Date ending the Interest Period of which such Interest Accrual Period forms part; and

(b) in respect of any other period, the amount of interest payable per Calculation Amount for that period.

"**Interest Commencement Date**" means the Issue Date or such other date as may be specified in the relevant Final Terms.

"**Interest Determination Date**" means, with respect to a Rate of Interest and Interest Accrual Period, the date specified as such in the relevant Final Terms or, if none is so specified, (a) the first day of such Interest Accrual Period if the Specified Currency is Sterling or (b) the day falling two Business Days in London prior to the first day of such Interest Accrual Period if the Specified Currency is neither Sterling nor Euro or (c) the day falling two TARGET Business Days prior to the first day of such Interest Accrual Period if the Specified Currency is Euro.

"**Interest Payment Date**" means the date or dates specified as such in, or determined in accordance with the provisions of, the relevant Final Terms and, if a Business Day Convention is specified in the relevant Final Terms, as the same may be adjusted in accordance with the relevant Business Day Convention.

"**Interest Period**" means the period beginning on (and including) the Interest Commencement Date and ending on (but excluding) the first Interest Payment Date and each successive period beginning on (and including) an Interest Payment Date and ending on (but excluding) the next succeeding Interest Payment Date unless otherwise specified in the applicable Final Terms.

"**Interest Period Date**" means each Interest Payment Date unless otherwise specified in the relevant Final Terms.

"**ISDA Definitions**" means the 2006 ISDA Definitions as published by the International Swaps and Derivatives Association, Inc.

"**Rate of Interest**" means the rate of interest payable from time to time in respect of this Instrument and that is either specified on, or calculated in accordance with the provisions of, the relevant Final Terms.

"**Redemption Amount**" means, as appropriate, the Final Redemption Amount, the Early Redemption Amount (Tax), the Optional Redemption Amount (Call), the Optional Redemption Amount (Put), the Early Termination Amount or such other amount in the nature of a redemption amount as may be specified in, or determined in accordance with the provisions of the relevant Final Terms.

"**Reference Banks**" means, in the case of a determination of LIBOR, the principal London office of four major banks in the London inter-bank market, in the case of a determination of EURIBOR, the principal Euro-zone office of four major banks in the Euro-zone inter-bank market and in the case of a determination of CDOR, four major Canadian Schedule I chartered banks, in each case selected by the Calculation Agent.

"**Reference Rate**" means the rate specified as such in the relevant Final Terms.

"**Relevant Screen Page**" means such page, section, caption, column or other part of a particular information service as may be specified in the relevant Final Terms.

"**Specified Currency**" means the currency specified as such in the relevant Final Terms or, if none is specified, the currency in which the Instruments are denominated.

"**TARGET System**" means the Trans-European Automated Real-Time Gross Settlement Express Transfer (known as TARGET2) System which was launched on 19 November 2007 or any successor to it.

3.9 Calculation Agent

The Issuer shall procure that there shall at all times be one or more Calculation Agents if provision is made for them in the relevant Final Terms and for so long as any Instrument is outstanding. Where more than one Calculation Agent is appointed in respect of the Instruments, references in these Conditions to the Calculation Agent shall be construed as each Calculation Agent performing its respective duties under these Conditions. If the Calculation Agent is unable or unwilling to act as such or if the Calculation Agent fails duly to establish the Rate of Interest for an Interest Period or Interest Accrual Period or to calculate any Interest Amount, Final Redemption Amount, Early Redemption Amount or Optional Redemption Amount, as the case may be, or to comply with any other requirement, the Issuer shall (with the prior approval of the Trustee) appoint a leading bank or financial institution engaged in the interbank market (or, if appropriate, money, swap or over-the-counter index options market) which is most closely connected with the calculation or determination to be made by the Calculation Agent (acting through its principal London office or any other office actively involved in such market) to act as such in its place. The Calculation Agent may not resign its duties without a successor having been appointed as specified in this paragraph.

3.10 Benchmark Discontinuation

This Condition 3.10 applies only where Screen Rate Determination is specified in the relevant Final Terms as the manner in which the Rate of Interest is to be determined.

3.10.1 Independent Adviser

Notwithstanding Conditions 3.2.3(b)(ii) and 3.2.3(b)(iii), if a Benchmark Event occurs in relation to an Original Reference Rate when any Rate of Interest (or any component part thereof) remains to be determined by reference to such Original Reference Rate, then the Issuer shall use its reasonable endeavours to appoint and consult with an Independent Adviser, as soon as reasonably practicable, with a view to the Issuer determining a Successor Rate, failing which an Alternative Rate (in accordance with Condition 3.10.2) and, in either case, an Adjustment Spread if any (in accordance with Condition 3.10.3) and any Benchmark Amendments (in accordance with Condition 3.10.4).

An Independent Adviser appointed pursuant to this Condition 3.10 shall act in good faith and in a commercially reasonable manner as an expert and in consultation with the Issuer. In the absence of bad faith or fraud, the Independent Adviser shall have no liability whatsoever to the Trustee, the Paying Agents, or the Instrumentholders for any advice given to the Issuer in connection with any determination made by the Issuer, pursuant to this Condition 3.10.

If (i) the Issuer is unable to appoint an Independent Adviser; or (ii) the Issuer fails to determine a Successor Rate or, failing which, an Alternative Rate in accordance with this Condition 3.10.1 prior to the relevant Interest Determination Date, the Rate of Interest applicable to the next succeeding Interest Accrual Period shall be equal to the Rate of Interest last determined in relation to the Instruments in respect of the immediately preceding Interest Accrual Period. If there has not been a first Interest Payment Date, the Rate of Interest shall be the initial Rate of Interest. Where a different Margin or Maximum or Minimum Rate of Interest is to be applied to the relevant Interest Accrual Period from that which applied to the last preceding Interest Accrual Period, the Margin or Maximum or Minimum Rate of Interest relating to the relevant Interest Accrual Period shall be substituted in place of the Margin or Maximum or Minimum Rate of Interest relating to that last preceding Interest Accrual Period. For the avoidance of doubt, this sub-paragraph shall apply to the relevant next succeeding Interest Accrual Period only and any subsequent Interest Accrual Periods are subject to the subsequent operation of, and to adjustment as provided in, this Condition 3.10.

3.10.2 **Successor Rate or Alternative Rate**

If the Issuer, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines that:

(a) there is a Successor Rate, then such Successor Rate shall (subject to adjustment as provided in Condition 3.10.3) subsequently be used in place of the Original Reference Rate to determine the Rate of Interest (or the relevant component part thereof) for all future payments of interest on the Instruments (subject to the operation of this Condition 3.10); or

(b) there is no Successor Rate but that there is an Alternative Rate, then such Alternative Rate shall (subject to adjustment as provided in Condition 3.10.3) subsequently be used in place of the Original Reference Rate to determine the Rate of Interest (or the relevant component part thereof) for all future payments of interest on the Instruments (subject to the operation of this Condition 3.10).

3.10.3 **Adjustment Spread**

If the Issuer, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines (i) that an Adjustment Spread is required to be applied to the Successor Rate or the Alternative Rate (as the case may be) and (ii) the quantum of, or a formula or methodology for determining, such Adjustment Spread, then such Adjustment Spread shall be applied to the Successor Rate or the Alternative Rate (as the case may be).

3.10.4 **Benchmark Amendments**

If any Successor Rate, Alternative Rate or Adjustment Spread is determined in accordance with this Condition 3.10 and the Issuer, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines (i) that amendments to these Terms and Conditions, the Agency Agreement and/or the Trust Deed are necessary to ensure the proper operation of such Successor Rate, Alternative Rate and/or Adjustment Spread (such amendments, the "**Benchmark Amendments**") and (ii) the terms of the Benchmark Amendments, then the Issuer shall, subject to giving notice thereof in accordance with Condition 3.10.5, without any requirement for the consent or approval of Instrumentholders, vary these Conditions, the Agency Agreement and/or the Trust Deed to give effect to such Benchmark Amendments with effect from the date specified in such notice.

At the request of the Issuer, but subject to receipt by the Trustee of a certificate signed by two directors of the Issuer pursuant to Condition 3.10.5, the Trustee shall (at the expense and direction of the Issuer), without any requirement for the consent or approval of the Instrumentholders, be obliged to concur with the Issuer in effecting any Benchmark Amendments (including, *inter alia*, by the execution of a deed supplemental to or amending the Trust Deed) and the Trustee shall not be liable to any party for any consequences thereof, provided that the Trustee shall not be obliged so to concur if in the opinion of the Trustee doing so would impose more onerous obligations upon it or expose it to any additional duties, responsibilities or liabilities or reduce or amend rights and/or the protective provisions afforded to the Trustee in these Conditions and/or any documents to which it is a party (including, for the avoidance of doubt, any supplemental trust deed) in any way.

In connection with any such variation in accordance with this Condition 3.10.4, the Issuer shall comply with the rules of any stock exchange on which the Instruments are for the time being listed or admitted to trading.

3.10.5 Notices, etc.

Any Successor Rate, Alternative Rate, Adjustment Spread and the specific terms of any Benchmark Amendments, determined under this Condition 3.10 will be notified promptly by the Issuer to the Trustee, the Calculation Agent, the Paying Agents and, in accordance with Condition 13, the Instrumentholders. Such notice shall be irrevocable and shall specify the effective date of the Benchmark Amendments, if any.

No later than notifying the Trustee of the same, the Issuer shall deliver to the Trustee a certificate signed by two directors of the Issuer:

(a) confirming (i) that a Benchmark Event has occurred, (ii) the Successor Rate or, as the case may be, the Alternative Rate, (iii) where applicable, any Adjustment Spread and (iv) the specific terms of any Benchmark Amendments, in each case as determined in accordance with the provisions of this Condition 3.10; and

(b) certifying that the Benchmark Amendments are necessary to ensure the proper operation of such Successor Rate, Alternative Rate and/or Adjustment Spread.

The Trustee shall be entitled to rely on such certificate (without enquiry or liability to any person) as sufficient evidence thereof. The Successor Rate or Alternative Rate and the Adjustment Spread (if any) and the Benchmark Amendments (if any) specified in such certificate will (in the absence of manifest error in the determination of the Successor Rate or Alternative Rate and the Adjustment Spread (if any) and the Benchmark Amendments (if any) and without prejudice to the Trustee's ability to rely on such certificate as aforesaid) be binding on the Issuer, the Trustee, the Calculation Agent, the Paying Agents and the Instrumentholders.

3.10.6 Survival of Original Reference Rate

Without prejudice to the obligations of the Issuer under Condition 3.10.1, 3.10.2, 3.10.3 and 3.10.4, the Original Reference Rate and the fallback provisions provided for in Condition 3.2.3 will continue to apply unless and until a Benchmark Event has occurred and the relevant Paying Agent has been notified of the Successor Rate or the Alternative Rate (as the case may be), and any Adjustment Spread and Benchmark Amendments, in accordance with Condition 3.10.5.

3.10.7 Definitions

As used in this Condition 3.10:

"**Adjustment Spread**" means either a spread (which may be positive or negative), or the formula or methodology for calculating a spread, in either case, which the Issuer, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines is required to be applied to the Successor Rate or the Alternative Rate (as the case may be) to reduce or eliminate, to the fullest extent reasonably practicable in the circumstances, any economic prejudice or benefit (as the case may be) to Instrumentholders as a result of the replacement of the Original Reference Rate with the Successor Rate or the Alternative Rate (as the case may be) and is the spread, formula or methodology which:

(a) in the case of a Successor Rate, is formally recommended in relation to the replacement of the Original Reference Rate with the Successor Rate by any Relevant Nominating Body; or (if no such recommendation has been made, or in the case of an Alternative Rate)

(b) the Issuer, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner determines, is recognised or acknowledged as being the industry standard for over-the-counter derivative transactions which reference the Original Reference Rate, where such rate has been replaced by the Successor Rate or the Alternative Rate (as the case may be); (or if the Issuer determines that no such industry standard is recognised or acknowledged)

(c) the Issuer, in its discretion, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines to be appropriate.

"**Alternative Rate**" means an alternative benchmark or screen rate which the Issuer following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determines in accordance with Condition 3.10.2 has replaced the Original Reference Rate in customary market usage in the international debt capital markets for the purposes of determining floating rates of interest (or the relevant component part thereof) in the same Specified Currency as the Instruments.

"**Benchmark Amendments**" has the meaning given to it in Condition 3.10.4.

"**Benchmark Event**" means:

(1) the Original Reference Rate ceasing be published for a period of at least 5 Business Days or ceasing to exist; or

(2) a public statement by the administrator of the Original Reference Rate that it will, by a specified date within the following six months, cease publishing the Original Reference Rate permanently or indefinitely (in circumstances where no successor administrator has been appointed that will continue publication of the Original Reference Rate); or

(3) a public statement by the supervisor of the administrator of the Original Reference Rate, that the Original Reference Rate has been or will, by a specified date within the following six months, be permanently or indefinitely discontinued; or

(4) a public statement by the supervisor of the administrator of the Original Reference Rate as a consequence of which the Original Reference Rate will be prohibited from being used either generally, or in respect of the Instruments, in each case within the following six months; or

(5) it has or will become unlawful for any Paying Agent, Calculation Agent, Trustee (or agent of a Trustee) or the Issuer to calculate any payments due to be made to any Instrumentholders using the Original Reference Rate.

"**Independent Adviser**" means an independent financial institution of international repute or an independent financial adviser with appropriate expertise appointed by the Issuer at its own expense under Condition 3.10.1 and notified in writing to the Trustee.

"**Original Reference Rate**" means the originally-specified benchmark or screen rate (as applicable) used to determine the Rate of Interest (or any component part thereof) on the Instruments.

"**Relevant Nominating Body**" means, in respect of a benchmark or screen rate (as applicable):

(i) the central bank for the currency to which the benchmark or screen rate (as applicable) relates, or any central bank or other supervisory authority which is responsible for supervising the administrator of the benchmark or screen rate (as applicable); or

(ii) any working group or committee sponsored by, chaired or co-chaired by or constituted at the request of (a) the central bank for the currency to which the benchmark or screen rate (as applicable) relates, (b) any central bank or other supervisory authority which is responsible for supervising the administrator of the benchmark or screen rate (as applicable), (c) a group of the aforementioned central banks or other supervisory authorities or (d) the Financial Stability Board or any part thereof.

"**Successor Rate**" means a successor to or replacement of the Original Reference Rate which is formally recommended by any Relevant Nominating Body.

4 Redemption, Purchase and Options

4.1 Final Redemption

Unless previously redeemed, purchased and cancelled as provided below, this Instrument will be redeemed at its Final Redemption Amount (which, unless otherwise provided, is its nominal amount) on the Maturity Date specified in the relevant Final Terms.

4.2 Redemption for Taxation Reasons

If, on the occasion of the next payment in respect of the Instruments the Issuer satisfies the Trustee immediately before the giving of the notice referred to below that it would be unable to make such payment without having to pay additional amounts as described in Condition 6, and such requirement to pay such additional amounts arises by reason of a change in the laws of the United States of America or any political sub-division of the United States of America or any authority in or of the United States of America having power to tax or in the interpretation or application of the laws of the United States of America or any political sub-division of the United States of America or any authority in or of the United States of America having power to tax or in any applicable double taxation treaty or convention, which change becomes effective on or after the date on which agreement is reached to issue the first Tranche of the Instruments, and such requirement cannot be avoided by the Issuer taking reasonable measures (such measures not involving any material additional payments by, or expense for, the Issuer), the Issuer may, at its option, at any time, having given not less than 30 nor more than 45 days' notice to the Instrumentholders in accordance with Condition 13, redeem all, but not some only, of the Instruments at their Early Redemption Amount together with interest accrued to the date of redemption provided that the date fixed for redemption shall not be earlier than 90 days prior to the earliest date on which the Issuer would be obliged to pay such additional amounts or make such withholding or deduction, as the case may be, were a payment in respect of the Instruments then due. Prior to the publication of any notice of redemption pursuant to this Condition 4.2, the Issuer shall deliver to the Trustee a certificate signed by two directors of the Issuer stating that the requirement referred to above cannot be avoided by the Issuer taking reasonable measures available to it and the Trustee shall be entitled to accept such certificate as sufficient evidence of the satisfaction of the condition precedent set out above in which event it shall be conclusive and binding on Instrumentholders.

4.3 Purchases

The Issuer and any of its Subsidiaries may at any time purchase Instruments in the open market or otherwise at any price.

"**Subsidiary**" means any corporation a majority of the outstanding voting stock of which is owned, directly or indirectly, by the Issuer.

4.4 Early Redemption

4.4.1 Zero Coupon Instruments

(a) The Early Redemption Amount payable in respect of any Zero Coupon Instrument upon redemption of such Instrument pursuant to Condition 4.2 or upon it becoming due and payable as provided in Condition 8 shall be the Amortised Face Amount (calculated as provided below) of such Instrument.

(b) Subject to the provisions of sub-paragraph (c) below, the Amortised Face Amount of any such Instrument shall be the scheduled Final Redemption Amount of such Instrument on the Maturity Date discounted at a rate per annum (expressed as a percentage) equal to the Amortisation Yield (which, if none is specified in the relevant Final Terms, shall be such rate as would produce an Amortised Face Amount equal to the issue price of the Instruments if they were discounted back to their issue price on the Issue Date) compounded annually.

(c) If the Early Redemption Amount payable in respect of any such Instrument upon its redemption pursuant to Condition 4.2 or, if applicable, Condition 4.5 or upon it becoming due and payable as provided in Condition 8, is not paid when due, the Early Redemption Amount due and payable in respect of such Instrument shall be the Amortised Face Amount of such Instrument as defined in sub-paragraph (b) above, except that such sub-paragraph shall have effect as though the reference in that sub-paragraph to the date on which the Instrument becomes due and payable was replaced by a reference to the Relevant Date as defined in Condition 6. The calculation of the Amortised Face Amount in accordance with this sub-paragraph shall continue to be made (as well after as before judgment) until the Relevant Date, unless the Relevant Date falls on or after the Maturity Date, in which case the amount due and payable shall be the scheduled Final Redemption Amount of such Instrument on the Maturity Date together with any interest that may accrue in accordance with Condition 3.2.

Where such calculation is to be made for a period of less than one year, it shall be made on the basis of the Day Count Fraction specified in the relevant Final Terms.

4.4.2 Other Instruments

The Early Redemption Amount payable in respect of any Instrument (other than Instruments described in Condition 4.4.1), upon redemption of such Instrument pursuant to this Condition 4.4 or upon it becoming due and payable as provided in Condition 8, shall be the Final Redemption Amount unless otherwise specified in the relevant Final Terms.

4.5 Redemption at the Option of the Issuer and Exercise of Issuer's Options

4.5.1 If (i) Residual Holding Call Option is specified in the relevant Final Terms, and (ii) if at any time the Residual Holding Percentage or more of the aggregate nominal amount of Instruments originally issued shall have been redeemed or purchased and cancelled, the Issuer shall have the option to redeem such outstanding Instruments in whole, but not in part, at their Residual Holding Redemption Amount. Unless otherwise specified in the relevant Final Terms, the Residual Holding Redemption Amount will be calculated by the Calculation Agent by discounting the outstanding nominal amount of the Instruments and the remaining interest payments (if applicable) to the Maturity Date by a rate per annum (expressed as a percentage to the nearest one hundred thousandth of a percentage point (with halves being rounded up)) equal to the Benchmark Yield, being the yield on the Benchmark Security at the close of business on the third Business Day prior to the date fixed for such redemption, plus the Benchmark Spread. Where the specified calculation is to be made for a period of less than one year, it shall be calculated using the Benchmark

Day Count Fraction. The Issuer will give not less than 15 nor more than 30 days' irrevocable notice to the Instrumentholders and the Trustee of any such redemption pursuant to this Condition 4.5.1.

4.5.2 If Call Option is specified in the relevant Final Terms, the Issuer may, unless an Exercise Notice has been given pursuant to Condition 4.6, on giving not less than 15 nor more than 30 days' irrevocable notice to the Instrumentholders (or such other notice period as may be specified in the relevant Final Terms), redeem, or exercise any Issuer's option in relation to, all or, if so provided, some of such Instruments on any Optional Redemption Date(s) or Option Exercise Date, as the case may be. Any such redemption of Instruments shall be at their Optional Redemption Amount together with interest accrued to but excluding the date fixed for redemption. Any such redemption or exercise must relate to Instruments of a nominal amount at least equal to the minimum nominal amount (if any) permitted to be redeemed specified in the relevant Final Terms and no greater than the maximum nominal amount (if any) permitted to be redeemed specified in the relevant Final Terms.

All Instruments in respect of which any such notice is given shall be redeemed, or the Issuer's option shall be exercised, on the date specified in such notice in accordance with this Condition.

In the case of a partial redemption or a partial exercise of the Issuer's option, the notice to Instrumentholders shall also specify the nominal amount of Instruments drawn and the holder(s) of such Instruments, to be redeemed, which shall have been drawn in such place as the Trustee may approve and in such manner as it deems appropriate, subject to compliance with any applicable laws, listing authority and stock exchange requirements.

4.5.3 If Make-whole Redemption Option is specified in the relevant Final Terms as applicable, the Issuer may, unless an Exercise Notice has been given pursuant to Condition 4.6, on giving not less than 15 nor more than 30 days' irrevocable notice to the Instrumentholders (or such other notice period as may be specified in the relevant Final Terms), redeem, or exercise any Issuer's option in relation to, all or, if so provided, some of such Instruments on any Make-whole Redemption Date(s). Any such redemption of Instruments shall be at an amount equal to the higher of the following, in each case together with interest accrued to but excluding the date fixed for redemption:

(i) the nominal amount of the Instrument; and

(ii) the nominal amount of the Instrument multiplied by the price (as reported in writing to the Issuer and the Trustee by a financial adviser (the "**Financial Adviser**") appointed by the Issuer and approved by the Trustee) and confirmed in writing by the Issuer to the Trustee expressed as a percentage (rounded to the nearest five decimal places, 0.000005 being rounded upwards) at which the Gross Redemption Yield (as defined below) on the Instruments on the Determination Date specified in the Final Terms is equal to the Gross Redemption Yield at the Quotation Time specified in the relevant Final Terms on the Determination Date of the Reference Bond specified in the relevant Final Terms (or, where the Financial Adviser advises the Trustee that, for reasons of illiquidity or otherwise, such Reference Bond is not appropriate for such purpose, such other government stock as such Financial Adviser may recommend) plus any applicable Redemption Margin specified in the Final Terms.

Any such redemption or exercise must relate to Instruments of a nominal amount at least equal to the minimum nominal amount (if any) permitted to be redeemed specified in the relevant Final Terms and no greater than the maximum nominal amount (if any) permitted to be redeemed specified in the relevant Final Terms.

All Instruments in respect of which any such notice is given shall be redeemed, or the Issuer's option shall be exercised, on the date specified in such notice in accordance with this Condition.

In the case of a partial redemption or a partial exercise of an Issuer's option, the notice to Instrumentholders shall also contain the serial numbers of the Instruments to be redeemed, which shall have been drawn in such place as the Trustee may approve and in such manner as it deems appropriate, subject to compliance with any applicable laws, listing authority and stock exchange requirements.

In this Condition:

"**Gross Redemption Yield**" means a yield calculated in accordance with generally accepted market practice at such time, as advised to the Trustee by the Financial Adviser.

4.6 Redemption at the Option of Instrumentholders

If Put Option is specified in the relevant Final Terms, the Issuer shall, at the option of any Instrumentholder, upon such Instrumentholder giving not less than 15 nor more than 30 days' notice to the Issuer (or such other notice period as may be specified in the relevant Final Terms) redeem such Instrument on the Optional Redemption Date(s) (as specified in the relevant Final Terms) at its Optional Redemption Amount (as specified in the Final Terms) together with interest accrued to the date fixed for redemption.

To exercise such option (which must be exercised on an Option Exercise Date) the holder must deposit the Certificate representing the Instrument(s) with the Registrar or any Transfer Agent at its specified office, together with a duly completed option exercise notice ("**Exercise Notice**") in the form obtainable from any Paying Agent, the Registrar or any Transfer Agent (as applicable) within the Instrumentholders' Option Period (as specified in the Final Terms). No Instrument so deposited and option exercised may be withdrawn (except as provided in the Agency Agreement) without the prior consent of the Issuer.

4.7 Cancellation

All Instruments redeemed pursuant to any of the foregoing provisions will be cancelled forthwith. All Instruments purchased by or on behalf of the Issuer or any of its Subsidiaries may, at the option of the Issuer be held by or may be surrendered for cancellation, but may not be resold and when held by the Issuer or any of its Subsidiaries shall not entitle the holder to vote at any meeting of Instrumentholders and shall not be deemed to be outstanding for the purposes of calculating quorums at meetings of Instrumentholders or for the purposes of Condition 10. Instruments may be surrendered for cancellation by surrendering the Certificate representing such Instruments to the Registrar and, in each case, if so surrendered, shall, together with all Instruments redeemed by the Issuer, be cancelled forthwith.

5 Payments

5.1 Payments in respect of Instruments

Payments of principal in respect of Instruments shall be made against presentation and surrender of the relevant Certificates at the specified office of any of the Transfer Agents or of the Registrar and in the manner provided in paragraph (ii) below.

Interest on Instruments shall be paid to the person shown on the Register at the close of business on the fifteenth day before the due date for payment thereof (the "**Record Date**"). Payments of interest on each Instrument shall be made in the relevant currency by cheque drawn on a bank and mailed to the holder (or to the first named of joint holders) of such Instrument at its address appearing in the Register. Upon application by the holder to the specified office of the Registrar or any Transfer Agent before the Record Date, such payment of interest may be made by transfer to an account in the relevant currency maintained by the payee with a bank.

5.2 Payments subject to Fiscal Laws etc.

All payments are subject in all cases to (i) any applicable fiscal or other laws, regulations and directives, but without prejudice to the provisions of Condition 6 and (ii) any withholding or deduction required pursuant to an agreement described in Section 1471 (b) of the U.S. Internal Revenue Code 1986 (the "**Code**") or otherwise imposed pursuant to Sections 1471 to 1474 (inclusive) of the Code, any United States Treasury Regulations or agreements thereunder, any official interpretations thereof, any successor, substitute or similar legislation or law or any law implementing an intergovernmental approach thereto. No commission or expenses shall be charged to the Instrumentholders in respect of such payments.

5.3 Appointment of Agents

The Issuing and Paying Agent, the Paying Agents and the Calculation Agent initially appointed by the Issuer and their respective specified offices are listed below. The Issuing and Paying Agent, the Paying Agents, the Registrar, the Transfer Agents and the Calculation Agent act solely as agents of the Issuer and do not assume any obligation or relationship of agency or trust for or with any holder. The Issuer reserves the right at any time with the approval of the Trustee to vary or terminate the appointment of the Issuing and Paying Agent, any other Paying Agent, the Registrar, any Transfer Agent or the Calculation Agent and to appoint additional or other Paying Agents or Transfer Agents, provided that the Issuer shall at all times maintain (a) an Issuing and Paying Agent, (b) a Paying Agent having its specified office in a major European city, (c) a Calculation Agent where the Conditions so require one, (d) so long as the Instruments are listed on any stock exchange or admitted to listing by any other relevant authority, a Paying Agent having a specified office in such place as may be required by the rules and regulations of any other relevant stock exchange or other relevant authority and (e) a Registrar and a Transfer Agent. As used in these Conditions, the terms "**Issuing and Paying Agent**", "**Calculation Agent**", "**Registrar**", "**Transfer Agent**" and "**Paying Agent**" include any additional or replacement Issuing and Paying Agent, Calculation Agent, Registrar, Transfer Agent or Paying Agent appointed under this Condition.

Notice of any such change or any change of any specified office shall promptly be given to the Instrumentholders in accordance with Condition 13.

5.4 Non-business days

If any date for payment in respect of any Instrument is not a business day, the holder shall not be entitled to payment until the next following business day nor to any interest or other sum in respect of such postponed payment. In this paragraph, "**business day**" means a day (other than a Saturday or a Sunday) on which banks and foreign exchange markets are open for business in the place in which the specified office of the Registrar is located, in such jurisdictions as shall be specified as "Financial Centres" in the relevant Final Terms and:

5.4.1 (in the case of a payment in a currency other than Euro) where payment is to be made by transfer to an account maintained with a bank in the relevant currency, on which foreign exchange transactions may be carried on in the relevant currency in the principal financial centre of the country of such currency; or

5.4.2 (in the case of a payment in Euro) which is a TARGET Business Day.

6 Taxation

All payments of principal and interest by or on behalf of the Issuer in respect of the Instruments will be made without withholding or deduction for or on account of, any present or future taxes or duties of whatever nature imposed or levied by or on behalf of the United States of America or any political subdivision of the United States of America or any authority in or of the United States of America having power to tax, unless such withholding or deduction is compelled by law. In that event, the Issuer will pay such additional amounts of principal and interest as will result in the payment to the Instrumentholders of the amounts which would otherwise have been receivable in respect of the Instruments had no withholding or deduction been made, except that no such additional amounts shall be payable in respect of any Instrument (or the Certificate representing it) presented for payment:

(a) by or on behalf of, a person who is liable to such taxes or duties in respect of such Instrument (or the Certificate representing such Instrument) by reason of having some connection with the United States of America other than the mere holding of such Instrument (or the Certificate representing such Instrument); or

(b) by or on behalf of a person who would not be liable or subject to such deduction or withholding by making a declaration of non-residence or other claim for exemption to a tax authority; or

(c) more than 30 days after the Relevant Date except to the extent that the holder would have been entitled to such additional amounts on presenting the same (or in respect of which the Certificate representing it is presented) for payment on such 30th day; or

(d) by a holder which is or was a controlled foreign corporation, personal holding company or passive foreign investment company with respect to the United States or a corporation that accumulates earnings to avoid United States federal income tax; or

(e) if such tax is an estate, inheritance, gift, sales, transfer or personal property tax or any similar tax, assessment, or governance charge; or

(f) by or on behalf of a holder which is or has been (i) a "10 per cent. shareholder" of the obligor of the Instruments as defined in Section 871(h)(3) of the Code or any successor provisions, (ii) a bank receiving such interest pursuant to a loan agreement entered into in the ordinary course of its trade or business as described in section 881(c)(3)(A) of the Code, or (iii) a controlled foreign corporation within the meaning of section 957 of the Code that is related to the Issuer within the meaning of section 864(d)(4) of the Code; or

(g) by or on behalf of a holder who would have been able to avoid such withholding or deduction by satisfying any statutory or procedural requirements (including, without limitation, the provision of information or a United States Internal Revenue Service Form W-8 or Form W-9 (or a successor form)); or

(h) in the case of any combination of items (a) to (g) above.

Notwithstanding the foregoing, no additional amounts shall be payable for or on account of (i) any taxes, duties, assessments or governmental charges that are imposed otherwise than by deduction or withholding from payments made under or with respect to the Instruments, (ii) any taxes, duties, assessments or governmental charges that are imposed on or with respect to any payment on an Instrument to an Instrumentholder who is a fiduciary, partnership, limited liability company, or person other than the Beneficial Owner of such payment to the extent that the Beneficial Owner with respect to such payment (or portion thereof) would not have been entitled to the additional amounts had the payment (or the relevant portion thereof) been made directly to such Beneficial Owner and (iii) any deduction or withholding imposed or required pursuant to an agreement described in Section 1471(b) of the Code, or otherwise imposed pursuant to Sections 1471 through 1474 of the Code (or any regulations thereunder or official interpretations thereof) or an intergovernmental agreement between the United States of America and another jurisdiction facilitating the implementation thereof (or any fiscal or regulatory legislation, rules or practices implementing such an intergovernmental agreement). As used in clause (ii) above, "**Beneficial Owner**" means the person who is required by the laws of the relevant tax jurisdiction to include the payment in income for tax purposes.

As used in these Conditions, "**Relevant Date**" in respect of any Instrument means the date on which payment in respect of it first becomes due or (if any amount of the money payable is improperly withheld or refused) the date on which payment in full of the amount outstanding is made or (if earlier) the date on which notice is duly given to the Instrumentholders in accordance with Condition 13 that, upon further presentation of the Instrument being made in accordance with the Conditions, such payment will be made, provided that payment is in fact made upon such presentation. References in these Conditions to (a) "**principal**" shall be deemed to include any premium payable in respect of the Instruments, all Final Redemption Amounts, Early Redemption Amounts, Optional Redemption Amounts, Amortised Face Amounts and all other amounts in the nature of principal payable pursuant to Condition 4 or any amendment or supplement to it, (b) "**interest**" shall be deemed to include all Interest Amounts and all other amounts payable pursuant to Condition 3 or any amendment or supplement to it and (c) "**principal**" and/or "**interest**" shall be deemed to include any additional amounts which may be payable under this Condition or any undertaking given in addition to or in substitution for it under the Trust Deed.

7 Prescription

Claims against the Issuer for payment in respect of the Instruments shall be prescribed and become void unless made within 10 years (in the case of principal) or five years (in the case of interest) from the appropriate Relevant Date in respect of them.

8 Events of Default

If any of the following events (each an "**Event of Default**") occurs and is continuing, the Trustee at its discretion may, and if so requested by the holders of at least one-quarter in nominal amount of the Instruments then outstanding or if so directed by an Extraordinary Resolution shall (subject in each case to being indemnified and/or secured and/or prefunded to its satisfaction), give notice to the Issuer at its registered office that the Instruments are, and they shall accordingly immediately become due and repayable at their Redemption Amount together with accrued interest (if any) to the date of payment:

(a) Non-Payment

there is default for more than 30 days in the payment of any principal or interest due in respect of the Instruments; or

(b) Breach of Other Obligations

there is default in the performance or observance by the Issuer of any other obligation or provision under the Trust Deed or the Instruments (other than any obligation for the payment of any principal or interest in respect of the Instruments) which default is incapable of remedy or, if in the opinion of the Trustee capable of remedy, is not remedied within 90 days after notice of such default shall have been given to the Issuer by the Trustee; or

(c) Cross-Acceleration

if (i) any other present or future Relevant Indebtedness of the Issuer or a Principal Subsidiary becomes due and payable prior to its stated maturity by reason of any actual event of default or (ii) any amount in respect of such Relevant Indebtedness is not paid when due or, as the case may be, within any applicable grace period, provided that the aggregate amount of the Relevant Indebtedness in respect of which one or more of the events mentioned above in this paragraph (c) have occurred equals or exceeds U.S.$200,000,000; or

(d) Winding-up

a resolution is passed, or a final order of a court in the United States of America is made and, where possible, not discharged or stayed within a period of 90 days, that the Issuer be wound up or dissolved; or

(e) Enforcement Proceedings

attachment is made of the whole or substantially the whole of the assets or undertakings of the Issuer and such attachment is not released or cancelled within 90 days or an encumbrancer takes possession or an administrative or other receiver or similar officer is appointed of the whole or substantially the whole of the assets or undertaking of the Issuer or an administration or similar order is made in relation to the Issuer and such taking of possession, appointment or order is not released, discharged or cancelled within 90 days; or

(f) Insolvency

the Issuer ceases to carry on all or substantially all of its business or is unable to pay its debts; or

(g) Bankruptcy

the Issuer is adjudged bankrupt or insolvent by a court of competent jurisdiction in the United States of America,

provided that in the case of paragraph (b) the Trustee shall have certified that in its opinion such event is materially prejudicial to the interests of the Instrumentholders.

For the purposes of this Condition 8, "**Principal Subsidiary**" means KeySpan Corporation, KeySpan Energy Delivery New York, KeySpan Energy Delivery Long Island, Niagara Mohawk Power Corporation, Massachusetts Electric Company, the Narragansett Electric Company and New England Power Company, and includes any successor entity thereto or any member of the group of companies comprising NGNA and its subsidiaries (the "**Group**") to which all or substantially all of the assets of a Principal Subsidiary are transferred. In the event that all or substantially all of the assets of a Principal Subsidiary are transferred to a member of the Group as described above, the transferor of such assets shall cease to be deemed to be a Principal Subsidiary for the purposes of this Condition.

9 Enforcement

The Trustee may, at its discretion and without further notice, institute such proceedings against the Issuer as it may think fit to enforce any obligation, condition or provision binding on the Issuer under the Instruments or under the Trust Deed, but shall not be bound to do so unless:

(a) it has been so directed by an Extraordinary Resolution or in writing by the holders of at least one-quarter of the principal amount of the Instruments outstanding; and

(b) it has been indemnified to its satisfaction.

No Instrumentholder shall be entitled to institute proceedings directly against the Issuer unless the Trustee, having become bound to proceed as specified above, fails to do so within a reasonable time and such failure is continuing.

10 Meetings of Instrumentholders, Modifications and Substitution

10.1 Meetings of Instrumentholders

The Trust Deed contains provisions for convening meetings of Instrumentholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Trust Deed) of a modification of any of these Conditions or any provisions of the Trust Deed. An Extraordinary Resolution duly passed at any such meeting shall be binding on Instrumentholders (whether or not they were present at the meeting at which such resolution was passed) except that any Extraordinary Resolution proposed, *inter alia*, (a) to amend the dates of maturity or redemption of the Instruments or any date for payment of interest on the Instruments, (b) to reduce or cancel the nominal amount of or any premium payable on redemption of the

Instruments, (c) to reduce the rate or rates of interest in respect of the Instruments or to vary the method or basis of calculating the rate or rates or amount of interest or the basis for calculating any Interest Amount in respect of the Instruments, (d) if a Minimum and/or a Maximum Rate of Interest is shown on the face of the Instrument, to reduce any such Minimum and/or Maximum Rate of Interest, (e) to vary any method of calculating the Final Redemption Amount, the Early Redemption Amount or the Optional Redemption Amount, (f) to take any steps that as specified in this Instrument may only be taken following approval by an Extraordinary Resolution to which the special quorum provisions apply, and (g) to modify the provisions concerning the quorum required at any meeting of Instrumentholders or the majority required to pass the Extraordinary Resolution will only be binding if passed at a meeting of the Instrumentholders (or at any adjournment of that meeting) at which a special quorum (as defined in the Trust Deed) is present. A resolution in writing signed by the holders of not less than 95 per cent. in nominal amount of the Instruments will be binding on all Instrumentholders. The Issuer may convene a meeting of the holders of any or all Instruments issued pursuant to the Agency Agreement and not forming a single series with the Instruments to which meeting the provisions referred to above apply as if all such Instruments formed part of the same series, provided that the proposals to be considered at such meeting affect the rights of the holders of the Instruments of each series attending the meeting in identical respects (save insofar as the Conditions applicable to each such series are not identical).

10.2 Modification of the Trust Deed

The Trustee may agree, without the consent of the Instrumentholders to (a) any modification of any of the provisions of the Trust Deed that is of a formal, minor or technical nature or is made to correct a manifest error, and (b) any other modification (except as mentioned in the Trust Deed), and any waiver or authorisation of any breach or proposed breach, of any of the provisions of the Trust Deed that is in the opinion of the Trustee not materially prejudicial to the interests of the Instrumentholders. Any such modification, authorisation or waiver shall be binding on the Instrumentholders and, if the Trustee so requires, such modification shall be notified to the Instrumentholders as soon as practicable. In addition, the Trustee shall be obliged to concur with the Issuer in effecting any Benchmark Amendments in the circumstances and as otherwise set out in Condition 3.10 without the consent of the Instrumentholders. Any such modification shall be binding on Instrumentholders and, unless the Trustee otherwise agrees, the Issuer shall cause notice of such modification to be given to the Instrumentholders as soon as practicable thereafter.

10.3 Substitution

The Trust Deed contains provisions permitting the Trustee to agree, subject to such amendment of the Trust Deed and such other conditions as the Trustee may require, but without the consent of the Instrumentholders, to the substitution of any other company in place of the Issuer or of any previous substituted company, as principal debtor under the Trust Deed and the Instruments. In the case of such a substitution the Trustee may agree, without the consent of the Instrumentholders, to a change of the law governing the Instruments and/or the Trust Deed provided that such change would not in the opinion of the Trustee be materially prejudicial to the interests of the Instrumentholders.

10.4 Entitlement of the Trustee

In connection with the exercise of its functions (including but not limited to those referred to in this Condition) the Trustee shall have regard to the interests of the Instrumentholders as a class and shall not have regard to the consequences of such exercise for individual Instrumentholders and the Trustee shall not be entitled to require, nor shall any Instrumentholder be entitled to claim, from the Issuer any indemnification or payment in respect of any tax consequence of any such exercise upon individual Instrumentholders.

11 Replacement of Certificates

If a Certificate is lost, stolen, mutilated, defaced or destroyed, it may be replaced, subject to applicable laws, listing authority and stock exchange regulations, at the specified office of the Registrar or such other Paying Agent or Transfer Agent, as the case may be, as may from time to time be designated by the Issuer for the purpose and notice of whose designation is given to Instrumentholders, in each case on payment by the claimant of the fees and costs incurred in connection with that replacement and on such terms as to evidence, security and indemnity (which may provide, *inter alia*, that if the allegedly lost, stolen or destroyed Certificate is subsequently presented for payment there shall be paid to the Issuer on demand the amount payable by the Issuer in respect of such Certificates and otherwise as the Issuer may require. Mutilated or defaced Certificates must be surrendered before replacements will be issued.

12 Further Issues

The Issuer may from time to time without the consent of the Instrumentholders create and issue further instruments having the same terms and conditions as the Instruments and so that such further issue shall be consolidated and form a single series with such Instruments.

References in these Conditions to the Instruments include (unless the context requires otherwise) any other instruments issued pursuant to this Condition and forming a single series with the Instruments. Any such further instruments forming a single series with Instruments constituted by the Trust Deed or any deed supplemental to it shall, and any other instruments may (with the consent of the Trustee), be constituted by the Trust Deed.

The Trust Deed contains provisions for convening a single meeting of the Instrumentholders and the holders of instruments of other series if the Trustee so decides.

13 Notices

Notices to the Instrumentholders shall be mailed to them at their respective addresses shown in the Register and shall be deemed to have been given on the fourth weekday (being a day other than a Saturday or a Sunday) after the date of mailing.

14 Indemnification of Trustee

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including but not limited to provisions relieving it from any obligation to (a) appoint an independent financial adviser and (b) take proceedings to enforce repayment unless indemnified to its satisfaction. The Trustee is entitled to enter into business transactions with the Issuer or any of its subsidiary undertakings, parent undertakings, joint ventures or associated undertakings without accounting for any profit resulting from these transactions and to act as trustee for the holders of any other securities issued by the Issuer or any of its subsidiary undertakings, parent undertakings, joint ventures or associated undertakings.

15 Contracts (Rights of Third Parties) Act 1999

No person shall have any right to enforce any term or condition of the Instruments under the Contracts (Rights of Third Parties) Act 1999.

16 Governing Law and Jurisdiction

16.1 Governing Law

The Instruments and any non-contractual obligations arising out of or in connection with the Instruments are governed by, and shall be construed in accordance with, English law.

16.2 Jurisdiction

The courts of England have exclusive jurisdiction to settle any dispute (a "**Dispute**") arising from or connected with the Instruments. The Issuer agrees that the courts of England are the most appropriate and convenient courts to settle any Dispute and, accordingly, that it will not argue to the contrary. Nothing in this Condition 16 prevents the Trustee or any Instrumentholder from taking proceedings relating to a Dispute ("**Proceedings**") in any other courts with jurisdiction. To the extent allowed by law, the Trustee or Instrumentholders may take concurrent Proceedings in any number of jurisdictions.

16.3 Process Agent

The Issuer has irrevocably appointed National Grid plc at its registered office for the time being, currently at 1-3 Strand, London WC2N 5EH as its agent in England to receive, for it and on its behalf, service of process in any Proceedings in England. Nothing herein or in the Trust Deed shall affect the right to serve process in any other manner permitted by law.

17 Transfers of Instruments

(a) Transfers of Instruments

One or more Instruments may be transferred upon the surrender (at the specified office of the Registrar or any Transfer Agent) of the Certificate representing such Instruments to be transferred, together with the form of transfer endorsed on such Certificate (or another form of transfer substantially in the same form and containing the same representations and certifications (if any), unless otherwise agreed by the Issuer), duly completed and executed and any other evidence as the Registrar or such Transfer Agent may reasonably require. In the case of a transfer of part only of a holding of Instruments represented by one Certificate, a new Certificate shall be issued to the transferee in respect of the part transferred and a further new Certificate in respect of the balance of the holding not transferred shall be issued to the transferor. All transfers of Instruments and entries on the Register will be made subject to the detailed regulations concerning transfers of Instruments scheduled to the Agency Agreement. The regulations may be changed by the Issuer with the prior written approval of the Registrar and the Trustee. A copy of the current regulations will be made available by the Registrar to any Instrumentholder upon request.

(b) Exercise of Options or Partial Redemption

In the case of an exercise of an Issuer's or Instrumentholders' option in respect of, or a partial redemption of, a holding of Instruments represented by a single Certificate, a new Certificate shall be issued to the holder to reflect the exercise of such option or in respect of the balance of the holding not redeemed. In the case of a partial exercise of an option resulting in Instruments of the same holding having different terms, separate Certificates shall be issued in respect of those Instruments of that holding that have the same terms. New Certificates shall only be issued against surrender of the existing Certificates to the Registrar or any Transfer Agent. In the case of a transfer of Instruments to a person who is already a holder of Instruments, a new Certificate representing the enlarged holding shall only be issued against surrender of the Certificate representing the existing holding.

(c) Delivery of New Certificates

Each new Certificate to be issued pursuant to Conditions 17(a) or (b) shall be available for delivery within three business days of receipt of the form of transfer or Exercise Notice and surrender of the Certificate for exchange. Delivery of the new Certificate(s) shall be made at the specified office of the Transfer Agent or of the Registrar (as the case may be) to whom delivery or surrender of such form of transfer, Exercise Notice or Certificate shall have been made or, at the option of the holder making such delivery or surrender as aforesaid and as specified in the relevant form of transfer, Exercise Notice or otherwise in writing, be mailed by uninsured post at the risk of the holder entitled to the new Certificate to such address as may be so specified, unless such holder requests otherwise and pays in advance to the relevant Transfer Agent the costs of such other method of delivery and/or such insurance as it may specify. In this Condition 17(c), "**business day**" means a day, other than a Saturday or Sunday, on which banks are open for business in the place of the specified office of the relevant Transfer Agent or the Registrar (as the case may be).

(d) Transfers Free of Charge

Transfers of Certificates on registration, transfer, exercise of an option or partial redemption shall be effected without charge by or on behalf of the Issuer, the Registrar or any Transfer Agent, but upon payment of any tax or other governmental charges that may be imposed in relation to it (or the giving of such indemnity as the Registrar or the relevant Transfer Agent may require).

(e) Closed Periods

No Instrumentholder may require the transfer of an Instrument to be registered (i) during the period of 15 days ending on the due date for redemption of that Instrument, (ii) during the period of 15 days prior to any date on which Instruments may be called for redemption by the Issuer at its option pursuant to Condition 4.5, (iii) after any such Instrument has been called for redemption or (iv) during the period of seven days ending on (and including) any Record Date.

Schedule 3
Provisions for Meetings of Instrumentholders

Interpretation

1 In this Schedule:

1.1 references to a meeting are to a meeting of Instrumentholders of a single Series of Instruments issued by the Issuer and include, unless the context otherwise requires, any adjournment;

1.2 references to "**Instruments**" and "**Instrumentholders**" are only to the Instruments of the Series in respect of which a meeting has been, or is to be, called, and to the holders of these Instruments, respectively;

1.3 "**agent**" means a holder of a voting certificate or a proxy for, or representative of, an Instrumentholder;

1.4 "**Alternative Clearing System**" means any clearing system (including without limitation CDS or The Depositary Trust Company ("**DTC**")) other than Euroclear or Clearstream, Luxembourg;

1.5 "**Electronic Consent**" has the meaning set out in paragraph 25;

1.6 "**Extraordinary Resolution**" means a resolution passed at a meeting duly convened and held in accordance with this Trust Deed by a majority of at least 75 per cent. of the votes cast;

1.7 "**voting certificate**" means a certificate issued in accordance with paragraphs 5, 6, 7 and 14;

1.8 "**Written Resolution**" means a resolution in writing signed by the holders of not less than 95 per cent. in nominal amount of the Instruments outstanding;

1.9 references to persons representing a proportion of the Instruments are to Instrumentholders or agents holding or representing in the aggregate at least that proportion in nominal amount of the Instruments for the time being outstanding; and

1.10 where Instruments are held in Euroclear or Clearstream, Luxembourg or an Alternative Clearing System, references herein to the deposit or release or surrender of Instruments shall be construed in accordance with the usual practices (including in relation to the blocking of the relevant account) of Euroclear or Clearstream, Luxembourg or such Alternative Clearing System.

Powers of meetings

2 A meeting shall, subject to the Conditions and without prejudice to any powers conferred on other persons by this Trust Deed, have power by Extraordinary Resolution:

2.1 to sanction any proposal by the Issuer or the Trustee for any modification, abrogation, variation or compromise of, or arrangement in respect of, the rights of the Instrumentholders against the Issuer whether or not those rights arise under this Trust Deed;

2.2 to sanction the exchange or substitution for the Instruments of, or the conversion of the Instruments into, shares, bonds or other obligations or securities of the Issuer or any other entity;

2.3 to assent to any modification of this Trust Deed or the Instruments proposed by the Issuer or the Trustee;

2.4 to authorise anyone to concur in and do anything necessary to carry out and give effect to an Extraordinary Resolution;

2.5 to give any authority, direction or sanction required to be given by Extraordinary Resolution;

2.6 to appoint any persons (whether Instrumentholders or not) as a committee or committees to represent the Instrumentholders' interests and to confer on them any powers or discretions which the Instrumentholders could themselves exercise by Extraordinary Resolution;

2.7 to approve a proposed new Trustee and to remove a Trustee;

2.8 to approve the substitution of any entity for the Issuer (or any previous substitute) as principal debtor under this Trust Deed; and

2.9 to discharge or exonerate the Trustee from any liability in respect of any act or omission for which it may become responsible under this Trust Deed or the Instruments,

provided that the special quorum provisions in paragraph 13 shall apply to any Extraordinary Resolution (a "**special quorum resolution**") for the purpose of sub-paragraph 2.2 or 2.8, any of the proposals listed in Condition 10.1 or any amendment to this proviso.

Convening a meeting

3 The Issuer or the Trustee may at any time convene a meeting. If it receives a written request by Instrumentholders holding at least 10 per cent. in nominal amount of the Instruments of any Series for the time being outstanding and is indemnified to its satisfaction against all costs and expenses, the Trustee shall convene a meeting of the Instrumentholders of that Series. Every meeting shall be held at a time and place approved by the Trustee.

4 At least 21 days' notice (exclusive of the day on which the notice is given or deemed to be given and of the day of the meeting) shall be given to the Instrumentholders. A copy of the notice shall be given by the party convening the meeting to the other parties. The notice shall specify the day, time and place of meeting and, unless the Trustee otherwise agrees, the nature of the resolutions to be proposed and shall explain how Instrumentholders may appoint proxies or representatives, obtain voting certificates and use block voting instructions and the details of the time limits applicable.

Cancellation of meeting

5 A meeting that has been validly convened in accordance with paragraph 3 above, may be cancelled by the person who convened such meeting by giving at least 5 days' notice (exclusive of the day on which the notice is given or deemed to be given and of the day of the meeting) to the Instrumentholders (with a copy to the Trustee where such meeting was convened by the Issuer or to the Issuer where such meeting was convened by the Trustee). Any meeting cancelled in accordance with this paragraph 5 shall be deemed not to have been convened.

Arrangements for voting

6 If a holder of an Instrument wishes to obtain a voting certificate in respect of it for a meeting, he must deposit it for that purpose at least 48 hours before the time fixed for the meeting with a Paying Agent or to the order of a Paying Agent with a bank or other depositary nominated by the Paying Agent for the purpose. The Paying Agent shall then issue a voting certificate in respect of it.

7 A voting certificate shall:

7.1 be a document in the English language;

7.2 be dated;

7.3 specify the meeting concerned and the serial numbers of the Instruments deposited; and

7.4 entitle, and state that it entitles, its bearer to attend and vote at that meeting in respect of those Instruments.

8 Once a Paying Agent has issued a voting certificate for a meeting in respect of an Instrument, it shall not release the Instrument until either:

8.1 the meeting has been concluded; or

8.2 the voting certificate has been surrendered to the Paying Agent.

9

9.1 A holder of an Instrument may, by an Instrument in writing in the form available from the specified office of a Transfer Agent in the English language executed by or on behalf of the holder and delivered to the Transfer Agent at least 24 hours before the time fixed for a meeting, appoint any person (a "**proxy**") to act on his behalf in connection with that meeting. A proxy need not be an Instrumentholder.

9.2 A corporation which holds an Instrument may, by delivering to a Transfer Agent at least 24 hours before the time fixed for a meeting a certified copy of a resolution of its directors or other governing body (with, if it is not in English, a certified translation into English), authorise any person to act as its representative (a "**representative**") in connection with that meeting.

Chairman

10 The chairman of a meeting shall be such person as the Trustee may nominate in writing, but if no such nomination is made or if the person nominated is not present within 15 minutes after the time fixed for the meeting the Instrumentholders or agents present shall choose one of their number to be chairman, failing which the Issuer may appoint a chairman. The chairman need not be an Instrumentholder or agent. The chairman of an adjourned meeting need not be the same person as the chairman of the original meeting.

Attendance

11 The following may attend and speak at a meeting:

11.1 Instrumentholders and agents;

11.2 the chairman;

11.3 the Issuer and the Trustee (through their respective representatives) and their respective financial and legal advisers; and

11.4 the Dealers and their advisers.

No one else may attend or speak.

Quorum and Adjournment

12 No business (except choosing a chairman) shall be transacted at a meeting unless a quorum is present at the commencement of business. If a quorum is not present within 15 minutes from the time initially fixed for the meeting, it shall, if convened on the requisition of Instrumentholders or if the Issuer and the Trustee agree, be dissolved. In any other case it shall be adjourned until such date, not less than 14 nor more than 42 days later, and time and place as the chairman may decide. If a quorum is not present within 15 minutes from the time fixed for a meeting so adjourned, the meeting shall be dissolved.

13 Two or more Instrumentholders or agents present in person shall be a quorum:

13.1 in the cases marked “No minimum proportion” in the table below, whatever the proportion of the Instruments which they represent; and

13.2 in any other case, only if they represent the proportion of the Instruments shown by the table below.

Column 1	**Column 2**	**Column 3**
Purpose of meeting	Any meeting except one referred to in column 3	Meeting previously adjourned through want of a quorum
	Required proportion	Required proportion
To pass a special quorum resolution	Two thirds	One third
To pass any other Extraordinary Resolution	A clear majority	No minimum proportion
Any other purpose	10 per cent.	No minimum proportion

14 The chairman, may with the consent of (and shall if directed by) a meeting, adjourn the meeting from time to time and from place to place. Only business which could have been transacted at the original meeting may be transacted at a meeting adjourned in accordance with this paragraph or paragraph 13.

15 At least 10 days’ notice (exclusive of the day on which the notice is given or deemed to be given and of the day of the adjourned meeting) of a meeting adjourned through want of a quorum shall be given in the same manner as for an original meeting and that notice shall state the quorum required at the adjourned meeting. However, no notice need otherwise be given of an adjourned meeting.

Voting

16 Each question submitted to a meeting shall be decided by a show of hands unless a poll is (before, or on the declaration of the result of, the show of hands) demanded by the chairman, the Issuer, the Trustee or one or more persons holding one or more Instruments or voting certificates or representing not less than 2 per cent. of the Instruments.

17 Unless a poll is demanded a declaration by the chairman that a resolution has or has not been passed shall be conclusive evidence of the fact without proof of the number or proportion of the votes cast in favour of or against it.

18 If a poll is demanded, it shall be taken in such manner and (subject as provided below) either at once or after such adjournment as the chairman directs. The result of the poll shall be deemed to be the resolution of the meeting at which it was demanded as at the date it was taken. A demand for a poll shall not prevent the meeting continuing for the transaction of business other than the question on which it has been demanded.

19 A poll demanded on the election of a chairman or on a question of adjournment shall be taken at once.

20 On a show of hands every person who is present in person and who produces a Certificate of which he is the registered holder or a voting certificate or is a proxy or representative has one vote. On a poll every such person has one vote in respect of each integral currency unit of the Specified Currency of such Series of Instruments so produced or represented by the voting certificate so produced or for which he is a proxy or representative. Without prejudice to the obligations of proxies, a person entitled to more than one vote need not use them all or cast them all in the same way.

21 In case of equality of votes the chairman shall both on a show of hands and on a poll have a casting vote in addition to any other votes which he may have.

Effect and Publication of an Extraordinary Resolution

22 An Extraordinary Resolution shall be binding on all the Instrumentholders, whether or not present at the meeting, and each of them shall be bound to give effect to it accordingly. The passing of such a resolution shall be conclusive evidence that the circumstances justify its being passed. The Issuer shall give notice of the passing of an Extraordinary Resolution to Instrumentholders within 14 days but failure to do so shall not invalidate the resolution.

Minutes

23 Minutes shall be made of all resolutions and proceedings at every meeting and, if purporting to be signed by the chairman of that meeting or of the next succeeding meeting, shall be conclusive evidence of the matters in them. Until the contrary is proved every meeting for which minutes have been so made and signed shall be deemed to have been duly convened and held and all resolutions passed or proceedings transacted at it to have been duly passed and transacted.

Written Resolution and Electronic Consent

24 A resolution in writing signed by or on behalf of the holders of not less than 95 per cent. in nominal amount of the Instruments who for the time being are entitled to receive notice of a meeting in accordance with the provisions of this Schedule shall for all purposes be as valid

and effectual as an Extraordinary Resolution passed at a meeting of such Instrumentholders duly convened and held in accordance with the provisions of this Schedule. Subject to the following sentence, a Written Resolution may be contained in one document or in several documents in like form, each signed by or on behalf of one or more of the Instrumentholders.

For so long as the Instruments are in the form of a Global Certificate held on behalf of one or more of Euroclear, Clearstream, Luxembourg or an Alternative Clearing System, then, in respect of any resolution proposed by the Issuer or the Trustee:

25 **Electronic Consent**: where the terms of the resolution proposed by the Issuer or the Trustee (as the case may be) have been notified to the Instrumentholders through the relevant clearing system(s) as provided in sub-paragraph (i) and/or (ii) below, each of the Issuer and the Trustee shall be entitled to rely upon approval of such resolution given by way of electronic consents communicated through the electronic communications systems of the relevant clearing system(s) to the relevant Paying Agent or another specified agent in accordance with their operating rules and procedures by or on behalf of the holders of not less than 95 per cent. in nominal amount of the Instruments outstanding (the "**Required Proportion**") ("**Electronic Consent**") by close of business on the Relevant Date. The relevant Paying Agent shall confirm the result of voting on any Electronic Consent in writing to the Issuer and the Trustee (in a form satisfactory to the Trustee), specifying (as of the Relevant Date): (i) the outstanding nominal amount of the Instruments and (ii) the outstanding nominal amount of the Instruments in respect of which consent to the resolution has been given in accordance with this provision. The Issuer and the Trustee may act without further enquiry on any such confirmation from the relevant Paying Agent and shall have no liability or responsibility to anyone as a result of such reliance or action. The Trustee shall not be bound to act on any Electronic Consent in the absence of such a confirmation from the relevant Paying Agent in a form satisfactory to it. Any resolution passed in such manner shall be binding on all Instrumentholders, even if the relevant consent or instruction proves to be defective. The Issuer shall not be liable or responsible to anyone for such reliance:

(i) When a proposal for a resolution to be passed as an Electronic Consent has been made, at least 14 days' notice (exclusive of the day on which the notice is given or deemed to be given and of the day on which affirmative consents will be counted) shall be given to the Instrumentholders through the relevant clearing system(s). The notice shall specify, in sufficient detail to enable Instrumentholders to give their consents in relation to the proposed resolution, the method by which their consents may be given (including, where applicable, blocking of their accounts in the relevant clearing system(s)) and the time and date (the "**Relevant Date**") by which they must be received in order for such consents to be validly given, in each case subject to and in accordance with the operating rules and procedures of the relevant clearing system(s).

(ii) If, on the Relevant Date on which the consents in respect of an Electronic Consent are first counted, such consents do not represent the Required Proportion, the resolution shall be deemed to be defeated. Such determination shall be notified in writing to the other party or parties to the Trust Deed by the relevant Paying Agent. Alternatively, the party proposing such resolution (the "**Proposer**") may give a further notice to Instrumentholders in accordance with (i) above that the resolution will be proposed again. Such notice must inform Instrumentholders that insufficient consents were received in relation to the original resolution and the information specified in sub-paragraph (i) above. For the purpose of such further notice, references to "Relevant Date" shall be construed accordingly.

For the avoidance of doubt, an Electronic Consent may only be used in relation to a resolution proposed by the Issuer or the Trustee which is not then the subject of a meeting that has been validly convened in accordance with paragraph 3 above, unless that meeting is or shall be cancelled or dissolved; and

26 **Written Resolution**: where Electronic Consent is not being sought, for the purpose of determining whether a Written Resolution has been validly passed, the Issuer and the Trustee shall be entitled to rely on consent or instructions given in writing directly to the Issuer and/or the Trustee, as the case may be, (a) by accountholders in the clearing system(s) with entitlements to such Global Certificates and/or, (b) where the accountholders hold any such entitlement on behalf of another person, on written consent from or written instruction by the person identified by that accountholder as the person for whom such entitlement is held. For the purpose of establishing the entitlement to give any such consent or instruction, the Issuer and the Trustee shall be entitled to rely on any certificate or other document issued by, in the case of (a) above, Euroclear, Clearstream, Luxembourg or any other relevant Alternative Clearing System and, in the case of (b) above, the relevant clearing systems and the accountholder identified by the relevant clearing systems for the purposes of (b) above.

Any resolution passed in such manner shall be binding on all Instrumentholders, even if the relevant consent or instruction proves to be defective. Any such certificate or other document shall, be conclusive and binding for all purposes. Any such certificate or other document may comprise any form of statement or print out of electronic records provided by the relevant clearing systems in accordance with their usual procedures and in which the accountholder of a particular nominal amount of the Instruments is clearly identified together with the amount of such holding. Neither the Issuer, nor the Trustee shall be liable to any person by reason of having accepted as valid or not having rejected any certificate or other document to such effect purporting to be issued by any such person and subsequently found to be forged or not authentic.

A Written Resolution or Electronic Consent shall take effect as an Extraordinary Resolution. A Written Resolution and/or Electronic Consent will be binding on all Instrumentholders, whether or not they participated in such Written Resolution and/or Electronic Consent.

Trustee's Power to Prescribe Regulations

27 Subject to all other provisions in this Trust Deed the Trustee may without the consent of the Instrumentholders prescribe such further regulations regarding the holding of meetings and attendance and voting at them as it in its sole discretion determines including (without limitation) such requirements as the Trustee thinks reasonable to satisfy itself that the persons who purport to make any requisition in accordance with this Trust Deed are entitled to do so and as to the form of voting certificates or block voting instructions so as to satisfy itself that persons who purport to attend or vote at a meeting are entitled to do so.

28 The holder of a Global Certificate shall (unless such Global Certificate represents only one Instrument) be treated as two persons for the purposes of any quorum requirements of a meeting of Instrumentholders.

29 The above provisions of this Schedule shall have effect subject to the following provisions:

29.1 Meetings of Instrumentholders of separate Series will normally be held separately. However, the Trustee may from time to time determine that meetings of Instrumentholders of separate Series shall be held together.

29.2 A resolution that in the opinion of the Trustee affects one Series alone shall be deemed to have been duly passed if passed at a separate meeting of the Instrumentholders of the Series concerned.

29.3 A resolution that in the opinion of the Trustee affects the Instrumentholders of more than one Series but does not give rise to a conflict of interest between the Instrumentholders of the different Series concerned shall be deemed to have been duly passed if passed at a single meeting of the Instrumentholders of the relevant Series provided that for the purposes of determining the votes an Instrumentholder is entitled to cast pursuant to paragraph 20, each Instrumentholder shall have one vote in respect of each whole Euro 1.00 nominal amount of Instruments held, converted, if such Instruments are not denominated in Euro, in accordance with Clause 8.13 (Currency Conversion).

29.4 A resolution that in the opinion of the Trustee affects the Instrumentholders of more than one Series and gives or may give rise to a conflict of interest between the Instrumentholders of the different Series concerned shall be deemed to have been duly passed only if it shall be duly passed at separate meetings of the Instrumentholders of the relevant Series.

29.5 To all such meetings as previously set out all the preceding provisions of this Schedule shall *mutatis mutandis* apply as though references therein to Instruments and to Instrumentholders were references to the Instruments and Instrumentholders of the Series concerned.

In witness of which this Trust Deed is delivered on the date stated at the beginning.

NATIONAL GRID NORTH AMERICA INC.

By:

EXECUTED AS A DEED BY AFFIXING THE COMMON SEAL OF THE LAW DEBENTURE TRUST CORPORATION p.l.c.

acting by:

Director

Authorised Signatory:

In witness of which this Trust Deed is delivered on the date stated at the beginning.

NATIONAL GRID NORTH AMERICA INC.

By:

EXECUTED AS A DEED BY AFFIXING THE COMMON SEAL OF THE LAW DEBENTURE TRUST CORPORATION p.l.c.

acting by:

Director

Authorised Signatory:

EXHIBIT 4 (c).5

Dated 21 December 2018

NATIONAL GRID UK Limited

and

ANDREW AGG

SERVICE AGREEMENT

Linklaters LLP
One Silk Street
London EC2Y 8HQ
Telephone (44-20) 7456 2000
Facsimile (44-20) 7456 2222

This Agreement is made on 21 December 2018 between

(1) **NATIONAL GRID UK LIMITED** incorporated in the UK whose registered office is at 1-3 Strand, London WC2N 5EH (the "**Company**"); and

(2) **ANDREW AGG** of 13 Ox Lane, Harpenden, Hertfordshire AL5 4HH (the "**Executive**").

This agreement records the terms on which the Executive will serve the Company.

1 Interpretation

In this agreement:

1.1 Definitions

"**Board**" means the board of directors of National Grid plc at any time or any person or committee nominated by the board of directors as its representative for the purposes of this agreement;

"**Employment**" means the employment governed by this agreement;

"**Group**" means National Grid plc, the Company, its ultimate holding company from time to time and the Company's associates (as defined in section 435 of the Insolvency Act 1986) from time to time;

"**Group Company**" means a member of the Group and "**Group Companies**" will be interpreted accordingly;

"**holding company**" has the meaning given in section 1159 of the Companies Act 2006;

"**Listing Rules**" means the listing rules made by the Financial Conduct Authority in exercise of its functions as a competent authority pursuant to Part VI of the Financial Services and Markets Act 2000; and

"**Termination Date**" means the date on which the Employment terminates.

2 Commencement of Employment

2.1 The Employment will start on 1 January 2019 (the "**Commencement Date**"). The Employment will continue until termination in accordance with the provisions of this agreement. The Executive's period of continuous service started on 15 September 2008.

2.2 The Executive warrants that:

2.2.1 he is not subject to any restrictions which prevent him from holding office as a director; and

2.2.1 he is not party to any employment contract, confidentiality agreement or other agreement that contains any restrictions that would prevent him from taking up the Employment under this Agreement

3 Appointment and Duties of the Executive

3.1 The Executive will serve as Executive Director with direct responsibility for Group Finance or in any other executive capacity as the Executive and the Company may agree from time to time. In such capacity, the Executive shall as soon as practicable following the

Commencement Date be appointed to the Board and. subject to the provisions of clause 13.6 below. shall be entitled to remain as a member of the Board throughout the Employment. The Board may require the Executive to be appointed to the boards of other Group Companies from time to time.

3.2 The Executive will:

3.2.1 devote the whole of his working time, attention and skill to the Employment;

3.2.2 properly perform his duties and exercise his powers;

3.2.3 accept any offices or directorships as reasonably required by the Board;

3.2.4 comply with all rules and regulations issued by the Company as amended from time to time, including without limitation, the Code of Employee Conduct and the Standards of Ethical Business Conduct;

3.2.5 comply with personal shareholding requirements and clawback and malus provisions applicable to variable remuneration as set out in the Executive's reward letter from time to time (including where such requirements and provisions impose obligations that survive the termination of the Employment);

3.2.6 obey the reasonable directions of the Board; and

3.2.7 us his best endeavours to promote the interests and reputation of every Group Company

3.2.8 do such things as are necessary to ensure compliance by himself and the Company or any Group Company with all rules, requirements, recommendations or codes as amended, replaced or introduced from time to time including but not limited to those of the UK Listing Authority, the Financial Conduct Authority (including the Market Abuse Regulations), any internal share dealing code of the Company or the Group and the UK Corporate Governance Code to the extent applicable to the Employment;

3.2.9 not do anything that would cause him to be disqualified from acting as a director or have a negative impact on his own reputation or the reputation of the Company or any Group Company

3.3 The Executive accepts that with his consent (which he will not unreasonably withhold or delay):

3.3.1 the Company may require him to perform duties, consistent with his role and status, for any other Group Company whether for the whole or part of his working time. In performing those duties clause 3.2.4 will apply as if references to the Company are to the appropriate Group Company. The Company will remain responsible for the payments and benefits he is entitled to receive under this agreement;

3.3.2 the Company may appoint any other person to act jointly with him; and

3.3.3 the Company may transfer the Employment to any other Group Company.

3.4 The Executive will keep the Board (and, where appropriate the board of directors of any other Group Company) fully informed, in accordance with the reporting procedures prescribed by the Board (if any) and, in any event, in a prompt and timely manner having regard to the relevant facts and circumstances, of his conduct of the business, finances or affairs of the

Company or any other Group Company. He will provide information to the Board in writing if requested.

3.5 The Executive will promptly disclose to the Board full details of any wrongdoing by any employee of any Group Company where the wrongdoing is material to that employee's employment by the relevant company or to the interests or reputation of any Group Company.

3.6 At any time during the Employment the Company may require the Executive to undergo a medical examination by a medical practitioner appointed by the Company. The Executive authorises that medical practitioner to disclose to the Company any report or test results prepared or obtained as a result of that examination and discuss any matters arising out of the examination which are relevant to the Employment or which might prevent the Executive properly performing the duties of the Employment.

3.7 The Executive is required to comply with the Company's policies and procedures which may be amended or introduced from time to time, these are available on the Company intranet. If there is any conflict between those polices and this agreement, the terms of this agreement shall prevail.

4 Hours

4.1 The Executive will comply with the Company's normal hours of work and will also work any additional hours which may be reasonably necessary to perform his duties to the satisfaction of the Board. He will not receive any further remuneration for any hours worked in addition to the normal working hours.

4.2 The Executive and the Company agree that the Executive is a managing executive for the purposes of the Working Time Regulations 1998 (the "**Regulations**") and is able to determine the duration of his working time himself. As such, the exemptions in Regulation 20 of the Regulations will apply to the Employment.

4.3 The Executive agrees to keep records of his working hours as reasonably required by the Company from time to time in order to comply with its obligations under the Regulations.

5 Interests of the Executive

5.1 The Executive will disclose promptly in writing to the Board all his interests (for example, shareholdings or directorships) whether or not of a commercial or business nature except his interests in any Group Company. The Executive confirms he has no such interests as as at the date of this Agreement.

5.2 Subject to clause 5.3, during the Employment the Executive will not be directly or indirectly engaged or concerned in the conduct of any activity which is similar to or competes with any activity carried on by any Group Company (except as a representative of the Company or with the written consent of the Board).

5.3 The Executive may not hold or be interested in investments which amount to more than three per cent of the issued investments of any class of any one company whether or not those investments are listed or quoted on any recognised Stock Exchange or dealt in on the Alternative Investments Market.

5.4 The Executive will (and will procure that his spouse and dependent children) comply with all rules of law, including Part V of the Criminal Justice Act 1993, the Market Abuse Regulations the share dealing code of the Company or in the Group as in force and as amended from time to time and rules or policies applicable to the Company or Group from time to time in relation to the holding or trading in securities and in relation to the disclosure of inside information.

6 Location

6.1 The Executive will be based at Company's London Offices or anywhere else within the United Kingdom with his consent, which shall not be unreasonably withheld. He may be required to travel and work both within and outside the United Kingdom from time to time but, unless otherwise agreed with the Board, will not be required to live outside the United Kingdom.

7 Base salary and Benefits

7.1 From the Commencement Date the Company will pay the Executive a base salary of £595,000 per annum. Base salary will be paid in equal monthly instalments, partly in arrears and partly in advance, by bank credit transfer on or about the 15th day of each month and will accrue from day to day. Base salary will be reviewed annually. The review will usually take place in June, with the first such review for the Executive being in June 2020. The Company is under no obligation to award an increase following a salary review, There will be no review of salary after notice has been given by either party to terminate this agreement under clause 12.

7.2 The base salary referred to in clause 7.1 includes director's fees from the Group Companies and any other companies in which the Executive is required to accept a directorship under the terms of this Employment. To achieve this:

7.2.1 the Executive will repay any fees he receives to the Company;

7.2.2 his base salary will be reduced by the amount of those fees; or

7.2.3 a combination of the methods set out in clauses 7.2.1 and 7.2.2 will be applied.

7.3 In the unlikely event of an accidental overpayment of remuneration for any reason, the Company may request the Executive to refund such overpayment to the Company and the Executive will remit such refund within one month of such request.

7.4 The Executive may at the discretion of the Remuneration Committee be invited to participate in any bonus and/or incentive plan operated by the Company and as introduced or amended from time to time. If so invited the Executive's participation in such bonus and/ or incentive plan and the amount (if any) payable under it will be at the discretion of the Remuneration Committee and/or in accordance with the rules of any such plan in force from time to time. Participation in a bonus and/or incentive plan for one year does not entitle the Executive to participation in any bonus plan for any other year.

7.5 The Company will either:

7.5.1 provide a car for the Executive's use in accordance with the rules of the Company car scheme, as amended, from time to time; or

7.5.2 pay the Executive a taxable, non-pensionable car allowance of £12,000 per annum. The car allowance will be paid monthly, half in arrears and half in advance, and in the same manner as the Executive's salary.

7.6 Pensions

7.6.1 The Company will provide a pension contribution allowance equal to 20% of the Executive's base salary (as referred to In clause 7.1, at the rale in force at the time such payment is made)

7.6.2 The Executive is eligible for membership of the defined contribution pension scheme offered by the Company (the National Grid YouPlan). Membership of the National Grid YouPlan is subject to minimum Executive and Company contributions. The minimum Executive Contribution to the National Grid YouPlan is 3% of the Executive's base salary. The minimum Company Contribution to the National Grid You Plan is 6% of the Executive's base salary. These amounts may be subject to change based on the pension scheme rules and/or legislation.

7.6.3 The entire, or remainder of the pension contribution allowance may be taken as a monthly cash payment, subject to deductions for income tax and national insurance. Where the Executive does not receive the entire allowance in cash, the remainder will be subject to the Company and the Executive meeting their minimum contributions levels as set out In clause 7.6.2 (or such minimum as applies from time to time).

7.6.4 If the Executive chooses not to participate in the Nalional Grid YouPlan, the Company is required by legislation to re-enrol the Executive into a pension scheme approximately every three years.

7.7 Subject to the arrangements regarding holiday which are set out at clause 7.11 below and which take precedence, the Executive is eligible to participate in the Company's flexible benefits scheme as introduced or amended from time to time, currently "Your Flexible Benefits", which provides access to a range of optional benefits. The Executive should note that some of the benefits provided under the scheme may be taxable benefits. The Executive should note the range of flexible benefits offered and the flexible benefits package itself does not form part of the Executive's contract of employment and the Company reserves the right, at any time, to withdraw and/or amend the flexible benefits scheme and the benefits provided under it at its absolute discretion.

7.8 If the Executive complies with any eligibility requirements or other conditions set by the Company and any insurer appointed by the Company ("**Insurer**"), the Executive and his spouse and children under 21 years of age who reside with the Executive or in full time education up to the age of 24 may participate in the Company's private health insurance arrangements at the Company's expense and subject to the terms of those arrangements in force from time to time. The Company reserves the right at any time to withdraw this benefit or to amend the terms upon which it is provided (including, without limitation, to cease to allow the Executive's spouse and children to participate in any such private health insurance arrangements). The Executive understands and agrees that if the Insurer fails or refuses to provide him with any benefit under the insurance arrangement provided by the Company, the Executive will have no right of action against the Company in respect of such failure or refusal.

7.9 The Company shall provide life insurance for the benefit of the Executive equal to four times the base salary from time to time payable hereunder.

7.10 If and whenever permanent health insurance is provided for the benefit of the executive directors of National Grid Plc , the Executive will also be afforded the benefit of such cover.

7.11 The Executive is entitled to 28 days' paid holiday each year (in addition to English bank and other public holidays) subject to any election the Executive may choose to make pursuant to the Company's flexible benefits scheme. Any election the Executive may choose to make pursuant to the Company's flexible benefits scheme to increase his holiday entitlement will be subject to prior Board or Chief Executive approval. All holiday must be taken at times approved in advance by the Board or by the Chief Executive. The Executive's holiday year commences in the month of his birth and ends on the preceding month in the following year. Holidays may not be carried forward from one holiday year to the next without the Board's prior approval. The Executive agrees the provisions of Regulations 15(1)-(4) inclusive of the Regulations (dates on which leave is taken) do not apply to the Employment.

Holiday entitlement will accrue from day to day. For part years, the Executive's holiday entitlement for the year will be pro-rated to the length of his service in that year. The Executive will be paid for any accrued holiday not taken at the Termination Date unless the Employment is terminated for gross misconduct or in accordance with clause 12.5. The Company may require the Executive to take any accrued holiday during any notice period. If on the Termination Date the Executive has exceeded his accrued holiday entitlement, the excess may be deducted from any sums due to him. The formula for calculating the amount of holiday due to the Executive and any payments or repayments to be made is 1/260 of the Executive's annual base salary.

7.12 The rules governing sickness absence are set out in the Company's Sickness Absence Policy which is available on the intranet. The Executive must comply with these rules. Without prejudice to any right of the Company to terminate the Employment at any time pursuant to clause 12, if the Executive is absent from work as a result of sickness or injury then provided that the rules are complied with, the Executive shall be entitled to sick pay in accordance with the rules of the Company sick pay scheme as detailed below:

7.12.1 After the Executive has accrued at least twelve months' continuous service:

(i) an allowance equal to base salary will be paid for the first six months of such absence;

(ii) after the expiration of the six month period, an allowance equal to half of base salary will be paid for a further period of up to six months.

7.12.2 The amount of any benefit which the Executive is entitled to claim during that period of absence under any Social Security or National Insurance Scheme in England and Wales and/or any scheme of which the Executive is a non-contributory member by virtue of the Employment will be deducted from any base salary paid to him. The Company will pay the Executive statutory sick pay under the Social Security Contributions and Benefits Act 1992 (as amended) ("**SSP**") and any base salary paid to him will be deemed to include statutory sick pay. The Company reserves the right to offset the amount of these benefits against base salary paid to the Executive even if the Executive has not recovered them.

7.12.3 Any sick pay or allowances in excess of SSP paid after the end of the periods referred to above is entirely at the Company's discretion.

7.13 If the Executive is absent from work due to sickness or injury which is caused by the fault of another person, and as a consequence recovers from that person or another person any sum representing compensation for loss of base salary under this agreement, the Executive will repay to the Company any money it has paid to him as base salary in respect of the same period of absence.

7.14 Notwithstanding any other provision in this agreement, any payments to be made, and benefits to be provided under this agreement or otherwise in relation to the Employment, may be subject to shareholder approval and will be subject to compliance with the Company's remuneration policy as approved by shareholders from to time. To the extent that any such shareholder approval is needed, the Company will seek it at the next scheduled Annual General Meeting and any deadline in relation to the delivery of such payments or benefits will be delayed accordingly.

8 Directors' and Officers' protection

8.1 The Company will maintain appropriate directors' and officers' liability insurance for the benefit of the Executive in respect of his period as a director of the Company and any Group Company on terms no less favourable than those applied to any current director or officer of the Company.

9 Expenses

9.1 The Company will refund to the Executive all reasonable expenses properly incurred by him in performing his duties under this agreement, provided that these are incurred in accordance with Company policy in force from time to time. The Company will require the Executive to produce receipts or other documents as proof that he has incurred any expenses he claims.

9.2 If the Executive is provided with a credit or charge card by the Company this must normally be used for expenses which he incurs in performing the duties of the Employment. It may be used for personal expenses only in exceptional circumstances.

10 Confidentiality

10.1 Without prejudice to the common law duties which he owes to the Company the Executive agrees that he will not, except in the proper performance of his duties, copy, use or disclose to any person any of the Company's trade secrets or confidential information. This restriction will continue to apply after the termination of the Employment without limit in time but will not apply to trade secrets or confidential information which become public other than through unauthorised disclosure by the Executive. The Executive will use all reasonable endeavours to prevent the unauthorised copying use or disclosure of such information.

For the purposes of this agreement, "trade secrets" and "confidential information" include but will not be limited to technical data, know-how, information technology and know-how relating to the Company, customer lists, pricing information, information relating to the Company's marketing and financial strategies, marketing materials, financial information and any other information concerning the affairs of the Company which is for the time being confidential, which the Executive is told is confidential or which by its nature is obviously confidential and whether such information is in written, oral, visual, electronic or any other form.

10.2 In the course of the Employment the Executive is likely to obtain trade secrets and confidential information belonging or relating to other Group Companies and other persons. He will treat such information as if it falls within the terms of clause 10.1 and clause 10.1 will apply with any necessary amendments to such information. If requested to do so by the Company the Executive will enter into an agreement with other Group Companies and any other persons in the same terms as clause 10.1 with any amendments necessary to give effect to this provision.

10.3 Nothing in this agreement will prevent the Executive from making a "protected disclosure" in accordance with the provisions of the Employment Rights Act 1996.

11 Intellectual Property Rights

For the purposes of this clause, "**Intellectual Property**" means patents, trade marks, service marks, registered designs (including applications for and rights to apply for any of them), inventions, unregistered design rights, logos, trade or business names, copyrights, database rights, confidential information, knowhow and any similar rights in any country.

11.1 The Executive acknowledges that (i) it is part of his normal duties to develop the products and services of the Company; and (ii) because of the nature of her position he has a special obligation to further the interests of the Company. All Intellectual Property which the Executive develops or produces in the course of his employment duties, or outside such duties but relating to the business of the Company, will be owned by the Company to the fullest extent permitted by law. The Executive agrees, at the Company's expense, to sign all documents and carry out all such acts as will be necessary to vest such Intellectual Property in the Company, and to obtain protection and enforce the Company's rights anywhere in the world. The Executive also hereby waives all moral rights in all Intellectual Property which is owned by the Company, or will be owned by the Company, further to this clause. The Executive will not copy, disclose or make use of any Intellectual Property belonging to the Company (whether or not subject to this clause) except to the extent necessary for the proper performance of his duties. Rights and obligations under this clause will continue after the termination of this agreement in respect of all Intellectual Property arising during the Employment.

11.2 The Executive must disclose immediately to the Company any discovery or invention, secret process or improvement in procedure made or discovered by the Executive during his employment in connection with or in any way affecting or relating to the business of the Company or any Group Company or capable of being used or adapted for use in or in connection with any such company ("**Inventions**") which Inventions will belong to and be the absolute property of the Company or such other person, firm, company or organisation as the Company may require.

11.3 If requested by the Board (whether during or after the termination of his employment) the Executive will, at the expense of the Company, apply or join in applying for letters patent or other similar protection in the United Kingdom or any other part of the world for all Inventions and will do everything necessary (including executing documents) for vesting letters patent or other similar protection when obtained; and all rights and title to and interest in all Inventions in the Company absolutely and as sole beneficial owner or in such other person, firm, company or organisation as the Company may require.

11.4 The Executive will (both during and after the termination of his employment) at the Company's expense anywhere in the world and at any time promptly do everything (including executing documents) that may be required by the Board to defend or protect for the benefit of the Company all Inventions and the right and title of the Company to them.

11.5 The provisions of clause 11.1 to 11.4 (inclusive) are without prejudice to the provisions of the Patents Act 1977.

11.6 The entire copyright and all similar rights (including future copyright, the right to register trade marks or service marks and the right to register designs and design rights) throughout the world in works of any description produced by the Executive in the course of or in connection with his employment ("**Works**") will vest in and belong to the Company absolutely throughout the world for the full periods of protection available in law including all renewals and extensions.

11.7 The Executive will (both during and after the termination of his employment) at the Company's request and expense anywhere in the world and at any time promptly do everything (including executing documents) that may be required by the Board to assure, defend or protect the rights of the Company in all Works.

11.8 For the purposes of this clause 11 the Executive hereby irrevocably and unconditionally waives in favour of the Company the moral rights conferred on the Executive by Chapter IV Part 1 of the Copyright Designs and Patents Act 1988 in respect of any Inventions or Works in which the copyright is vested in the Company under this clause 11 or otherwise.

11.9 The Executive will not make copies of any computer files belonging to any Group Company or their service providers and will not introduce any of his own computer files into any computer used by any Group Company in breach of any Group Company policy, unless he has obtained the consent of the Board.

11.10 By entering into this agreement the Executive irrevocably appoints the Company to act on his behalf to execute any document and do anything in his name for the purpose of giving the Company (or its nominee) the full benefit of the provision of clause 11 or the Company's entitlement under statute. If there is any doubt as to whether such a document (or other thing) has been carried out within the authority conferred by this clause 11.10, a certificate in writing (signed by any director or the secretary of the Company) will be sufficient to prove that the act or thing falls within that authority.

12 Termination and Suspension

12.1 The Employment will continue until terminated by either party giving written notice as set out in clause 12.2.

12.2 Either party may terminate the Employment by giving not less than 12 months' written notice to the other.

12.3 The Company may at its sole and absolute discretion pay base salary alone (as referred to in clause 7.1 at the rate in force at the time such payment is made) in lieu of any unexpired period of notice (less any deductions the Company is required by law to make). For the avoidance of doubt, the Executive is not entitled to participate in or benefit from any severance, termination or redundancy plan operated by any member of the Group. The Company may pay any sums to the Executive under this clause in equal monthly instalments until the date on which the notice period under clause 12.2 would have expired if full notice had been given. The Executive shall be under an obligation to seek alternative income during such period and to notify the Company of any alternative income received during this period derived from employment or the provision of services. Any monthly instalments shall be reduced by the amount of any such alternative income which the Executive receives during or in relation to such part.

12.4 The Company may terminate the Employment by giving written notice to take immediate effect whether or not the Executive's entitlement to sick pay, contractual or otherwise, has been exhausted if the Executive does not perform the duties of the Employment for a period of 364 days (whether or not consecutive) in any period of 2 years. This notice can be given whilst the Executive continues not to perform his duties or on expiry of the 364 day period. In this clause, 'days' includes Saturdays, Sundays and public holidays.

12.5 The Company may terminate the Employment by giving written notice to take immediate effect if the Executive:

12.5.1 has not performed his duties under this agreement to the standard required by the Board;

12.5.2 commits any serious or persistent breach of his obligations under this agreement;

12.5.3 does not comply with any fundamental term of this agreement;

12.5.4 does not comply in a material respect with any lawful and reasonable order or direction given to his by the Board;

12.5.5 is guilty of any gross misconduct or conducts himself (whether in connection with the Employment or not) in a way which is harmful to any Group Company;

12.5.6 is guilty of or confesses to a dishonesty offence or is convicted of or confesses to any criminal offence (other than a motoring offence which does not result in imprisonment) whether in connection with the Employment or not;

12.5.7 commits (or is reasonably believed by the Board to have committed) a material breach of any legislation in force which may affect or relate to the business of any Group Company;

12.5.8 becomes of unsound mind, bankrupt or has a receiving order made against his or makes any general composition with his creditors or takes advantage of any statute affording relief for insolvent debtors;

12.5.9 becomes disqualified from being a director of a company or the Executive's directorship of the Company terminates without the consent or concurrence of the Company; and/or

12.5.10 fails to maintain or becomes disqualified from maintaining registration with any regulatory body, membership of which is reasonably required by the Company for the Executive to carry out his duties.

12.6 Where the Company terminates the Employment by giving written notice to take immediate effect in accordance with either clause 12.4 or 12.5, for the avoidance of doubt there is no obligation to give notice as set out in clause 12.1 or any other period of notice or to make any payment in lieu of notice.

12.7 The Executive will have no claim for damages or any other remedy against the Company if the Employment is validly terminated for any of the reasons set out in clause 12.4 or 12.5.

12.8 When the Employment terminates the Company may deduct from any money due to the Executive (including remuneration) any amount which he owes to any Group Company.

12.9 The Company may suspend the Executive from the Employment on full base salary at any time for a reasonable period to investigate any matter in which the Executive is implicated or involved (whether directly or indirectly) and to conduct any related disciplinary proceedings.

13 Garden Leave

13.1 Neither the Company nor any Group Company is under any obligation to provide the Executive with any work. At any time after notice to terminate the Employment is given by either party under clause 12 above, or if the Executive resigns without giving due notice and the Company does not accept his resignation, the Company may, at its absolute discretion, require the Executive to take a period of absence called garden leave for a maximum period of 6 months (the "**Garden Leave Period**"). The provisions of this clause shall apply to any Garden Leave Period.

13.2 The Company may require that the Executive will not, without prior written consent of the Board, be employed or otherwise engaged in the conduct of any activity, whether or not of a business nature during the Garden Leave Period. Further, if so requested by the Company, the Executive will not:

13.2.1 enter or attend the premises of the Company or any other Group Company;

13.2.2 contact or have any communication with any customer or client of the Company or any other Group Company in relation to the business of the Company or any other Group Company (other than purely social contact);

13.2.3 contact or have any communication with any employee, officer, director, agent or consultant of the Company or any other Group Company in relation to the business of the Company or any other Group Company (other than purely social contact);

13.2.4 remain or become involved in any aspect of the business of the Company or any other Group Company except as required by such companies; and/or

13.2.5 access the Company's or any Group Company's information technology systems.

13.3 The Company may require the Executive during the Garden Leave Period:

13.3.1 to comply with the provisions of clause 16, save that he will not be required to return any Company car during any Garden Leave Period; and

13.3.2 to immediately resign from any directorship, trusteeships or other offices which he holds in any Group Company or any other company where such directorship or other office is held as a consequence or requirement of the Employment, unless he is required to perform duties to which any such directorship, trusteeship or other office relates in which case he may retain such directorships, trusteeships or other offices while those duties are ongoing. The Executive hereby irrevocably appoints the Company to be his attorney to execute any instrument and do anything in his name and on his behalf to effect his resignation if he fails to do so in accordance with this clause 13.3.2.

13.4 During the Garden Leave Period, the Executive will be entitled to receive his base salary and receive all contractual benefits in accordance with the terms of this agreement, save that he will not accrue any bonuses or be entitled to receive any new grants or awards under any long term incentive arrangements. Any unused holiday accrued at the commencement of the Garden Leave Period and any holiday accrued during any such period will be deemed to be taken by the Executive during the Garden Leave Period.

13.5 At the end of or at any time during the Garden Leave Period, the Company may, at its sole and absolute discretion, pay the Executive base salary alone (as defined in clause 7.1) in lieu of the balance of any period of notice given by the Company or the Executive (less any deductions the Company is required by law to make).

13.6 During the Garden Leave Period:

13.6.1 the Executive shall provide such assistance as the Company or any Group Company may require to effect an orderly handover of his responsibilities to any individual or individuals appointed by the Company or any Group Company to take over his role or responsibilities;

13.6.2 the Executive shall make himself available to deal with requests for information, provide assistance, be available for meetings and to advise on matters relating to work (unless the Company has agreed that the Executive may be unavailable for a period); and/or

13.6.3 the Company may appoint another person to carry out his duties either jointly with his or in substitution for the Executive.

13.7 All duties of the Employment (whether express or implied), including without limitation the Executive's duties of fidelity, good faith and exclusive service, shall continue throughout the Garden Leave Period save as expressly varied by this clause 13.

13.8 The Executive agrees that the exercise by the Company of its rights during the Garden Leave Period pursuant to this clause 13 shall not entitle the Executive to claim that he has been constructively dismissed.

14 Restrictions after Termination of Employment

14.1 In this clause:

"Businesses" means

(a) any shareholder that holds 2.5% or more of National Grid pic's authorized share capital from time to time, and is an active shareholder investor (akin to Lazard Asset Management or Blackrock Investment Management at the time of this Agreement or such other similar active investor in the future) and not where such shareholder invests passively such as part of an index-linked investment fund; and

(b) any company, of which the Executive is aware or ought to be aware that a Group Company has acquired, or that a Group Company is actively considering acquiring:

(i) 25% or more of its share capital, including where the acquisition is less than 25% but would bring the relevant Group Company's aggregate shareholding to 25% or above; or

(ii) more than £50 million of its assets.

For the purposes of limb (b), 'actively considering' shall be interpreted to mean where any professional advisers, including but not limited to financial advisers, have been instructed to advise on or consider the proposed acquisition;

"**Prohibited Area**" means the United Kingdom, New York State, Rhode Island, California, Massachusetts and any other country in the world or any other US State in which the Company or any Group Company has material business interests in the period of 12 months ending on the Relevant Date;

"**Relevant Date**" means the Termination Date or, if earlier, the date on which the Executive commences any Garden Leave Period; and

"**Restricted Period**" means the period of 12 months (less any Garden Leave Period) commencing on the Termination Date.

"Senior Employee" means any employee of the Company or any Group Company who is at grade Band C or above or equivalent and who is working in the Prohibited Area.

14.2 The Executive is likely to obtain trade secrets and confidential information and personal knowledge of and influence over customers clients and employees of the Group during the course of the Employment. To protect these interests of the Company, the Executive agrees with the Company that he will be bound by the following covenants:

14.2.1 during the Restricted Period he will not be engaged in, employed in, act as a consultant to or agent for or professional adviser of, or be a director or officer of, JP Morgan Chase & Co (and any of its subsidiary companies) or Barclays plc (and any of its subsidiary companies) where such position or role involves advising on or being involved in, whether directly or indirectly, making any investments into or in the Prohibited Area in the energy sector; and

14.2.2 during the Restricted Period he will not be engaged in, employed in, act as a consultant to or agent for or professional adviser of, or be a director or officer of any company engaged or interested in, in each case whether directly or indirectly, any of the Businesses; and

14.2.3 during the Restricted Period he will not (either on his own behalf or for or with any other person, whether directly or indirectly), entice or try to entice away from the Company or any other Group Company any person who was a Senior Employee of such a company at the Termination Date and who had been a Senior Employee at any time during the six months prior to the Relevant Date and with whom he had worked closely at any time during that period.

14.3 Each of the paragraphs contained in clause 14.2 constitutes an entirely separate and independent covenant. If any covenant is found to be invalid this will not affect the validity or enforceability of any of the other covenants.

14.4 Following the Termination Date, the Executive will not represent himself as being in any way connected with the businesses of the Company or of any other Group Company (except to the extent agreed by such a company).

14.5 Any benefit given or deemed to be given by the Executive to any Group Company under the terms of clause 14 is received and held on trust by the Company for the relevant Group Company. The Executive will enter into appropriate restrictive covenants directly with other Group Companies if asked to do so by the Company.

15 Offers on Liquidation

The Executive will have no claim against the Company if the Employment is terminated by reason of liquidation in order to reconstruct or amalgamate the Company or by reason of any reorganisation of the Company and the Executive is offered employment with the company succeeding to the Company upon such liquidation or reorganisation and the new terms of employment offered to the Executive are no less favourable to him than the terms of this agreement.

16 Return of Company Property

16.1 At any time during the Employment (at the request of the Company) and in any event when the Employment terminates, the Executive will immediately return to the Company:

16.1.1 all documents and other materials (whether originals or copies) made or compiled by or delivered to the Executive during the Employment and concerning all the Group Companies. The Executive will not retain any copies of any materials or other information; and

16.1.2 all other property belonging or relating to any of the Group Companies.

16.2 When the Employment terminates the Executive will immediately return to the Company any car provided to the Executive which is in the possession or under the control of the Executive. The Company car must be returned in good condition (allowing for fair wear and tear).

16.3 If the Executive commences Garden Leave in accordance with clause 13 he may be required to comply with the provisions of clause 16.1.

17 Directorships

17.1 The Executive’s office as a director of the Company or any other Group Company is subject to the Articles of Association of the relevant company (as amended from time to time). If the provisions of this agreement conflict with the provisions of the Articles of Association, the Articles of Association will prevail.

17.2 The Executive must promptly resign from any office held in any Group Company if he is asked to do so by the Company.

17.3 If the Executive does not resign as an officer of a Group Company, having been requested to do so in accordance with clause 17.2, the Company will be appointed as his attorney to effect his resignation. By entering into this agreement, the Executive irrevocably appoints the Company as his attorney to act on his behalf to execute any document or do anything in his name necessary to effect his resignation in accordance with clause 17.2. If there is any doubt as to whether such a document (or other thing) has been carried out within the authority conferred by this clause 17.3, a certificate in writing (signed by any director or the secretary of the Company) will be sufficient to prove the act or thing falls within that authority.

17.4 The termination of any directorship or other office held by the Executive will not terminate the Executive's employment or amount to a breach of terms of this agreement by the Company.

17.5 During the Employment the Executive will not do anything which could cause him to be disqualified from continuing to act as a director of any Group Company.

17.6 The Executive must not resign his office as a director of any Group Company without the agreement of the Company.

18 Notices

18.1 Any notices given under this agreement must be given by letter or email. Notice to the Company must be addressed to its registered office at the time the notice is given. Notice to the Executive must be given to him personally or sent to his last known address.

18.2 Except for notices given by hand, notices given by post will be deemed to have been given on the next working day after the day of posting and notices given by fax will be deemed to have been given in the ordinary course of transmission.

19 Statutory Particulars

19.1 The written particulars of employment which the Executive is entitled to receive under the provisions of Part I of the Employment Rights Act 1996 are set out below, insofar as they are not set out elsewhere in this agreement.

19.1.1 The Company's disciplinary rules and dismissal, disciplinary and grievance procedures as set out in the Staff Handbook and as amended from time to time are applicable to the Executive. The disciplinary rules are contractual. The dismissal, disciplinary and grievance procedures are non-contractual.

19.1.2 The Company's normal hours of work are 9.00am to 5.00pm Monday to Friday.

19.1.3 There are no terms and conditions relating to collective agreements or to the requirement to work outside the United Kingdom.

20 Data Privacy

20.1 The Executive acknowledges that the Company will process his personal data and sensitive personal data relating to his Employment. The Executive can obtain a further copy of the Company's workplace privacy notice on request from the Human Resources department.

20.2 The Executive acknowledges that during his Employment he will have access to and process. or authorise the processing of. personal data and sensitive personal data relating to employees. customers and other individuals held and controlled by the Company. The Executive agrees to comply with the terms of the Company's data privacy policy in place from time to time.

21 Contracts (Rights of Third Parties) Act 1999

21.1 To the extent permitted by law, no person other than the parties to this agreement and the Group Companies shall have the right to enforce any term of this agreement under the Contracts (Rights of Third Parties) Act 1999. For the avoidance of doubt, save as expressly provided in this clause the application of the Contracts (Rights of Third Parties) Act 1999 is specifically excluded from this agreement, although this does not affect any other right or remedy of any third party which exists or is available other than under this Act.

22 Miscellaneous

22.1 This agreement may be entered into in any number of counterparts, all of which taken together shall constitute one and the same instrument. Any party may enter into this agreement by executing any such counterpart.

22.2 This agreement may only be modified by the written agreement of the parties.

22.3 The Executive cannot assign this agreement to anyone else.

22.4 References in this agreement to rules, regulations, policies, handbooks or other similar documents which supplement it, are referred to in it or describe any pensions or other benefits arrangement are references to the versions or forms of the relevant documents as amended or updated from time to time.

22.5 This agreement supersedes any previous written or oral agreement between the parties in relation to the matters dealt with in it. It (together with the Company rules and policies) contains the whole agreement between the parties relating to the Employment at the date the agreement was entered into (except for those terms implied by law which cannot be excluded by the agreement of the parties). The Executive acknowledges that he has not been induced to enter into this agreement by any representation, warranty or undertaking not expressly incorporated into it. The Executive agrees and acknowledges that his only rights and remedies in relation to any representation, warranty or undertaking made or given in connection with this agreement (unless such representation, warranty or undertaking was made fraudulently) will be for breach of the terms of this agreement, to the exclusion of all other rights and remedies (including those in tort or arising under statute).

22.6 Neither party's rights or powers under this agreement will be affected if:

22.6.1 one party delays in enforcing any provision of this agreement; or

22.6.2 one party grants time to the other party.

22.7 The Interpretation Act 1978 shall apply to this agreement in the same way as it applies to an enactment.

22.8 References to any statutory provisions include any modifications or re-enactments of those provisions.

22.9 Headings will be ignored in construing this agreement.

22.10 If either party agrees to waive its rights under a provision of this agreement, that waiver will only be effective if it is in writing and it is signed by that party. A party's agreement to waive any breach of any term or condition of this agreement will not be regarded as a waiver of any subsequent breach of the same term or condition or a different term or condition.

22.11 This agreement is governed by and will be interpreted in accordance with the laws of England and Wales. Each of the parties submits to the exclusive jurisdiction of the English Courts as regards any claim or matter arising under this agreement.

THE COMMON SEAL of **NATIONAL GRID ELECTRICITY TRANSMISSION PLC** was affixed to this **DEED** in the presence of:

/s/ Megan Barnes

Authorised Signatory

Member of Board Sealing Committee

EXECUTED as a **DEED** by **ANDREW AGG** in the presence of:

/s/ Andrew Agg

Witness's signature /s/ Clive Burns	L Innes
Name Clive Burns	Lynne Innes
Address	18 Heron Lane
Cheraton Lodge	Stratford Upon Avon
Porters End	
Kimpton Herts S948ER	
Occupation	PA
Chartered Secretary	

EXHIBIT 4(c).15

14 December 2018

Earlsel Shipp
2722 Heatherbend Dr.
Pearland
Texas
77584

Dear Earl

Appointment as Non-executive Director

Subject to final approval by the Board of National Grid plc (the "**Company**"), I am delighted to advise that your appointment as a Non-executive Director of the Company will be effective from 1 January 2019. This letter sets out the terms of your appointment. It is agreed that this is a contract for services and not a contract of employment.

Appointment

Your appointment, commencing on 1 January 2019, will be subject to your election by shareholders at the Company's Annual General Meeting ("AGM") in 2019, following which it is expected that you will be subject to annual re-election by shareholders in accordance with our commitment to best practice, unless your appointment is otherwise terminated earlier in accordance with the Company's Articles of Association as amended from time to time (the "Articles") or by and at the discretion of either the Board or you upon 1 month's written notice. Continuation of your contract of appointment is therefore contingent on satisfactory performance and re-election by shareholders at forthcoming AGMs.

In the event that shareholders do not support your appointment or other shareholder action terminates your appointment you will not be entitled to receive damages for breach of contract and will not be entitled to any other compensation (or payment in lieu of notice).

Non-executive Directors are typically expected to serve two three-year terms, subject to the terms of this letter; any extension to this is subject to review by the Nominations Committee (prior to making recommendations to the Board) having regard to corporate governance best practice from time to time.

Time Commitment

Overall we anticipate a time commitment of approximately 2-2$^{1}/_{2}$ days on average per month, after the induction phase, taking into account reading and preparation time for Board and Committee meetings. This will include attendance at Board meetings (estimated 8 scheduled meetings per year including Board strategy session(s) – (of which currently 3 are held in the US) plus ad hoc and emergency meetings, Committee meetings, the AGM, any extraordinary general meetings. It is planned that certain Board meetings will be held at the Company's operational sites (in the UK and US).

Post induction, as a Non-executive Director you will also be expected to undertake at least one site visit per year to the business, the location to be agreed with myself or the Chief Executive.

In addition, you will be expected to devote appropriate preparation time ahead of each meeting and such other time as is reasonably required to discharge your duties as a Director (for example if the Company is involved in increased activity because it is involved in a major transaction).

If you are unable to attend a meeting, you should notify the Group General Counsel & Company Secretary and prior to the meeting communicate your opinions and comments on the matters to be considered to me or the relevant Committee chairman so they can be taken into account at the meeting.

By confirming this appointment, you have agreed that you are able to allocate sufficient time to meet the expectations of your role including appropriate preparation time. My agreement should be sought before accepting additional commitments that might affect the time you are able to devote to your role as a Non-executive Director of the Company.

Role

All Directors, both Non-executive and Executive, have the same general legal responsibilities to the Company. The Board as a whole is collectively responsible for debating and approving the strategic direction of the Company and for promoting the success of the Company for the benefit of its members by directing and supervising the Company's affairs. All Directors must therefore take decisions objectively in the interests of the Company, in compliance with their statutory and fiduciary duties, and not do anything which is harmful to the Company or its business.

All directors are expected to comply with the Company’s policies, procedures, rules and regulations from time to time in force, including in particular, the Company’s Standards of Ethical Business Conduct and its Share Dealing Code.

The Board:

- provides effective business leadership of the Company within a framework of prudent and effective controls which enable risk to be assessed and managed;
- sets the Company's strategic aims, ensures that the necessary financial and human resources are in place for the Company to meet its objectives, and reviews management performance; and
- sets the Company's values and standards and ensures that its obligations to its shareholders and others are understood and met.

In addition to these requirements of all Directors, the role of the Non-executive Director has the following key elements:

- **Strategy:** Non-executive Directors should constructively challenge and contribute to the development of strategy;

- **Performance:** Non-executive Directors should scrutinise the performance of management in meeting agreed goals and objectives and monitor the reporting of performance;
- **Risk:** Non-executive Directors should satisfy themselves that the financial function of the Company is professionally managed and that financial controls and systems of risk management are robust and defensible; and
- **People:** Non-executive Directors are responsible for determining appropriate levels of remuneration for Executive Directors and have a prime role in appointing, and where necessary removing, senior management, and in succession planning.

You should also have regard to the Guidance on Board Effectiveness, issued by the Financial Reporting Council in December 2017, of which an extract summarising the role of a Non-executive Director is set out at Schedule 1 to this letter.

<u>Committees</u>

Initially, you have been invited to serve on the Remuneration Committee and the Safety, Environment and Health Committee. This is subject to change from time to time, as determined by the Board.

In addition, all Non-executive Directors are members of the Nominations Committee, meetings of which are held on an ad hoc basis. No fee is paid for Nominations Committee attendance.

This letter refers to your appointment as a Non-executive Director of the Company. Terms of Reference of all Board Committees are set out in the Directors' information pack which will be sent to you shortly.

<u>Fees</u>

This letter sets out the only payments you will receive for performing your duties in accordance with this letter. Accordingly, no other remuneration or benefits will be provided and, in particular, you will not participate in any of the Company's remuneration or benefit programmes, arrangements, schemes or plans.

As a non UK-based Director, you will be paid £79,000 per annum and you will also be entitled to a Committee membership fee of £10,500 per annum, per Committee membership. NB: The Committee membership fee does not apply to the Nominations Committee which meets on an ad hoc basis.

These payments will be made monthly on or around 15th day of each month and will be pro-rated from the date of your appointment. You will not receive any further fees for membership of, or attendance at, any ad hoc Board or Committee meetings. If, for a reason related to illness, disability or injury, you are unable to carry out your duties, payment of any fee(s) during any period of incapacity will be at the discretion of the Board.

The Company will reimburse you, in accordance with the Articles and any expenses procedures from time to time in force, for any reasonable expenses properly incurred in performing your duties. All expenses must be properly documented. Details regarding travel are set out in the Travel Guidelines for Directors document in the Directors information pack, which may change from time to time.

The Executive Committee and Board shall review the above fees from time to time and they are therefore subject to change. All fees and payments will be made subject to any tax or other deductions required to be made by the Company.

Outside interests

It is accepted and acknowledged that you have business interests other than those of the Company. As a condition to your appointment commencing you are required to declare any such directorships, appointments and interests in writing.

In the event that you become aware of any potential conflicts of interest, these should be disclosed to me and/or the Group General Counsel & Company Secretary as soon as apparent. Additionally, if at any time you are considering acquiring any new business interest (including as described in the letter to you regarding initial disclosures on appointment), you should raise the matter initially with me and/or the Group General Counsel & Company Secretary. Where an interest may give rise to a conflict of interest with the Company or any of its subsidiaries or associate companies, the interest may need to be disclosed to the Board and its prior consent obtained.

Independent status

The Board has determined you to be independent according to the provisions of the UK Corporate Governance Code. As an independent Director it is important that you remain independent in character and judgement. If you become aware of anything that may affect, or could appear to affect, this determination of independence, this should be disclosed to me and/or the Group General Counsel & Company Secretary as soon as apparent.

Confidentiality

You will, naturally, during your appointment and following its termination not disclose or communicate to any person (except as required by law or in the course of the proper performance of your duties under this letter, or with the consent of the Board) nor use for your own account or advantage any private or confidential information in any form whatsoever relating to the Company or any of its subsidiaries or associate companies ("Confidential Information") which you obtained during your appointment or otherwise. Additionally, you will use your best endeavours to prevent the unauthorised use or disclosure of any such Confidential Information.

This restriction will continue to apply after your appointment ends without limit in time but will not apply to information which becomes public, unless through unauthorised disclosure by you. After your appointment ends you will return all documents and information (whether written, visual or electronic) under your control which belong to the Company.

Your attention is also drawn to the requirements under both legislation and regulation together with Company policies and procedures as to the disclosure of 'inside' or 'price sensitive' information. Consequently you should avoid making any statements that might risk a breach of these requirements without prior clearance from me or the Group General Counsel & Company Secretary.

Induction

You will be provided with a comprehensive, formal and tailored induction to the Company and its businesses based on your experience and background and on which Committees you are to serve. You will also receive a Directors' information pack comprising information on the Company's businesses and operations together with matters relating to corporate governance and corporate responsibility. We will also arrange various site visits and meetings with senior and middle management and the Company's auditors. We will also arrange for you to meet major shareholders as appropriate.

Should you feel you require additional information on any area please contact the Group General Counsel & Company Secretary to arrange this.

Review Process

The performance of individual Directors, the Board and Board Committees is evaluated annually. If, in the interim, there are any matters which cause you concern in relation to your role you should discuss them with me as soon as is appropriate. I will also regularly review and agree your training and development needs.

Directors' Indemnity and Liability Insurance

In the event that you are made a party or are threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative by reason of the fact that you are or were a director of the Company, the Company shall indemnify you against expenses (including legal fees) actually and reasonably incurred by you in connection with such action, suit or proceeding and against judgments, fines and amounts paid in settlement in connection with such action, suit or proceeding to the fullest extent permitted by the Companies Act 2006 as amended and any other applicable law or regulation, as from time to time in effect. Such right of indemnification shall be without prejudice to any other rights to which you may be entitled. The terms and conditions of this indemnity are set out in a separate deed of indemnity entered into or to be entered into between you and the Company.

The Company has Directors' and Officers' liability insurance and currently intends to maintain such cover for the full term of your appointment. A summary of the cover is included in your Directors' information pack.

Independent Professional Advice

Occasions may arise when you consider that you need independent professional advice in the furtherance of your duties as a Director. Please advise me or the Group General Counsel and Company Secretary should you wish to seek such advice. The Company will reimburse the full cost of expenditure incurred in respect of such advice, in accordance with the UK Corporate Governance Code and any relevant Company policy.

Disclosure of interests in transactions and Dealings in Shares

Under the Companies Act 2006, where a Director of a company is in any way, directly or indirectly, interested in a proposed transaction or arrangement with the Company or one that has been entered into by the Company, he must declare the nature and extent of that interest. You may give any such notice at a meeting of the Directors, in writing or by general notice.

During the continuance of your appointments you will be expected to comply (and to procure that your spouse and dependant children comply) where relevant with any rule of law or regulation of any competent authority or of the Company from time to time in force in relation to dealings in shares, debentures and other securities of the Company and unpublished price sensitive information affecting the shares, debentures and other securities of the Company. A copy of the Company's Share Dealing Code is provided in the Directors' information pack.

You should also have regard to, and your appointment is subject to, your duties as a Director in light of the Articles, applicable general law, the Companies Act 2006, the Listing, Prospectus, Disclosure and Transparency Rules of the Financial Services Authority, the UK Corporate Governance Code and obligations arising as a result of the Company's American Depositary Shares being listed on the New York Stock Exchange, as set out in the relevant section of the Directors' information pack.

The Company currently has no share ownership requirements for its non-executive directors.

Governing Law

The agreement contained in this letter and any non-contractual obligations arising out of or in connection with it shall be governed by, and construed in accordance with English law and shall be subject to the exclusive jurisdiction of the English courts.

Entire Agreement

This appointment letter represents the entire understanding, and constitutes the whole agreement, in relation to your appointment and supersedes any previous agreement between yourself and the Company with respect thereto.

On a personal level, I am delighted that you have agreed to accept this appointment to the Board of the Company and I look forward to our building a good working relationship.

Please acknowledge receipt and acceptance of the above terms by signing and returning the enclosed copy of this letter.

Yours sincerely

/s/ Sir Peter Gershon
Chairman
For and on behalf of National Grid plc

I hereby acknowledge receipt of and accept the terms set out in this letter.

Signed /s/Earl Shipp……………………….
Earl Shipp

Dated …4 March 2019……………………..

Schedule 1

Guidance for Non-Executive Directors

(extracted from the March 2011 FRC Guidance on Board Effectiveness)

A non-executive director should, on appointment, devote time to a comprehensive, formal and tailored induction which should extend beyond the boardroom. Initiatives such as partnering a non-executive director with an executive board member may speed up the process of him or her acquiring an understanding of the main areas of business activity, especially areas involving significant risk. The director should expect to visit, and talk with, senior and middle managers in these areas.

Non-executive directors should devote time to developing and refreshing their knowledge and skills, including those of communication, to ensure that they continue to make a positive contribution to the board. Being well-informed about the company, and having a strong command of the issues relevant to the business, will generate the respect of the other directors.

Non-executive directors need to make sufficient time available to discharge their responsibilities effectively. The letter of appointment should state the minimum time that the non-executive director will be required to spend on the company's business, and seek the individual's confirmation that he or she can devote that amount of time to the role, consistent with other commitments. The letter should also indicate the possibility of additional time commitment when the company is undergoing a period of particularly increased activity, such as an acquisition or takeover, or as a result of some major difficultly with one or more of its operations.

Non-executive directors have a responsibility to uphold high standards of integrity and probity. They should support the chairman and executive directors in instilling the appropriate culture, values and behaviours in the boardroom and beyond.

Non-executive directors should insist on receiving high-quality information sufficiently in advance so that there can be thorough consideration of the issues prior to, and informed debate and challenge at, board meetings. High-quality information is that which is appropriate for making decisions on the issue at hand – it should be accurate, clear, comprehensive, up-to-date and timely; contain a summary of the contents of any paper; and inform the director of what is expected of him or her on that issue.

Non-executive directors should take into account the views of shareholders and other stakeholders, because these views may provide different perspectives on the company and its performance.

Exhibit 12.1

RULE 13a-14(a) CERTIFICATION

I, John Pettigrew, certify that:

1. I have reviewed this annual report on Form 20-F of National Grid plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d -15(f)) for the company and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: 4 June 2019

/s/ John Pettigrew
John Pettigrew
Title: Chief Executive
National Grid plc

Exhibit 12.2

RULE 13a-14(a) CERTIFICATION

I, Andrew Agg, certify that:

1. I have reviewed this annual report on Form 20-F of National Grid plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d -15(f)) for the company and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: 4 June 2019

/s/ Andrew Agg
Andrew Agg
Title: Chief Financial Officer
National Grid plc

Exhibit 13.1

RULE 13a-14(b) CERTIFICATION

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18 of the United States Code) each of the undersigned officers of National Grid plc, a public limited company incorporated under the laws of England and Wales (the “Company”), hereby certifies to such officer’s knowledge, that:

The Annual Report on Form 20-F for the year ending 31 March 2019 (the “Report”) of the Company fully complies with the requirements of section 13(a) or 15 (d) of the Securities Exchange Act of 1934 and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: 4 June 2019	/s/ John Pettigrew John Pettigrew Title: Chief Executive National Grid plc
Date: 4 June 2019	/s/ Andrew Agg Andrew Agg Title: Chief Financial Officer National Grid plc

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-33094, 333-65968, 333-97249, 333-103768, 333-107727, 333-149828, 333-155527, 333-170716, 333-175852, and 333-184558 on Form S-8 and in Registration Statement No. 333-225403 on Form F-3ASR of our reports dated 15 May 2019, relating to the consolidated financial statements of National Grid plc and subsidiaries (the "Company"), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 20-F of the Company for the year ended 31 March 2019.

/s/ Deloitte LLP

London, United Kingdom

4 June 2019

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Forms S-8 (No. 333-33094, 333-65968, 333-97249, 333-103768, 333-107727, 333-149828, 333-155527, 333-170716, 333-175852, 333-184558) and Form F-3 (No. 333-225403) of National Grid plc of our report dated May 17, 2017 relating to the financial statements, which appears in this Form 20-F.

/s/PricewaterhouseCoopers
London, United Kingdom
June 4, 2019