Electricity
Transmission

Our Performance 2020/21

nationalgrid

Welcome - Executive Summary from Chris Bennett, Interim President of Electricity Transmission

The aim of this report is to highlight the work that National Grid Electricity Transmission (NGET) has carried out in 2020/21 and share our plan for the future. 2020/21 was a significant year of stakeholder interaction for us — indeed we had more interaction with you than we ever have before and are grateful for the contributions you made.

We were disappointed with the draft determinations for the RIIO-T2 price control period published by Ofgem, which did not reflect stakeholders' views and risked network resilience, the move to Net Zero and investment in the business. We responded strongly, provided more evidence, and made detailed proposals for changes to avoid these problems and ensure that stakeholders' priorities are reflected in what we deliver in the future. Many stakeholders also expressed their views to Ofgem directly and I am grateful for that too. In December 2020, we received Ofgem's final determinations on our RIIO-T2 business plan which reflected these stakeholder views. Thank you all, as the final determination better reflected the level of investment required to meet your needs. There were two areas (how our potential outperformance would be adjusted down and the cost of equity in RIIO-T2) that we didn't agree with and so appealed to the Competition and Markets Authority. The CMA have recently published its provisional determination and we will respond ahead of final determination on the appeal in October 2021.

This report focusses more on what we have done to keep our network safe and reliable during 2020/21 and what steps we are taking to meet challenging environmental targets to achieve a lower carbon future. I am proud to report our Electricity Transmission business has continued to perform solidly for our customers and ultimately for end consumers by delivering safe, efficient, and reliable transmission services in 2020/21.

The report details the work we have done to improve customer service during the year — including further embedding our behavioural principles of Care, Agility, Transparency, earning Trust, and delivering Value into our customer journey, and so delivering improved customer and stakeholder satisfaction. As part of our customer transformation programme, we continued to improve our performance in all areas, whilst expanding our reach across more customers and stakeholders than ever before. Whilst this progress has been good, we continue to look to truly embed customer advocacy across all areas. What this meant in our customer satisfaction was an increased survey score of 8.39, up from 7.41 at the start of RIIO-T1 and 8.21 last year. Stakeholder satisfaction survey score also increased in 2020/21 to 8.85 from 8.64 last year and 7.53 in the first year surveyed. We have also seen an increase in the number of new applications to connect to the system — and the requirements of these new customers are very different from those who wanted to connect previously. Many customers now request smaller connections, have less experience in the electricity industry, and have shorter project lead times than our traditional customer base and therefore require faster connections. We have therefore increased the resources in our connections team and been developing new digital tools to help the process.

We've continued to play a central role in the decarbonisation agenda, making investments that support the connection of new generation technologies, and responding to changing patterns of demand. For example, the East Coast development has seen good progress this year, working closely with the Scottish TOs to complete an initial need case submission to Ofgem. This project will deliver networks supporting the connection of renewable generation, primarily wind, in Scotland onto the transmission network and delivering the power they generate to customers who need it in the south. Our wider East Coast strategy supports the Government's ambitious target of 40GW of new wind connections by 2030. Significant network investment will be required to achieve this, and we expect to make numerous submissions to Ofgem as these individual projects develop over the coming years. This (mainly offshore wind) generation is expected to increase year on year consistent

with the Future Energy Scenarios analysis, contributing to our Net Zero target and reducing costs for our customers because our investments will help to reduce constraint costs. Our work leading and supporting Government in developments in electric vehicle (EV) charging has continued apace, including informing policy for Government as part of the £950m fund to develop the motorway network charging network.

We have continued to invest in the network for the benefit of current and future consumers. This has meant that, through improved understanding of our assets and how they will be used to serve customers, we have optimised our investment plans to deliver cost savings now, and into the future, replacing our assets only when there is both a solid economic and an asset health need case. These investments will also help secure long-term system reliability, which our customers have told us they value. Further detail on our customer feedback is in the outputs section of the report.

We have developed innovations and efficiencies in delivering our plans in RIIO-T1. These were embedded as business as usual into our plans for future price controls. We have improved our understanding of our assets' health, carried out targeted replacement programmes, driven down costs in our supply chain and are strengthening the electricity network with an innovative technology where power control devices are able to increase power flow instead of more expensive and time-consuming reconductoring or new overhead line build options. We will continue to fit these devices where we are able to do so, delivering further value in RIIO-T2.

We could not have achieved all of this without our team — a diverse and inclusive group of skilled employees. Thank you all. I also want to thank the team for their ongoing response to the pandemic. Teams in operational roles, in our critical control rooms and all of the support teams have worked differently — with new PPE and testing, living away from their families, working from home — and have enabled us to protect each other and continue to achieve our purpose of bringing energy to life during this critical time. As we come out of the pandemic, we are embracing new ways of working with hybrid models, increased digitisation and use of other technologies to deliver the best experience to all customers.

We are focussing now on closing out the RIIO-T1 deal efficiently, delivering the commitments made for RIIO-T2 and working on how we can best keep you informed of our progress. You can read more in the looking forward section. You can also read about how we are working with our Independent User Group and what the Chair, Trisha McAuley thinks about our performance and plans for RIIO-T2 later in this report.

I hope you find this report informative and welcome your feedback on how we can improve our reporting in the future.

Chris Bennett
Interim President of Electricity Transmission

Performance infographic

How we have performed compared to the primary outputs in the RIIO-T1 framework.

Safety
Met all legal and health and safety requirements.
Injury frequency rate world class

Environmental
SF_6 leakage below allowed level in every year of RIIO-T1.
Business carbon footprint reduced faster than predicted.

Network Availability
Network Access Policy (NAP) in place delivering efficiencies in system outage planning.

Our costs contribute to c.4% of average domestic customer bill
8 year spend - £9.09bn
8 year allowances - £12.07bn

Customer Satisfaction
Increase in both customer and stakeholder satisfaction scores for 2020/21 to their highest in RIIO-T1.

Reliability
No incentivised Energy Not Supplied events in 2020/21 - 99.99995% system reliability.
Network Replacement Outputs of Network risk met for the whole RIIO-T1 period.

Generation and Demand
Both generation and demand connections for new customers are lower than we forecast at the start of RIIO-T1.
Reductions in allowances led to lower than forecast impact on customer bills.

Customer Connections
Met all customer requirements to connect to the transmission network during RIIO-T1.

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High level review of 2020/21

This year our electricity transmission business has continued to deliver strongly on our five primary RIIO output areas: Safety, Reliability, Customer Satisfaction, Connections and Environment.

Safety - This continues to be our number one priority. We are proud to report that our injury frequency rate (IFR) has remained at a strong level for 2020/21 at 0.07 (averaging 0.1 over the RIIO-T1 period) which is **world-class performance.** This is due in part to the continuing work to deliver strong gains in contractor safety performance. The initiatives in manual handling and load lifting, driving, and site rules that are underway are contributing to the continued improvement in safety performance. Carrying out analysis of, and learning lessons from, all high potential events and near misses keeps the safety of the public, our contractors and our staff at the front of our minds every day.

In January 2021, there was a Current Transformer (CT) failure at one of our sites. A CT is an important asset to allow current to be measured as part of monitoring the operation of the electricity network. We immediately carried out a thorough risk assessment. Because there was a risk of other similar assets causing safety issues, until investigative root cause analysis, condition monitoring and site-specific impact analysis were completed, risk management hazard zones were introduced around all assets of this type. This affected access to multiple sites and consequently our plans to complete maintenance and other works.

Reliability - We are committed to delivering a reliable network and have consistently exceeded our reliability targets over the RIIO-T1 period, concluding with 0MWh of 'Energy Not Supplied' in 2020/21. The 8-year average of incentivised events is 32.64MWh against the incentive neutral point of 316MWh which equates to an 8-year average network reliability of **99.99995%,** which our stakeholders tell us continues to be so important to them. We have also continued to invest in the network for the benefit of future consumers and customers, exceeding our overall network risk target to maintain longer-term system reliability.

Customer satisfaction - we are extremely proud that our continual improvements in customer service have again been reflected in an improvement in customer satisfaction ratings. The scores have **increased further this year to 8.39** compared to last year's 8.21 and the average for RIIO-T1 of 7.75. This improvement reflects the focus and hard work across our whole business to improve the way we provide the experience our customers value. Our focus is to continue this journey, always aiming to exceed the expectations of our customers. Our stakeholder satisfaction score has also increased from 8.64 to 8.85 and is now reflective of the opinion of a much broader set of stakeholders than ever before.

Connections – There has been a marked increase in the number of requests for connection offers throughout the RIIO-T1 period, with the final year seeing a 330% increase on levels in 2016. We are particularly pleased to report that all connection requests have been processed within the required timeline of 3 months, demonstrating that we have been continuing to work closely with the ESO to deliver agreements. In addition, we are particularly proud that we have been able to **successfully deliver** this level of connection requests alongside improving customer satisfaction levels.

Environment - We are very pleased that our commitment to the Environment has been recognised in the latest **Environmental Discretionary Award** where a score of 96% moved performance into the 'leadership category' for the first time. Our partnership with COP26 demonstrates our commitment to finding ways to deliver cleaner, greener energy and we are delivering stakeholder-driven projects to improve visual amenity in designated landscapes; with the first project in Dorset due to be completed in 2022, we continue to work with the **VIP Stakeholder Advisory Group** to prioritise projects.

We worked hard to manage SF_6 gas leaks during RIIO-T1, but it has proved difficult. Leakage levels saw an upward trend in the latter years of the RIIO-T1 period, where an increased number of SF_6 top-ups were carried out as precautionary measures in response to concerns surrounding COVID-19 restrictions impacting on the ability to routinely visit substations. We focussed on identifying the highest-leaking assets to plan and implement a prioritised targeted intervention plan for both repair and replacement activities; this has stabilised the upward trend, but there is more to do in this area over the RIIO-T2 period. SF_6 leakage from our equipment has reduced from 12,441kg to 11,700kg in 2020/21.

Financials - Our overall total expenditure for the RIIO-T1 period was £9.9bn against forecast allowances of £12.7bn. This investment maintained or replaced our assets to keep reliability high, as well as improving the network to facilitate our customers' connections to it, and to pay the operational costs of the business. These costs are recovered from our customers (electricity suppliers, generators, large electricity users, and distribution companies). The costs are then passed onto consumers' bills as network charges. When customers' needs change and investments are no longer required, we amend our plans accordingly. One of the ways that we are funded is via uncertainty mechanisms; these automatically reduced allowances by £2.4bn over RIIO-T1 as customer needs changed and we changed our planned investments.

On top of this reduction, we have voluntarily deferred almost £0.8bn of allowances into future price controls. We deferred the allowances because there are pieces of work that were no longer required in RIIO-T1 but will be in the future. This provided further savings on bills. We also delivered customer value through the totex incentive mechanism (a way of sharing savings or overspend with customers) which has meant we have strived to innovate to drive down costs for customers and end consumers. For instance, we have used asset condition information together with our asset expertise to find ways to increase the lifespan of our assets. We are spending less money than we forecast at the start of RIIO-T1 whilst still delivering the output agreed. These innovations, along with the other financial amendments, initiatives, and efficiencies, will reduce customer charges by a further £1.5bn which in turn lowers the consumer bill.

£9.91billion
The amount we are spending in RIIO-T1 to maintain and improve the electricity network. Read more about financial information on Page 26

Around 4% or **£19.71** of a domestic electricity bill is attributable to NGET's costs

£4.9billion
The amount that is returned to customers through efficiencies, output reductions or deferred allowances in RIIO-T1. Read more on Page 25

Looking forward

We received details of Ofgem's draft determinations for our RIIO-T2 business plan in July 2020. We were very disappointed with this initial position and worked hard between then and December to provide more evidence to Ofgem for our proposals. Further justification reports covering both engineering and economic analysis were submitted and we were broadly pleased with the outcome of final determinations. We have agreed a forward plan of works that will deliver the safe and efficient network our customers tell us they expect and are gearing up to deliver an unprecedented level of customer works as we transition towards a greener, Net Zero future.

We worked for eight years during RIIO-T1 on delivering the right outputs (e.g. connecting customers or replacing assets), at the right time, while improving the way that we work with our customers and stakeholders. The efficiencies and innovations that we have successfully managed in RIIO-T1 are incorporated in the RIIO-T2 plan so consumers will continue to benefit from these in the future:

- We commit to continue giving stakeholders and consumers a stronger voice. We've used their input to build our plans. By broadening the scope and reach of our engagement, we can be more confident than ever before that we are being a purpose-led, stakeholder-focussed organisation.

- We want to enable the energy system of the future. Embedding innovation in the way we work when we reinforce the transmission system will help us facilitate Net Zero targets, at the lowest cost. Collaborating across organisational boundaries, enabling competition in network solutions, and proposing options that enable the decarbonisation of power, transport and heat are all key to this transformation.

- We want to become a more customer-centric business, helping our many customers connect and use the transmission network. We will innovate in work that is required and how we plan connections and meet our customers' needs to achieve this.

- Our stakeholders value how we maintain a safe and reliable electricity system. Our network needs to be available to our customers when they need it so they can provide secure power supplies to consumers. This means that we will monitor our assets' condition, and intervene at the right time to maintain, refurbish, or replace them. We also want to protect our network from external threat, whether physical attack on our assets, the effect of extreme weather events, or cyber-attacks.

- We believe in a future that is clean, green, and thriving. We are a responsible business and want to improve the environment and serve communities and society. We want to contribute to tackling climate change, reduce waste, improving the natural environment, and improving the visual impact of our assets.

- We have developed our innovation strategy with our stakeholders to find a better way to deliver cleaner and cheaper energy. Everything that we do, from continuous improvement, through to step change technological advances, are focussed on delivering on this stakeholder priority.

- Overall, we want to deliver value for money. We are embedding the innovations and efficiencies from RIIO-T1 and are committing to find future efficiency. Our costs have been independently benchmarked and were in line or better than current benchmarks.

We have committed to being more transparent and open with all stakeholders in RIIO-T2 in terms of how we're delivering in terms of our commitments and outputs. We will publish regular reports on our website on areas like innovation, customer connections, stakeholder satisfaction, and our environmental commitments. As always, your feedback will help shape what changes we make in future.

Another big change that will focus our efforts as a group to build a greener, cleaner future network was the acquisition of Western Power Distribution (WPD). Having a distribution company as part of the National Grid Group will deliver synergies and efficiencies for customers and consumers. We are welcoming WPD colleagues into the National Grid Group and look forward to working closely with them.

Finally, we look forward to this autumn's COP26 UN Climate Change Conference. Our role as one of the Principal Partners gives us a platform to make a difference and drive ambitious progress towards a clean, fair, and affordable energy future.

£5.4billion - the amount that we are spending in RIIO-T2 to maintain and improve our electricity system and facilitate the drive toward Net Zero

Over 15% - the amount of efficiency challenge that is built into RIIO-T2 allowances

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Update from Trisha McAuley OBE, Chair of the NGET Independent User Group (IUG)

The NGET IUG was established in 2018 as part of the RIIO-T2 Enhanced Engagement arrangements. We are an independent group of stakeholders who use the electricity transmission system now and who also represent the existing and future interests of their stakeholder constituency. Our role in the RIIO-T2 business planning process was to: assess the quality of NGET's stakeholder engagement to ensure that stakeholder priorities were embedded in the NGET business plan; and scrutinise and challenge the business plan propositions, on the basis of our independent areas of expertise. We submitted our report to Ofgem at the end of 2019.

Not long after we were established, NGET said that they could clearly see how the work of the IUG was helping it create a better business plan on behalf of its stakeholders and that, if Ofgem did not mandate an enduring role for the IUG, then it was minded to do so. In 2020, our work was focussed on two areas. Firstly, although we are clear that our role is to challenge the company and not the regulator, we did spend a considerable amount of time analysing, and responding to Ofgem's Draft Determination (DD). Our sole focus was to help ensure that the DD adequately reflected the priorities of NGET's stakeholders, and we engaged with the company and with Ofgem to highlight the key points on our DD response. Secondly, we reviewed our purpose, terms of reference and governance to reflect our new enduring role. The last year has been one of transition for the IUG as we moved towards the beginning of the T2 delivery period.

Working with NGET we have now defined our purpose within three areas of focus:

- Scrutinise and challenge company periodic business plans:
- Monitor, interrogate and enhance transparency of performance against commitments
- Critical friend for strategy, culture and processes in key areas.

At the beginning of this year, we worked jointly with, and had excellent support from, NGET to develop and produce an IUG framework for delivering on our purpose and maximising our impact. The framework includes a forward plan, inputs we can expect from NGET, evaluation criteria, logs and dashboards to track progress and IUG outputs. As we moved towards the start of the RIIO-T2 period, we have received regular updates on business performance and RIIO-T1 close-out so that we can better understand the RIIO-T2 baseline position. We are now receiving business performance updates at every meeting, with more detailed performance monitoring built in at regular intervals. In our critical friend role, at the time of writing, we have had regular deep dives on NGET's stakeholder engagement and digital strategies, East Coast Offshore Wind, transport decarbonisation, responsible business, innovation and Net Zero.

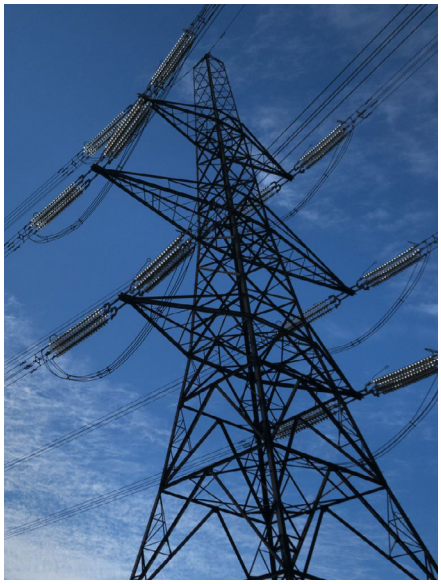
Whilst we contributed to Ofgem's Enhanced Engagement evaluation, at the time of writing, Ofgem had not published its expectations of the User Groups in an enduring role. We will, of course, seek to meet Ofgem's expectations and review our governance and ways of working, should this be necessary as a result.

In undertaking all of our work, we have found NGET to be responsive, engaged, supportive and open to challenge and we look forward to continuing our independent role in putting forward our challenges and recommendations to NGET as we work to ensure the electricity transmission system of the future that works in the best way for all consumers.

Who we are and what we do

NGET

We are now solely a **Transmission Owner (TO)** since we legally separated the Electricity System Operator (ESO) from the business. This means that National Grid Electricity Transmission (NGET) owns the electricity transmission network in England and Wales – that's the high-voltage network connecting electricity generators to distribution networks and large-scale consumers. **Other TOs** own and operate the Scottish, offshore, and interconnector networks that make up the rest of Great Britain's transmission network. The separate ESO operates Great Britain's entire electricity transmission system, including the Scottish and offshore networks.

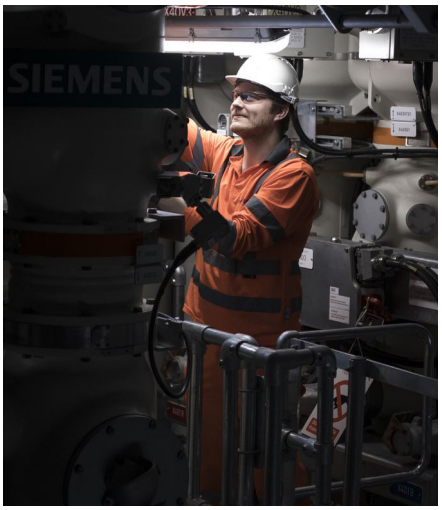


We take electricity from power stations across the country, many in remote areas, and transport this to the centres of demand. We then transform this high-voltage electricity at our substations that then connect into other companies' substations to transmit into **local distribution networks (DNOs)** to deliver electricity at a lower voltage to homes and businesses. As noted above, the transaction to acquire WPD is awaiting final clearance from the CMA to bring this DNO into the NG Group. Finally, there are companies that send end consumers their bills; these are the **suppliers** and consumers can choose who they get their electricity from and pay their bill to.

Our role is to connect people to the energy they use – whether it's heat and light for their homes or to keep factories and offices running. As society continues to become ever more reliant on electricity for every aspect of modern life, we have a central role to play in meeting one of Britain's biggest challenges: providing secure and affordable energy while also meeting ambitious low-carbon energy targets and connecting new sources of energy to the people who use them.

The unprecedented rate of change in the energy landscape means we must be adaptable and responsive. That's why we invest efficiently to provide world-class reliability and to enable customers to connect to the network. We also promote the development and implementation of sustainable, innovative, and economical energy solutions that will help us achieve security of supply.

At the heart of our business plan is the delivery of an affordable electricity transmission network that meets our stakeholders' needs in terms of energy security and environmental considerations.



Over the next decade, we expect to continue our work to modernise the country's energy infrastructure. We know that building new assets or refurbishing existing ones will have an impact on our customers and stakeholders and so we believe the best way forward is to involve them as soon as possible in the decision-making process.

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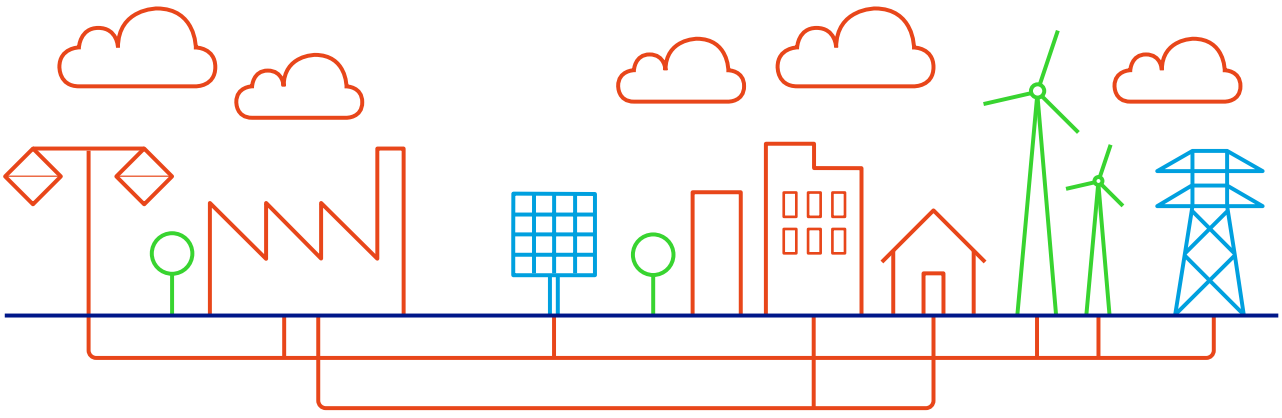
Components of a power system

Component	What part it plays in the power system
Generators/Power Stations	The conversion of low-grade energy (coal, gas, wind, solar etc) into electricity
Transmission	The process of moving large volumes of energy across long distance at high voltage. In England and Wales, this voltage is mainly 275kV or 400kV. We are the Transmission Owner (TO) in England and Wales. There are a further two TOs in Scotland. There are also offshore TOs that own the network connecting offshore windfarms to the onshore system
Distribution	Distribution Network Owners (DNOs) are companies that distribute power to homes and businesses through local networks at 132kV and below
Transformer	Steps up or down the voltage of the electricity as it is transmitted from power stations through the transmission and distribution networks for use in homes and businesses. Using transformers to transmit power at high voltage allows us to reduce 'losses' on the system. We have almost 800 transformers on our network
Reactor	Similar in construction to transformers although these are used to control voltage of the power system to keep it within stable levels. There are 180 reactors on our network
Switchgear	Equipment that is used to switch transmission and distribution equipment in and out of service. Under fault conditions these react within milliseconds to remove equipment to maintain a safe and secure system. We have almost 3000 on our network
Underground cable	Used in built-up areas, subsea, or to reduce visual impact. Cables transmit electricity. They can be either directly buried in the ground, or in specially constructed tunnels. We have over 600km of cable on the network
Overhead line (OHL)	These are wires used for transmitting electricity that are suspended from pylons. These are normally much more economical than underground cables because most of the insulation and cooling is provided by air. We have over 14,000km of OHL in England and Wales
Substation	Where our cables and OHL circuits connect with transformers to supply DNOs or connect power stations, or with each other for onward transmission of electricity to areas of higher demand
Protection and control	Protection systems automatically remove faulted equipment to prevent system instability. Our control systems also allow us to switch equipment in and out of service manually, so we can direct power flows and maintain our network



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Fundamentals of RIIO. Revenue = Incentives + Innovation + Outputs

RIIO introduced a range of new principles

RIIO-T1 started in April 2013 and lasted for eight years. Under this regulatory framework, we had a set of outputs to deliver (from keeping the network safe and reliable, to improving our environmental credentials and from improving customer satisfaction to connecting customers to the network) that we agreed with stakeholders. We forecasted how much work was required to connect new customers and to maintain the assets on the electricity network. We delivered these outputs in return for an efficient revenue allowance that we have been set by Ofgem, our regulator. RIIO also introduced a range of new principles which drive our performance, so we've outlined them below.

Risks and benefits were shared with customers

One of the principles of the RIIO framework was to align the interests of National Grid with those of consumers through the sharing of risks and benefits. This means that, for every pound we saved, 53p of the benefit was promptly passed on to end consumers through lower network charges. This ensured National Grid was driven to find efficiencies to reduce costs and consumers benefit in both the short and long term.

Incentives encouraged better ways of working

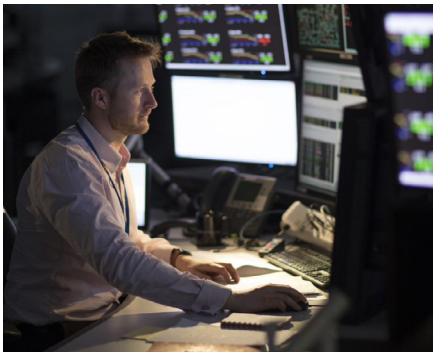
We were encouraged to improve our work across different areas of our operations through a range of incentives agreed as part of the RIIO framework. For instance, stakeholders wanted us to improve how we worked with them and our customers and we received rewards or penalties depending on how we performed. As noted earlier, we have improved both our stakeholder and customer satisfaction survey scores year on year throughout RIIO-T1, showing that the effort that we have put in to improving the customer journey has been rewarded with happier customers. There were other incentives to improve our environmental performance (SF_6 leakage) and the reliability of our supply to the distribution networks and other customers (Energy Not Supplied). We changed the way that we worked to meet the outputs that our stakeholders told us were important to them. On SF_6, the level of leakage isn't as high as forecast at the start of RIIO-T1, but we must do more to reduce the effect that this greenhouse gas has on the environment by reducing the leakage of our assets, whilst keeping the network secure.

Finding a way to innovate in everything we do

The RIIO framework provided a stimulus package to support innovation: The Network Innovation Allowance (NIA); the Network Innovation Competition (NIC); and the Innovation Roll-out Mechanism (IRM). Innovation was not only at the heart of the RIIO regulatory framework but also at the heart of everything that we do. There were many examples where we identified improvements because the innovation funds explored and drove benefits for consumers through innovation projects. A good example of this was how we captured extensive information on end of life assets when they were replaced, helping us to better determine when end of life would be. This innovation meant that we haven't replaced assets earlier than necessary, passing on those savings to customers.

Flexible and fixed allowances

In some areas (like connecting customers to the electricity system) the costs incurred and outputs delivered over the RIIO-T1 were uncertain at the start because the extent of the work involved wasn't clear at that time. So, our allowances flexed using an "uncertainty mechanism" reflecting changing customer requirements. As noted previously, these mechanisms worked as intended, removing allowances that weren't required as the customer's needs changed over the RIIO-T1 period. There was also a fixed allowance for the maintenance and asset replacement work that was needed to continue to provide a safe and reliable electricity network (via Network Replacement Outputs), and to keep the level of network reliability high. We spent the right amount of money at the right time on the right assets to complete these Network Replacement Outputs and not replacing assets where there was no economic or engineering justification for doing so.



Customer bill - how RIIO revenue affects the domestic electricity bill

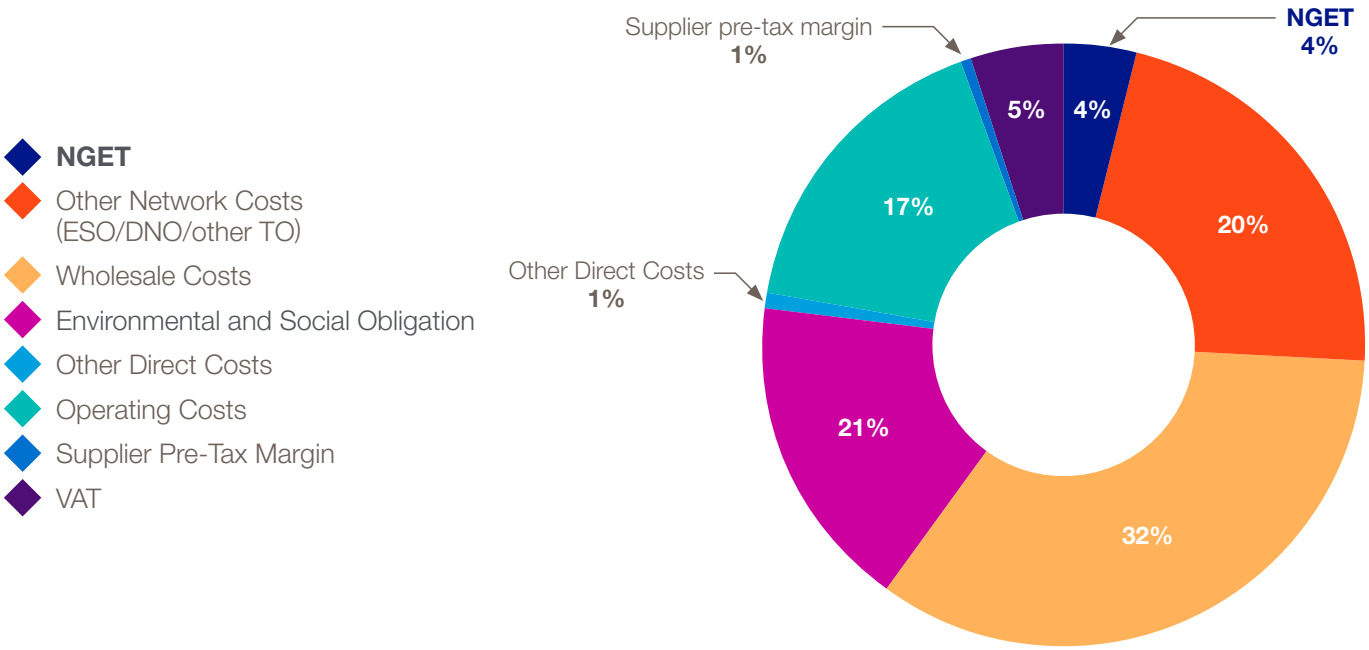
So, what does this mean for the end consumer? Our revenues are recovered through the ESO charging our customers for the services we provide. Ofgem reports that Network costs for both transmission and distribution make up about 25% of the domestic electricity bill that consumers receive from their supply company[1]. Of this total bill only 4% or £19.71 is attributable to National Grid's TO costs. For less than the average cost of a High Street cup of coffee each month, consumers get the benefit of almost £1bn of transmission network investment each year.

Ofgem's RIIO framework has ensured over half of the efficiency savings that we have reported on are passed to customers resulting in lower network charges, and therefore lower electricity bills. In 2014, we estimated that the bill impact would be £22.50 at the start of RIIO-T1 rising to over £27 by 2021. Therefore, £19.71 is a £7.29 (or 27%) saving on the original estimate for 2020/21.This is due to the savings that we have made along with the effect of the uncertainty mechanisms that are in place.

The customer bill infographic shows the cost of the different parts that make up the average domestic electricity bill. As mentioned above, only a fraction of the network costs are attributed to National Grid, some 4% of the overall bill. There is some fluctuation in the total costs because of changes to the timing of our developments, the mid-period review adjustments, and the impact of changes to how much generators pay us to use the system.

In RIIO-T2, we are improving the way that we forecast the amount of allowance that we need to carry out our capital plan (the mix of replacing assets for safety and reliability and the works to connect customers). This will reduce volatility in our charges to customers, allowing them to better plan.

Breakdown of an average domestic electricity bill



[1] Overall network costs account for approximately 24% of the domestic electricity bill, almost 20% of which is distribution network costs not transmission. Source **https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/understand-your-gas-and-electricity-bills**

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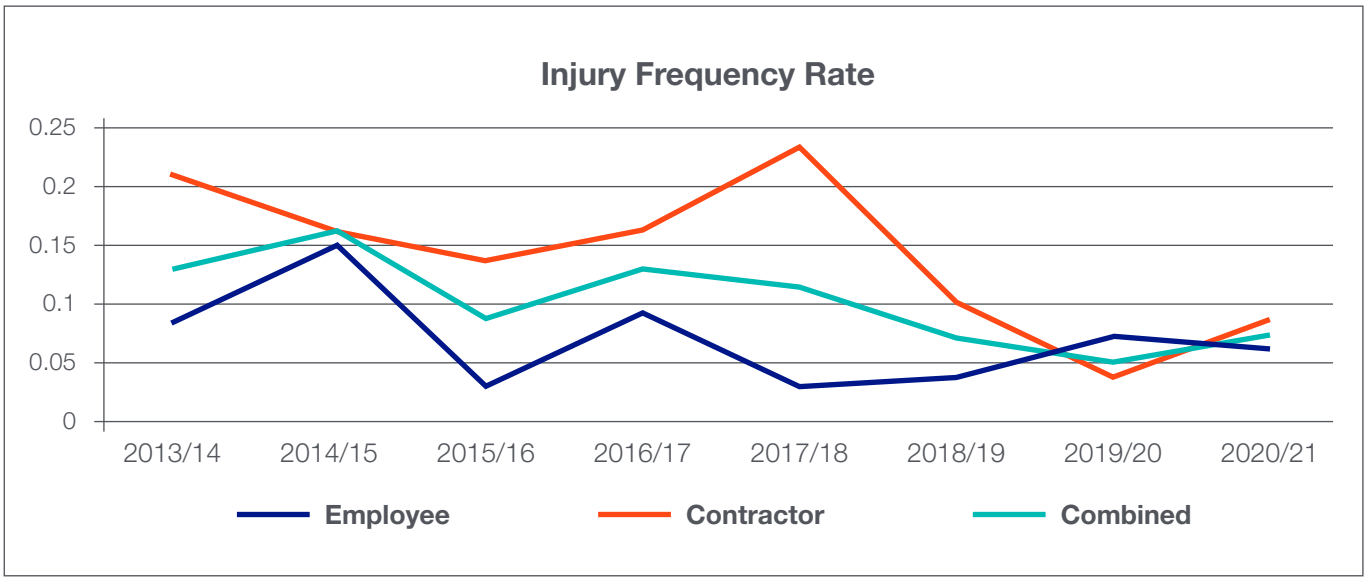
Our RIIO-T1 Outputs in detail

On the following pages you can read about in year and overall RIIO-T1 performance.

We have included details of how much we have spent to connect customers (our load related portfolio) and to maintain and replace our assets (our non-load related portfolio).

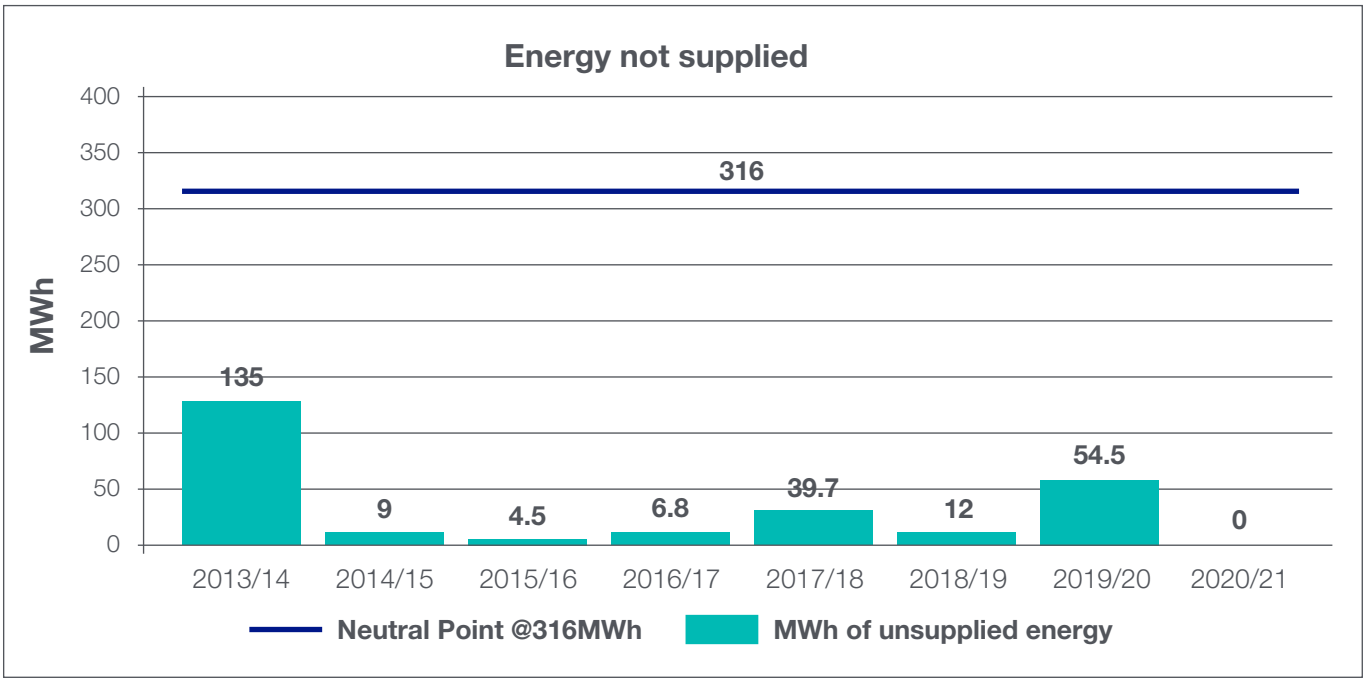
Safety Outputs	Target	Status
Comply with Health & Safety Executive (HSE) legislation We continually review our processes to reduce the risk of accidents to the public, our staff, and our contractors.	To meet all safety legislation requirements.	100% met
Injury Frequency Rate While the RIIO-T1 target is compliance with relevant HSE legislation, we use Injury Frequency Rate (IFR), an industry standard measure of safety, to track our performance. The 2020/21 performance dipped slightly since last year but the RIIO-T1 average is still world class.	To reduce our overall IFR to below 0.1 to show world class safety performance. NB this is not a specific RIIO-T1 target.	IFR of 0.07

The chart below shows our IFR results in RIIO-T1. The measure is number of injuries per 100,000 hours worked.



Reliability and Availability

Reliability and Availability Outputs	Target	Status
Minimise how much electricity is not supplied to our customers because of failures of the assets on our network There were ten Loss of Supply incidents in 2020/21, totalling 74.4MWh of energy not supplied. Only one (zero MWh) event was incentivised against an annual neutral point of 316MWh. In RIIO-T1, the annual average was 32.7MWh of incentivised loss of supply events. This performance will result in an ENS incentive scheme payment of £4.49m in 2023. This performance equates to 99.99995% overall reliability of our network once all ten events are considered.	We have an incentive to minimise 'energy not supplied' against an annual neutral point of 316MWh.	0MWh of unsupplied energyy



Reliability and Availability Outputs	Target	Status
Non-load related network replacement outputs Network risk is the key measure of a reliable and available electricity system. It is measured by the number of our assets that we believe need to be replaced within certain timescales. Non-load related describes the work to refurbish or replace assets as they get older and could become more unreliable. We met the RIIO-T1 target. Delivery cost less than allowances and we are sharing savings with customers.	Compliant with network risk level at end of RIIO-T1. This means that the right number of assets have been replaced to keep the network safe, secure, and available.	Met target level of network risk.

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Non-load related investment portfolio

In 2020/21, even with the impact of new ways of working due to COVID, we continued to deliver the volume of asset replacement and refurbishment needed to keep the network safe and reliable. As noted, the energy not supplied measure was 0MWh, showing that our assets remained available to our customers and end consumers.

Over the RIIO-T1 period, the non-load related expenditure was £3.4bn against an adjusted allowance (net of voluntary deferral and clawback) of £5.6bn, delivering a difference between spend and allowances £2.2bn. These savings over the RIIO-T1 period will return £1.2bn to consumers (or £1.6bn including the voluntary deferral) lowering future bills.

Non-load related cost reductions drivers

There are a range of drivers behind the cost reductions that we have achieved during RIIO-T1. The overall difference between cost and allowance is driven by four main categories:

- **Refining our asset intervention plans.** For example, for protection replacement we have developed a more efficient approach in which we target replacement of higher-risk, life-expired components (e.g. fault detection relays) whilst retaining lower-risk, reliable infrastructure (such as fixed wiring).
- Improving **our understanding of asset health.** For example, by better understanding the deterioration of our transformers and linking this to how network use is changing, coupled with procurement savings from bulk supply of transformers, we drove efficiencies in transformer replacements over RIIO-T1. We have also been able to extend the anticipated life of some overhead line conductor types and fittings.
- Finding **more efficient ways to deliver** work. For example, developing new intervention techniques to maximise in-house capabilities and by collaborating with our supply chain, we have reviewed and reduced scope and developed contracting and purchasing strategies, reducing both delivery time and cost for end consumers.
- Driving **competition in our supply base.** For example, we have driven improvements in the sourcing and procurement of transformers by using new suppliers in lower-cost countries to bulk purchase these assets.

Reliability and Availability Outputs	Target	Status
Protect our critical assets to minimise disruption (physical security) Keeping our critical assets safe from physical attack is important in keeping the nation's lights on. We worked hard to deliver the programme agreed with Ofgem and BEIS in 2015 and refined in 2018. We completed most upgrades by the end of March 2021 and will finish the remainder early in RIIO-T2. Due to the sensitive nature of the programme, we cannot share numbers or locations of assets that are part of the programme.	Agreed programme of work to be delivered	On target
Protect our critical assets to minimise disruption (cyber security) There is an increased risk of cyber-attack on our assets and so we invested additional costs to keep the business safe from cyber-attacks and to keep the lights on. We are working to implement the new requirements of the National Cyber Security Centre directive about network and information systems (NIS).	Agreed programme of work to be delivered	On target

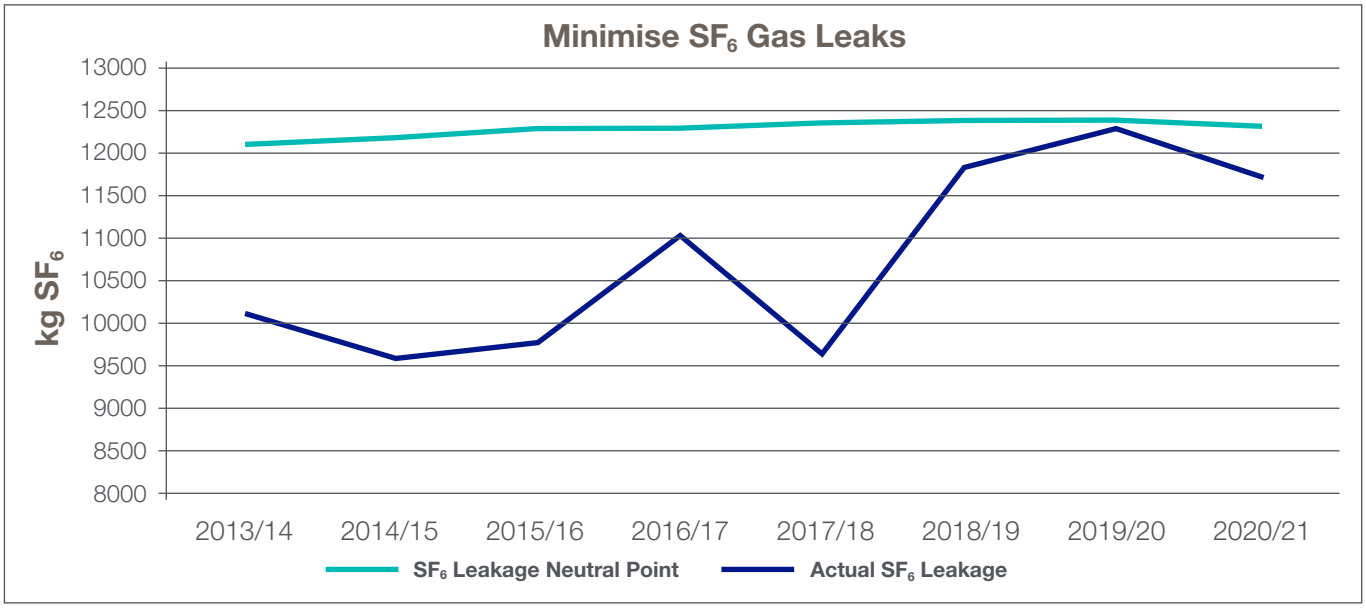
Environmental performance

As a Group, we have set a voluntary target to reduce our Scope 1 and Scope 2 greenhouse gas (GHG) emissions across our UK and US businesses to Net Zero by 2050. The Net Zero target set in November 2019, replaces our previous target of an 80% reduction by 2050 from a 1990 baseline. Our baseline emissions level was set, at group level, at 21.6m tonnes of carbon dioxide equivalent. We have an interim target to reduce our GHG emissions by 70% by 2030, which we are on track to achieve, and are reviewing our interim targets considering our Net Zero goal.

Almost all our emissions are from the fugitive leakage of SF_6 from our switchgear. SF_6 emissions were lower this year, at 11700kg in 2020/21 compared with 12441kg in 2019/20. This equates to a leakage rate of less than 1.3% of our installed SF_6 inventory and is below the target set, but we still plan to do much more to reduce leakage further over the RIIO-T2 period.

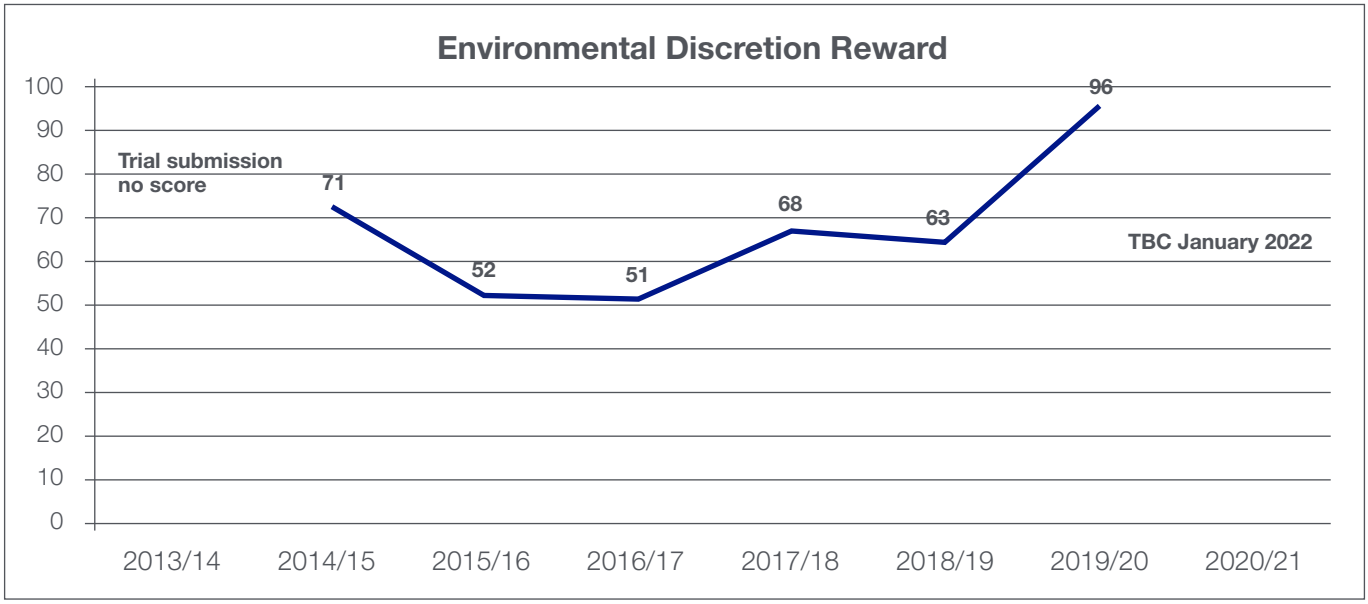
SF_6 is used extensively within high voltage switchgear as it is an excellent insulating medium and is pressurised to ensure no air contaminates it. This leads to a small amount of leakage. The harmful effects of SF_6 upon the global environment continue our focus on the effectiveness of controls around our management of this essential gas and finding alternative insulating gas. We have taken action to prioritise the repair or replacement of high leaking assets, but this is just the start, with much more work to be done in RIIO-T2 to reduce the effects of this harmful greenhouse gas on the environment.

Environmental Outputs	Target	Status
Minimise greenhouse gas emissions, especially SF_6 The incentive scheme neutral point varies depending on the total inventory of SF_6 on the system. This neutral point in 2020/21 was 12375kg. Actual leakage for the year is 11700kg, which is a 6% reduction on 2019/20 levels. We worked hard to manage SF_6 gas leaks during RIIO-T1, implementing a prioritised targeted intervention plan for both repair and replacement activities; this targeted plan has stabilised an upward trend but there is more to do over the RIIO-T2 period. Our 2020/21 performance will derive a value of £0.84m for this incentive scheme.	The target changes annually to reflect the additions and removals of equipment that uses SF_6 from the electricity system. The chart shows the neutral point c12000kg at the start of RIIO-T1, rising to c12500kg now.	Actual leakage of 11700kg



Environmental Outputs	Target	Status
Going above and beyond to deliver low carbon solutions Each year we make a submission detailing the efforts that we have made to find ways to reduce our impact on the environment. Our commitment was recognised in this year's **Environmental Discretionary Award;** a score of 96% moved performance into the 'leadership category' for the first time since the trial submission with a reward of £2m. The submission for the Environmental Discretionary Reward process for 2020/21 was made in June 2021 with an outcome expected later this year.	A score of 50-70% is proactive and 70%+ is leadership. Only leadership scores receive a financial reward.	2019/20 score of 96%

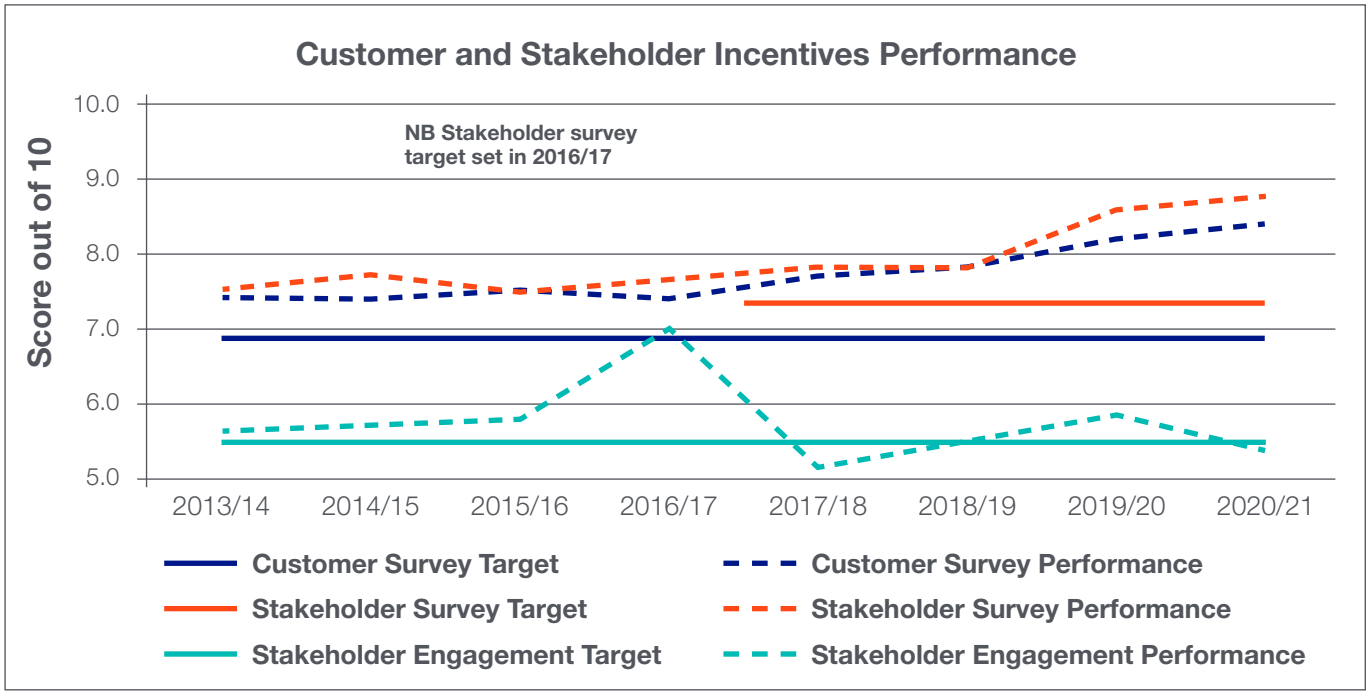
The graph below shows our scores for the Environmental Discretionary Reward. We had a great result last year. We listened to the feedback from the panel from previous submissions, built on what we were doing and reaped the rewards for these behavioural changes. We hope for another good result in this year's submission to reflect the continual effort that we are making as we drive towards a cleaner, greener future.



Customer and Stakeholder outputs

Environmental Outputs	Target	Status
Measure the way that we have satisfied our customers and stakeholders. We carry out independent surveys with our customers and stakeholders which gives an annual score of their overall satisfaction with us. This year we have seen a noticeable increase in the scores compared to both last year's score and the longer-term average score and this reflects the increased focus that we have applied in this area. This will provide an incentive payment, in 2023, of £15.15m.	Customer satisfaction survey neutral point 6.9/10 Stakeholder satisfaction survey neutral point 7.4/10	Customer survey = 8.39 Stakeholder survey = 8.85
Go above and beyond in the way we engage with our stakeholders. This is a submission of a report to Ofgem who then use an independent panel to assess our performance. The score for 2019/20 improved to 5.91 from 5.54 in 2018/19 due to the actions implemented and we hoped to see this trend continue. However, the 2020/21 result slipped back to 5.46 and we'll learn lessons from the feedback to turn this around once again.	Stakeholder engagement incentive scheme neutral point 5.5/10	2020/21 score of 5.46

The chart below shows how we performed during RIIO-T1.



This year saw an unprecedented step change in how organisations engage and serve their customers and stakeholders, due to the impact of COVID-19. In our final year of RIIO-T1, we are proud to have successfully continued our performance improvement since separation from the ESO in 2018/19 despite these challenges, ending this period with a Customer Satisfaction score of 8.39 up from 8.21 last year and 0.98pts up from 7.41 at the start of the RIIO-T1 period. This improvement reflects the continued focus and hard work across our whole transmission business to both understand and improve the way we provide the experience our customers need.

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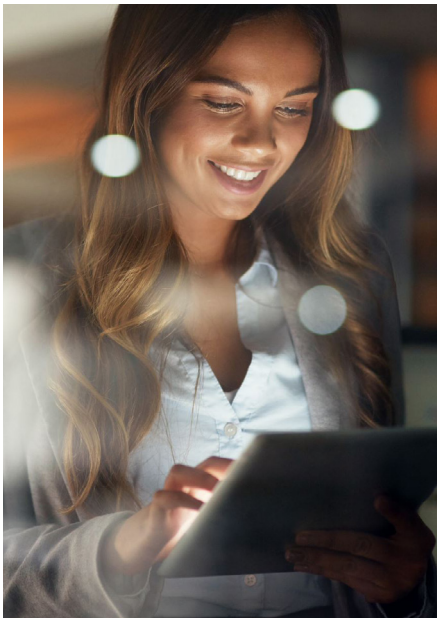
Our Stakeholder Satisfaction score also increased further from 8.64 last year to 8.85, due to the quality of operational engagement and focus on our collective transition to Net Zero. We end this RIIO period 1.32pts up from the starting score of 7.53 received in 2013/14.

In 2020/21, the universal challenge that COVID-19 created provided an opportunity to reach out to our customers and stakeholders, just to see how they were coping and whether they required our assistance. We sought permission to survey at a time they felt ready and able to respond. We also adapted how we engaged and worked together virtually but continued to focus on the areas that mattered most to customers and where we were losing the most satisfaction points. We built on the success of the improvement made in our Outage Management processes in 2019/20, rolling out the changes made that year across all impacted customers this year, and we focussed attention on how we were set up to deliver the end-to-end connection journey to fully prepare for a new way of working in RIIO-T2, and we continued this whilst expanding our reach across more customer and stakeholder contacts than in 2019/20.



Connecting customers

Our load related capital plan was informed by a Future Energy Scenario (FES) that we developed using a combination of market insights and intelligence on specific customer projects. This utilises the four FES scenarios published by the Electricity System Operator (ESO) as a benchmark, but also considers several key changes since the FES publication, including:

- The announcement of the government agreeing a sector deal for offshore wind, signalling increased growth in this area.
- The suspension of the Capacity Market, casting doubt over the timing of several new projects and increasing the likelihood of potential closures of existing thermal plant.
- The government's publication of the Clean Growth Strategy and car manufacturers' commitment to producing electric vehicles, signalling increased growth in the decarbonisation of transport.

As part of our RIIO-T2 engagement, we tested our energy scenario. Stakeholders broadly supported our view of how the energy landscape will evolve, providing assurance that our plan delivers what they expect from us.

The following tables, charts, and narrative describes how we performed in connecting customers and dealing with uncertainty during RIIO-T1.

Customer Connection Outputs	Target	Status
Sending out customer contracts. We have worked closely with the ESO to send customer offers within 3 calendar months. All new or modified offers were sent to customers within the 3 calendar-month period.	All offers to be sent within 90 days of application.	100% sent on time.
Connect new generation customers to our network. Over the 8-year period, we delivered 12GW of connected transmission generation against a baseline of 26GW. We completed over 8GW of the original business plan, but because of customers' changing needs, this number is substantially lower than our original estimate. In addition, we connected 3.6GW of new customer connections that weren't anticipated at the start of RIIO-T1.	To connect all customers in line with their available for commercial load date – the time that the can start generating electricity onto the high-voltage electricity network.	All connections completed on time.

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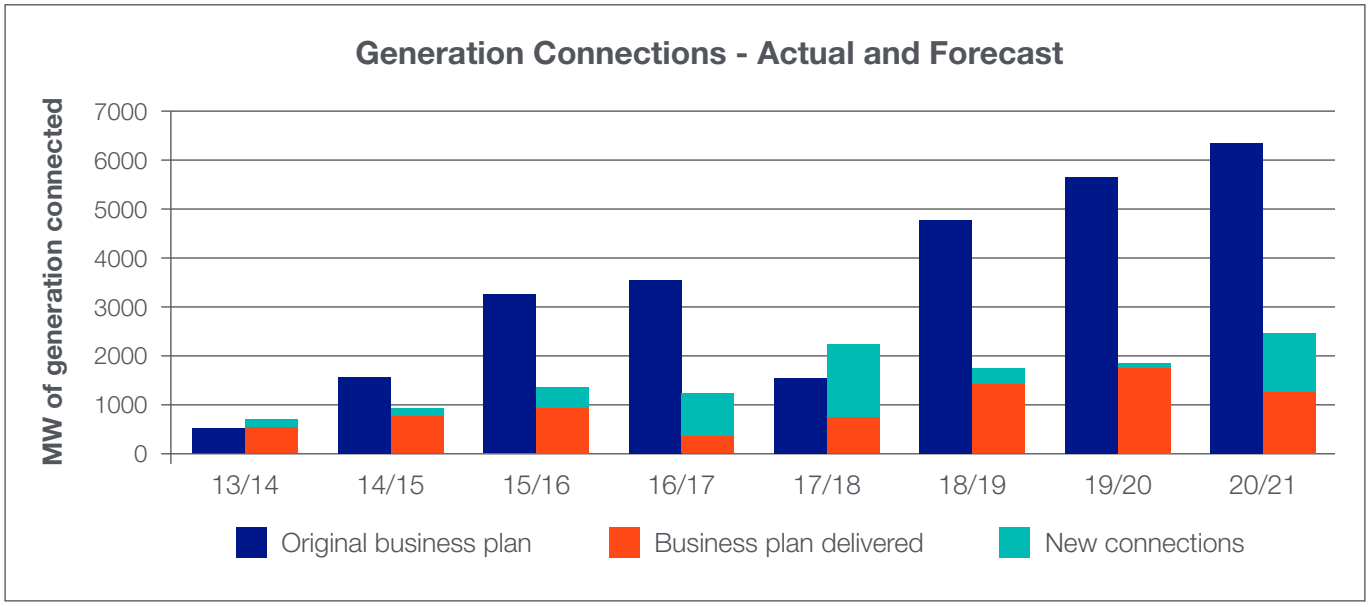
The chart below shows the amount of new generation that was forecast at the start of RIIO-T1, how much of that has connected, and how much unanticipated generation has connected.



Load related investment portfolio

Through discussions with Ofgem in relation to the close-out of the RIIO-T1 price control, it was agreed that performance analysis for the end of the price control reporting should use the original baseline allowance adjusted for the RIIO-T1 mechanistic price control adjustments (e.g. volume-driven uncertainty mechanisms). On this basis, for load-related (LR) investments, we delivered outputs required to meet customer needs at a cost of £3.3bn which is £763m less than allowances of £4.1bn (post excluded services true-up).

The uncertainty mechanisms within the RIIO-T1 price control framework have strongly incentivised us to innovate to find the most efficient way of delivering outputs. During RIIO-T1, we have identified efficiency examples totalling more than £1bn across 20 projects within the LR portfolio alongside delivering innovation, optimisation of the plan and changes to projects' timing.

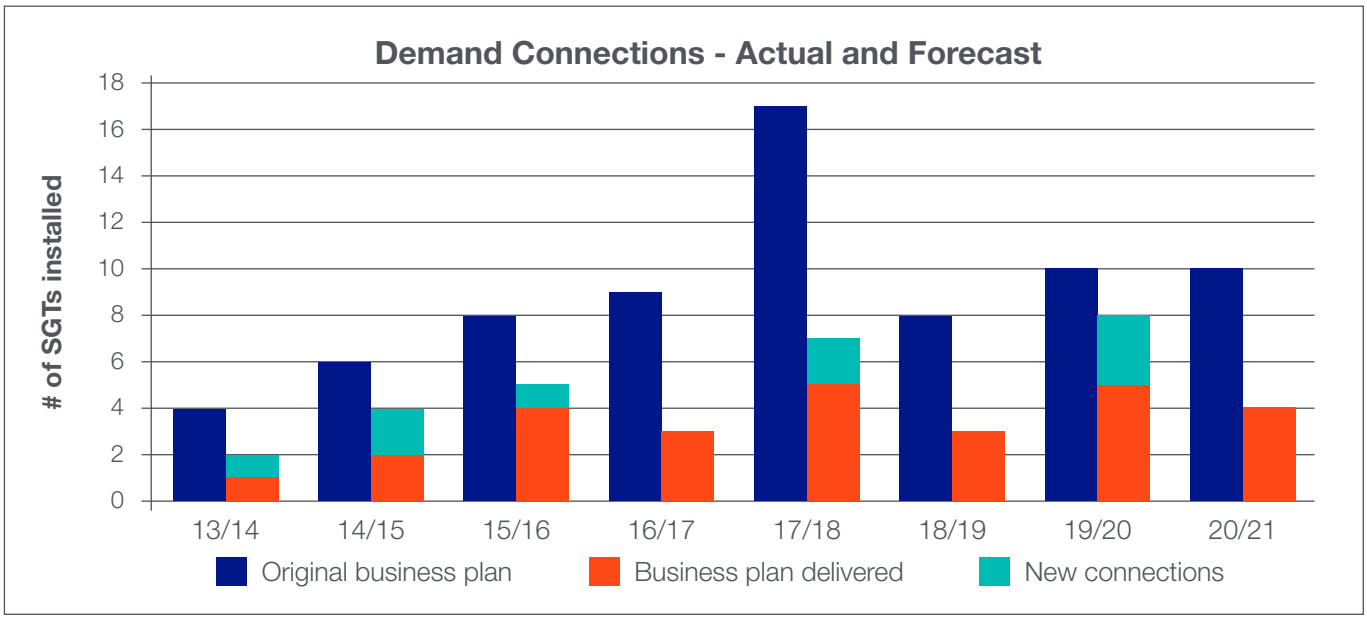
Over and above automatic reductions in allowances, the key factors influencing the difference between spend and allowance are due to efficiency initiatives that we have developed to reduce the cost of delivery and manage the costs and risks associated with uncertainty, totalling savings of c£1.1bn across load-related investment projects. These include:

- Activities to drive down costs within the supply chain.
- Changing industry codes to allow more efficient solutions and drive investment.
- Value engineering and lean engineering design.
- Design variations negotiated with customers to allow lower cost investments while still meeting customers' needs.
- Increased understanding of the critical elements of larger investments and the benefits delivered.
- The introduction of solutions that utilise new power control technologies.
- Improvements in our management of uncertainty associated with customer projects.

Across the eight years of RIIO-T1, the major influence on the difference between expenditure and allowances has been finding new solutions and efficiencies in delivering these. As the requirements of our customers have changed in terms of contracted generation and demand connections, and the associated wider works, we have responded to these to deliver optimised solutions. The changes that we have faced have been in both volume and timing of customers connecting to the system.

Customer Connection Outputs	Target	Status
Connect new demand customers to our network We delivered all the demand connection requirements that our customers contracted us to complete. This volume was lower than the baseline amount forecast (72) in our business plan due to changes in customer requirements. We connected 36 new Supergrid Transformers and 5.4km of Overhead Line (baseline 27km) over the RIIO-T1 period. The graph illustrates the level of churn in our customers' requirements (indicated by the volume of new connections).	To connect all customers in line with their available for commercial load date – the time that they can start taking electricity from the high-voltage electricity network.	All connections completed on time.

The graph illustrates the level of churn in our customers' requirements. This is shown by the volume of new connections (measured by how many Super Grid Transformers (SGTs)) that weren't anticipated at the start of RIIO-T1.

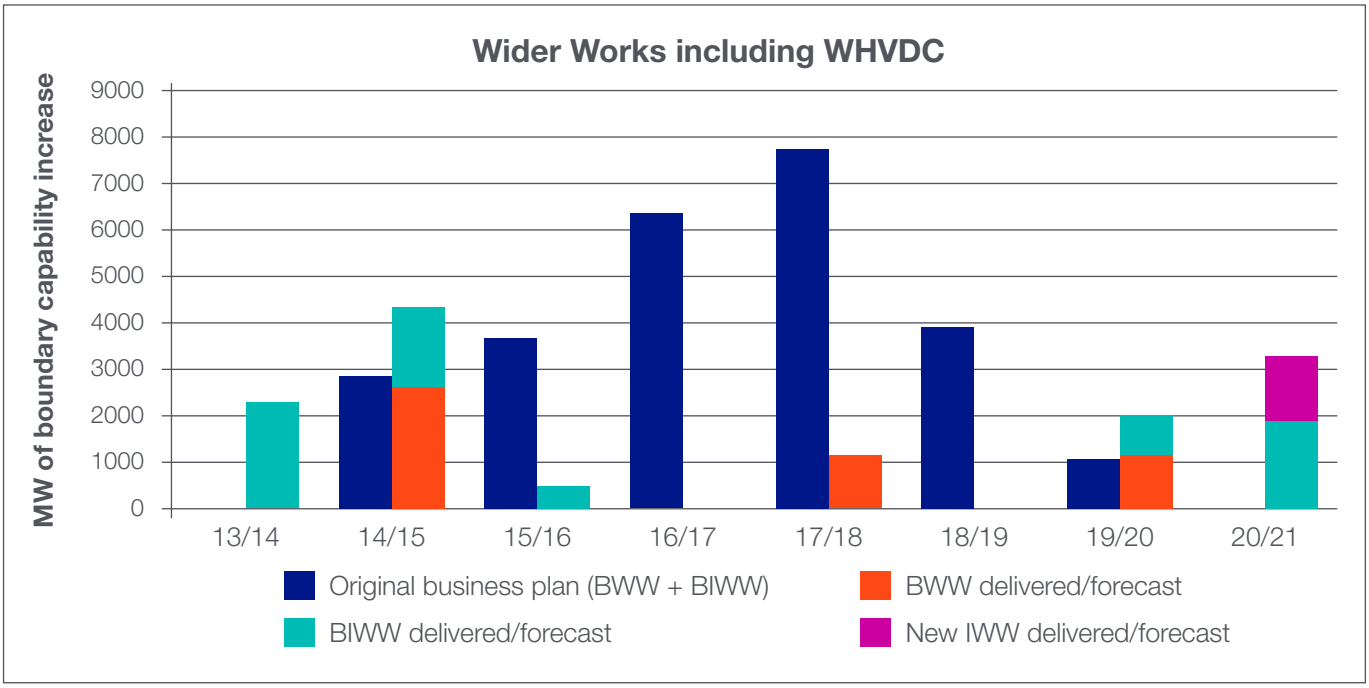


Customer Connection Outputs	Target	Status
Incremental Wider Works (IWW) to strengthen specific boundaries on our network. We have delivered 11GW of boundary capacity increases compared to the business plan forecast of 23GW. We are finding innovative new ways to increase boundary capability via power control devices fitted to overhead lines. We delivered significant improvements to the network in the last year of RIIO-T1 and will complete more in the first years of the next price control.	To complete all required network upgrades in line with signals from the Networks Options Assessment (NOA). This economic assessment recommends the least cost option that will reduce customer constraint payment required by the ESO.	All upgrades completed on time.

IWW investments are required to upgrade or strengthen the network to ensure that new generation customers aren't constrained from producing electricity for the grid. There are technical limitations on the substations and overhead lines on our network and so we need to upgrade these assets to allow electricity to move from where it is created, to where it is needed. We use three primary methods for increasing the bulk transfer capability of the transmission system – investing in new assets (e.g. Western HVDC Link and Hinkley-Seabank new overhead line); increasing the capability of existing assets (e.g. reconductoring schemes); and/or introducing new technological

devices that allow the control of power flows on the network so that use of the existing network can be improved (e.g. Quad Boosters, new electronic power control devices). Allowing this generated electricity to flow onto the network reduces costs to consumers as the Electricity System Operator doesn't need to make payments to the generator to stop generating – a constraint payment.

The graph below shows the actual increases in boundary capability (the measure of how we increased this bulk transfer of electricity) over the 8 years of RIIO-T1. As noted previously, because of changes to our customers' needs, we changed our plans for what strengthening was required. Baseline Wider Works (BWW and BIWW) were the projects that we forecast to complete in our original business plan at the start of RIIO-T1. The new investments that we completed because of the changes to customer needs are shown as Incremental Wider Works (IWW).



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Innovation

Our work is driven by stakeholder feedback, future technological developments, and business objectives. We're constantly seeking new people and organisations who are willing to learn about our industry and help us develop our network for the future.

Our innovation focuses on four main areas of our business:

- Managing assets: developing ways to manage new and ageing assets more effectively to extend their operational lives.
- Service delivery: developing stakeholder and customer focussed capabilities through exploiting existing assets and developing new service-based business propositions.
- Efficient build by developing techniques, ways of working or procurement strategies to build new assets faster and at lower capital and whole life costs.
- Corporate responsibility: doing the right thing, including social responsibility, safety, and sustainability, in all new developments.

The pace of change in the energy industry shows no sign of letting up and we recognise that we have a crucial role to play in making sure the UK has a sustainable energy future. Innovation is at the forefront of that challenge.

As part of RIIO-T1, Ofgem introduced two new funding mechanisms for network innovation. The Network Innovation Allowance (NIA) and the Network Innovation Competition (NIC) mechanisms enabled us to take forward ground-breaking new ideas and technologies that have made and will make a tangible difference to customers and communities.

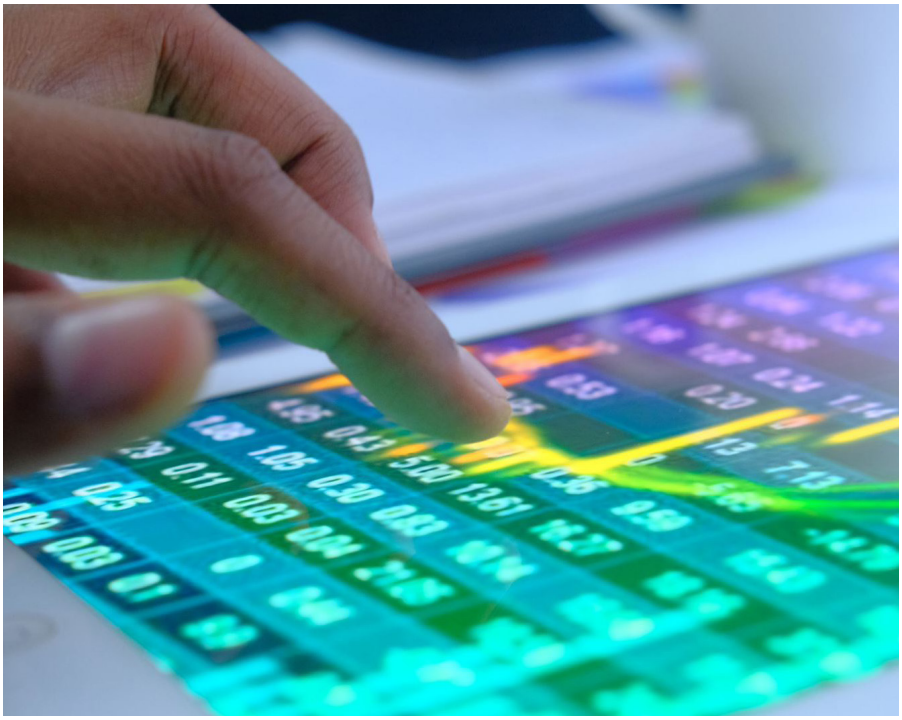
NIA and NIC tell only part of the innovation story within National Grid as innovation is central to the work we do every day to keep the energy flowing to homes and businesses across Great Britain, to drive down costs, and to improve the service we provide to customers and end consumers. We are finding a better way to improve our internal processes to deliver a better customer experience. We are innovating to understand more about our assets every day, so we know the best time to replace, repair or refurbish them. We are choosing new ways of delivering the outputs that we have agreed, and we are using innovative contracting and procurement methods to reduce costs when we are completing the construction. The key NIC project that has continued to develop this year is detailed in the case study below.

The Deeside Project

Using funding from Ofgem's NIC, National Grid is converting an existing, but disused, 400kV substation into a high voltage innovation centre.

The Deeside Centre for Innovation (DCI) is the first facility in Europe where assets associated with electricity networks can be investigated, tried, and tested, prior to being rolled out on live transmission and distribution systems.

The overhead line (OHL) test area was completed in April 2019. This is an important milestone



for the facility bringing the first operational area into service so that innovation trials can begin. The centre is due to become fully operational in early 2022.

As construction progresses, we'll be running innovation projects; these will deliver benefits in three key service areas:

- Accelerating innovation through using this dedicated resource.
- Research and development working with external partners.
- Extending asset life through data capture, testing and analysis of end of life assets.

The project aims to research, deliver, and demonstrate a platform that allows the acceleration of the development of new, innovative technologies and concepts into business as usual. This increase in speed will deliver benefits to consumers faster and allow the de-risking of more complex, disruptive innovations. The project modifies an existing 400kV substation into an easily reconfigurable facility capable of replicating a live substation environment to overcome operational barriers. The project is managed through a technical advisory board, which comprises industry stakeholders.

The project remained on track to deliver the construction works and innovation project trials by October 2021 but due to the delays in starting the work which were exacerbated by COVID-19, it is now forecast to slightly exceed the project budget and deliver later than originally planned. Technical advisory board meetings have been held regularly and the next phase of construction has been approved. The construction programme has been re-phased to manage risks related to site availability, however the changes to the construction programme do not impact the innovation and delivery of consumer benefits.

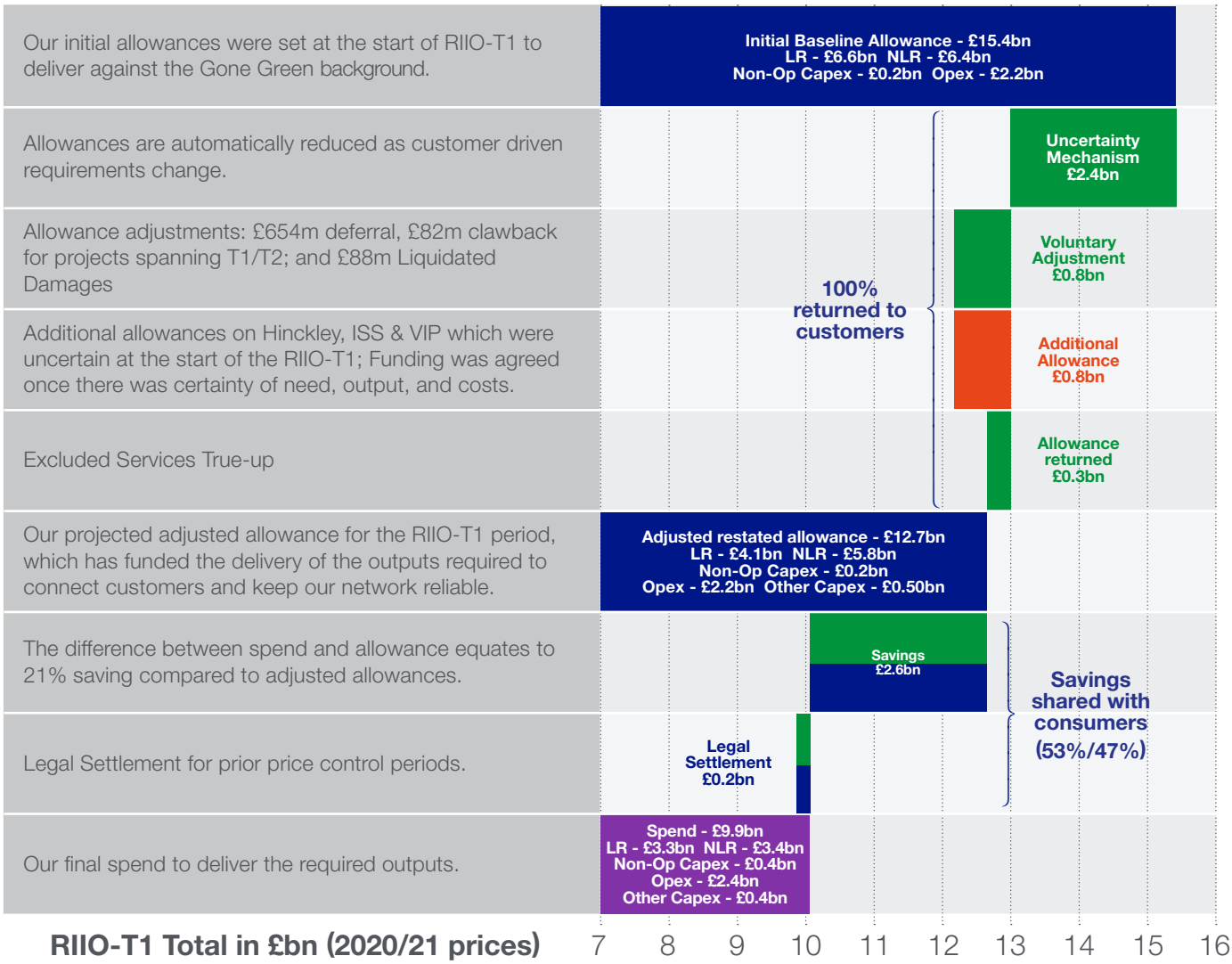
There have been changes to the timeline in the construction of the overhead line test area due to high amounts of asbestos and other contamination found on site. Further surveys have also identified the ground to be unstable and has required us to conduct some reinforcing works prior to any construction activity. These timeline changes have had a knock-on effect and have also delayed the procurement of the equipment for the test area. The biggest delays have been caused by aligning the works schedule to the Connah's Quay Substation delivery as part of the Western HVDC project.

Financial performance - spend and allowances

Our overall total expenditure forecast for the RIIO-T1 period is £9.9bn against forecast allowances of £12.7bn, including the adjustment of £291m for forecast excluded services true-up, £82m for a clawback of RIIO-T1 allowances relating to projects spanning the RIIO-T1/T2 price control period and £88m that we intend to return to consumers following receipt of liquidated damages relating to delivery of the Western HVDC link. This total results in costs which are £2.8bn below allowances, of which £185m results from cartel settlements relating to spend in prior price control periods.

The following graphic shows the eight-year totex position for the Transmission Owner business and highlights how the price control mechanism has worked for end consumers. When the needs of our customers change and investments are no longer required, we amend our plans accordingly and an uncertainty mechanism automatically reduces allowances. This means that consumer bills will not be as high as they were forecast to be at the start of RIIO-T1. In addition, the totex incentive mechanism has incentivised us to innovate and deliver more efficiently. The action of the totex sharing factor will reduce customer charges by a further £1.5bn, which will lower the consumer bill.

The chart below shows the baseline allowance that was set in 2013 to deliver the agreed outputs of the RIIO-T1 price control. The steps in the waterfall show how these allowances have flexed based on the changes to the original business plan. We show where reductions have been returned 100% to customers via lower charges (and ultimately lower consumer bills) and where our savings have been shared with customers through the Totex incentive mechanism.



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The table below shows what we spent in RIIO-T1 in the electricity transmission business to deliver the required outputs and what allowances this led to. This looks slightly different to the waterfall chart above because the allowances reported below reflect the "true" picture, i.e. it shows Totex allowance minus the Western HVDC liquidated damages and excluded services true up.

The first part of the table is called total expenditure (Totex) as it includes both our capital expenditure (Capex) and our operational expenditure (Opex)[2]. The next part of the table shows our adjusted allowances[3] for the whole of the RIIO-T1 period. The final part of the table shows the difference between costs and adjusted allowances with negative numbers meaning costs exceed allowances.

RIIO-T1 Expenditure (£m 2020/21 prices)									
	2014	2015	2016	2017	2018	2019	2020	2021	Total
Load Related Capex	773.45	595.67	544.38	406.63	274.68	246.16	182.36	316.13	**3,339.47**
Asset Replacement Capex	299.96	217.00	249.35	343.76	379.85	293.28	228.31	226.16	**2,237.66**
Other Capex	247.00	79.95	175.54	146.88	149.57	188.51	296.07	274.49	**1,558.01**
Non Op Capex	41.45	33.04	42.79	55.94	41.90	54.15	65.16	73.23	**407.66**
Total Capex	**1,361.87**	**925.65**	**1,012.05**	**953.21**	**846.00**	**782.10**	**771.91**	**890.01**	**7,542.80**
Total Controllable Opex	**280.58**	**307.54**	**312.94**	**287.09**	**295.78**	**314.53**	**304.99**	**267.84**	**2,371.29**
TOTEX	**1,642.45**	**1,233.20**	**1,324.99**	**1,240.30**	**1,141.78**	**1,096.63**	**1,076.89**	**1,157.85**	**9,914.09**

RIIO-T1 Allowances (£m 2020/21 prices)									
	2014	2015	2016	2017	2018	2019	2020	2021	Total
Load Related Capex	1,189.32	889.22	586.02	419.79	185.89	326.26	334.71	550.61	**4,481.81**
Asset Replacement Capex	416.39	428.32	405.30	430.02	576.90	724.45	574.02	447.30	**4,002.71**
Other Capex	239.66	233.40	244.66	249.33	306.54	310.11	330.42	310.67	**2,224.81**
Non Op Capex	57.51	53.80	35.51	39.66	38.80	13.81	17.87	16.30	**273.26**
Total Capex	**1,902.88**	**1,604.74**	**1,271.49**	**1,138.80**	**1,108.13**	**1,374.64**	**1,257.03**	**1,324.88**	**10,982.59**
Total Controllable Opex	**262.30**	**268.02**	**278.18**	**280.92**	**283.51**	**284.86**	**287.76**	**288.65**	**1,234.22**
TOTEX	**2,165.17**	**1,872.77**	**1,549.67**	**1,419.73**	**1,391.64**	**1,659.50**	**1,544.79**	**1,613.54**	**13,216.81**

Variance to Allowance (£m 2020/21 prices)									
	2014	2015	2016	2017	2018	2019	2020	2021	Total
Load Related Capex	415.86	293.55	41.64	13.15	-88.79	80.10	152.35	234.48	**1,142.34**
Asset Replacement Capex	116.43	211.32	155.95	86.26	197.06	431.17	345.72	221.14	**1,765.04**
Other Capex	-7.34	153.46	69.12	102.46	156.97	121.60	34.35	36.19	**666.80**
Non Op Capex	16.06	20.76	-7.28	-16.28	-3.10	-40.33	-47.29	-56.93	**-134.40**
Total Capex	**541.01**	**679.09**	**259.43**	**185.59**	**262.13**	**592.54**	**485.12**	**434.88**	**3,439.79**
Total Controllable Opex	**-18.28**	**-39.52**	**-34.75**	**-6.17**	**-12.27**	**-29.67**	**-17.23**	**20.81**	**-137.07**
TOTEX	**522.73**	**639.57**	**224.68**	**179.43**	**249.86**	**562.87**	**467.89**	**455.69**	**3,302.72**

[2]Capex is broadly the costs incurred in building new assets and replacing existing ones. Opex is broadly the costs incurred for maintaining the assets and running the National Grid business.

[3]This figure is after alignment of allowance categorisation to be consistent with treatment of spend.

We wrote in earlier sections about the load related and asset replacement capex spend and allowances, and the reasons for differences between the two. Below is some further detail on other areas from the table above.

Non-operational Capex

The NGET Non-Operational capex spend in 2020/21 was £73.2m, which is £8.1m higher than in 2019/20. This predominantly reflects £13.1m increased IT expenditure offset by lower than expected vehicle purchases and property investment. A large transformational IT programme called Project One's expenditure has continued to account for a large proportion of spend (46% of IT spend in 2020/21). This project aims to provide efficiencies in data management to transform finance processes; the scope was expanded in 2019/20 and focus in 2020/21 has been on working towards deployment with a total investment within the RIIO-T1 period of £77.2m, reflecting its wider scope and transformative nature in preparation for RIIO-T2. Our 8-year expenditure position is £407.7m which is £134.4m higher than allowances. This mainly reflects the additional costs of IT transformation projects and cyber security improvements.

Operating expenditure (Opex)

Controllable Opex (i.e. what we spent running the business, paying for staff, buildings, our asset maintenance and fault repairs, etc) for 2020/21 was £264m against restated allowances of £289m, reflecting an underspend of £25m partly due to savings arising from our efficiency and restructuring initiative. Year-on-year controllable costs have decreased by £41m mainly due to a release for historical application fees (£10.4m), legal settlements (£3.8m) and a decrease in cash spend relating to our prior year cost efficiency and restructuring programme.

Over the 8 years of RIIO-T1, controllable Opex is £2,360m which is £126m higher than restated allowances of £2,234m. Some of the reasons for this increase include:

- higher IT costs from projects improving our IT landscape to deliver more efficient decision-making and data reporting has investment in capex as noted above and in Opex here.
- higher costs than forecast incurred in the restructuring programme which will lead to a lower head count and leaner structure in future periods.

Return on regulated equity (RoRE)

The Return on Regulatory Equity (RoRE) figure is a key measure by which Ofgem compares operational and financing performance across Network Operators. This encompasses the costs and allowances associated with a RIIO regulated business, including totex, financing, tax, incentive performance and company funded innovation costs. A key concept in the RoRE calculation is enduring value. This aims to show the full value the regulated company has earnt during the price control period and therefore adjusts for allowances and incentives that are not related to RIIO-T1 performance and known true ups that will impact RIIO-T1 performance during the close-out process

Our eight-year average operational RoRE was 9.51% for NGET. The decrease in RoRE of 0.01% from last year reflects the change to totex performance due to the re-phasing of allowances within the RoRE. This shifts allowances from the early to later years of RIIO-T1 to better align with actual spend profile. We are showing the effect of reflecting performance when it will be delivered, e.g. the IWW outputs to be delivered in the first two years of RIIO-T2. This number will remain subject to several external factors (e.g. timing of customer driven projects), the outcome of any close-out adjustments and the impact of the anticipated adjustment to allowances for the Western HVDC Link to reflect the removal of any timing benefit arising from the delay to this project.

How to contact us and other useful links

If you have questions or opinions on this performance summary, please get in touch with us:

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To find out more about customer bills and the impact of network costs, visit **https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/understand-your-gas-and-electricity-bills**

For information on our Innovation activities, visit **https://www.nationalgrid.com/uk/electricity-transmission/innovation/imagining-tomorrow**

To find out more about our electricity business and the market we operate in, visit **https://www.nationalgrid.com/uk/electricity-transmission/about-us/how-we-work**

For further information on our financial performance, visit our dedicated website at **https://www.nationalgrid.com/investors**

Legal disclaimer

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