

Energising the UK

Onshore and offshore electricity transmission

We are working **right now** to deliver Net Zero and keep the network safe and reliable

Investor Relations | November 2021

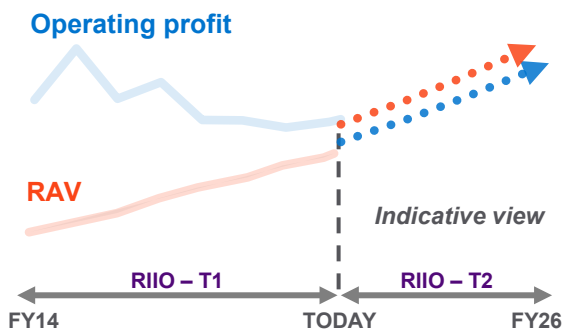
The need is pressing

The UK Government's 10 Point Plan for a Green Industrial Revolution:

- 40GW of offshore wind capacity in the UK by 2030
- Delivering new and advanced nuclear power
- Accelerating the shift to zero emission vehicles

The transmission network will be key to delivering the 2030 and 2050 targets, and beyond

Aligning asset and earnings growth



3 key reasons why we expect operating profit to grow in RIIO-T2 and better align with RAV growth:

1. **Investment growth**
2. **Framework changes**
 - RPI → CPIH
 - Capitalisation rate changes
3. **100bps performance target**

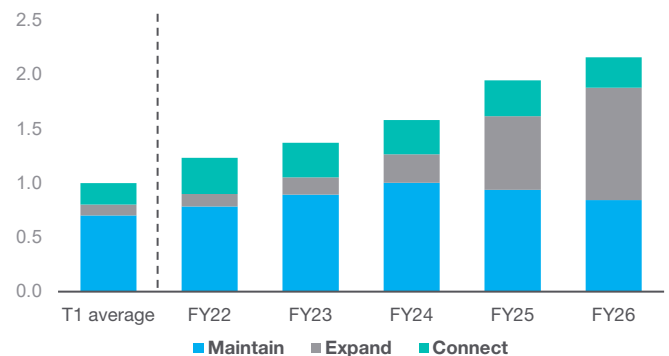
Investment is critical to success

National Grid must do 3 principle things to meet this challenge:

1. **Connect** new sources of clean energy and our customers to the network
2. **Expand** the network so more electricity can flow to where it is needed
3. **Maintain** a world class safe and reliable network that is increasing in size every year

RIIO-T2: A period of sustained investment growth for ET

£8bn investment breakdown



Overall 60% increase in p.a. investment from £1bn in T1 to £1.6bn in T2

Reach high point of £2bn p.a. in FY26

£8bn guidance can be broken down as:

£4.5 billion
to maintain the reliability of the network

£1.5 billion
to connect new customers

>£2 billion
to expand the network to facilitate Net Zero

We are breaking new ground and using world leading innovations to transform the transmission network

We are incredibly proud to show you the work we are delivering **right now**, to make net zero a reality:

London Power Tunnels



We are rewiring the capital, reinforcing London's electricity supply for decades to come. A six-year, £1bn project in South London via 30 km of deep underground tunnels.

Hinkley



A £900m investment, connecting low carbon electricity to six million homes in the South-West using the world's first section of T pylons and underground cables in areas of outstanding natural beauty.

SmartWires



We are investing in 48 SmartValves, 5 circuits, 3 substations, all designed to move power to where it's needed, unlocking 1.5GW of extra capacity, saving £250m and reducing environmental impacts.

Transformation

We have clear line of sight of the investment required in RIIO-T2 and are transforming our business to deliver this investment as efficiently as possible. We are:



Developing new innovative ways to **expand** the network across the end to end process, through reducing time and cost to obtaining consent



Reimagining how we **maintain** the existing network through self-delivery, standardisation and digitisation.



Transforming how we **connect** our rapidly changing customer base to connect customers quicker and at a lower cost through digitising our processes and standardising our designs.

These transformational changes will support our ability to reach our target 100 basis points of annual outperformance through the RIIO-T2 period

Beyond the next five years, there is a clear pathway of investments to meet the 2030 targets

Major growth in supply and demand

As we look to 2030, the changes in electricity supply and demand will accelerate:

- The UK's 40GW offshore wind commitment by 2030, from a base of 10GW
- The UK ban on the sale of polluting cars by 2030
- The start of the electrification of home heating, from under 500,000 homes today, to potentially 5 million by 2030

The EV revolution

As the electric vehicle revolution takes hold, there could be up to

13 million electric vehicles on the road by 2030 compared to under 500,000 today

To enable this change we have ambitions to invest

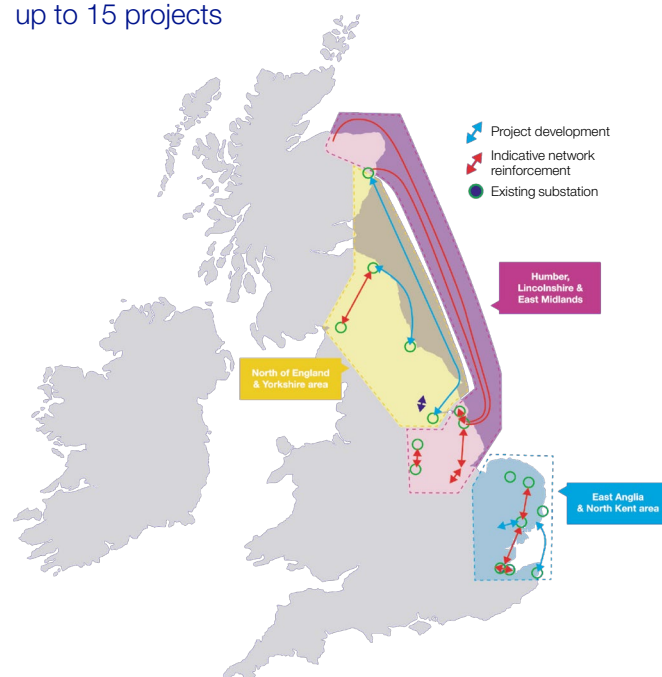
£1 billion to contribute to the 6,000 super fast charging points needed by 2035



National Grid Electricity Transmission to 2030

The 40GW offshore wind target to 2030 requires

£10 billion investment to the transmission network up to 15 projects



We continue to engage with both Ofgem and Government on the potential to introduce legislation to enable competition for these onshore investments, and whether that's in the interests of consumers.

We anticipate that the timescales for delivery mean there is not time to introduce competition for the earlier sub-sea cables and certain onshore projects. For the later projects National Grid are well placed to bid and win.

Maintaining security and resilience

We still need to continue to invest in our existing assets to ensure we maintain security of supply and ensure our network remains resilient.

We are likely to invest £900m p.a. in RIIO- T2 and this is forecast to remain at those levels in RIIO-T3.

National Grid Ventures to 2030

The government's ambition is for 18GW by 2030, and significant investment in our interconnector portfolio will be required to reach these targets.

Installed by end 2023...

6
interconnectors

7.8GW
capacity

Capacity to import
15%
of the UK's energy

Multi-purpose interconnectors

We are currently working with BEIS and Ofgem to further develop the cap and floor regulatory regime to apply to Multi-Purpose Interconnectors

We are actively involved in the development of further investment opportunities in the North Sea. These include multi-purpose interconnectors, which when coordinated in the design stages will:

- Reduce impact on coastal communities, with fewer individual connections
- Provide significant cost reductions through shared assets, passing benefits onto the consumers
- Allow wind operators to access two markets, sharing renewable energy resources

Pathway to 2050

Beyond 2030 electricity supply and demand will continue to transform

- 2035** The UK is committed to achieving a 100% clean electricity network by 2035
- 2040** By 2040 the UK could be a net exporter of electricity
- 2050** By 2050 the UK will rely on electricity like never before

Demand could double compared to 2030 due to;

- the electrification of road transport potentially almost complete with up to 90% of vehicles electric
- many more homes being heated with electricity
- rail, haulage and maritime increasingly powered and enabled by electricity

This demand could be met by up to 140GW of offshore wind, treble the 2030 target

Transmission networks will need to continue to change to meet these changes in supply and demand, with investment in transmission networks potentially doubling from 2030 to 2050

Further information

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