

Energising the UK

Onshore and offshore electricity transmission

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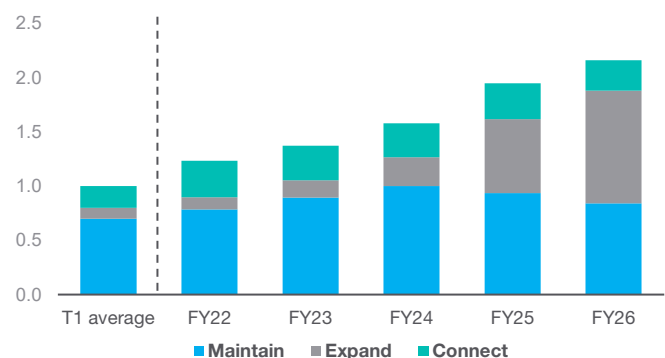
This breakout will show you how RIIO-T2, which runs from April 2021 to March 2026, is the start of a period of sustained growth as we invest to maintain, connect, and expand the transmission network.

National Grid owns and operates the transmission network across England and Wales, as well as operates the network across Scotland, with a regulated asset base of over £14.5bn

We plan to invest £8bn of capex over next 5 years in the UK Electricity Transmission System, a 60% increase from the RIIO-T1 investment.

- £4.5bn to maintain reliability of the existing network; at £900m pa this represents an increase from the £700m pa invested in RIIO-1 which reflects the need to invest in our aging infrastructure base. This includes £800m on our London Power Tunnels project.
- £1.5bn to connect new customers; including £400m to connect Hinkley Power station and smaller investments to connect batteries and new customers such as data centres. The regulatory framework allows allowances to automatically flex if more generation or demand wants to connect in RIIO-2.
- £2bn to expand the network to facilitate Net Zero. It is in the expand area that we see the major investment growth starting in RIIO2 but growing in RIIO3 and beyond.

£8bn investment breakdown



We are transforming our business to deliver this investment as efficiently as possible to benefit consumers and shareholders.

Transforming how we connect our rapidly changing customer base to connect customers quicker and at a lower cost. We are digitising the customer processes, enabling more self-service and transparency of information, using digital technology to standardise our connection designs.

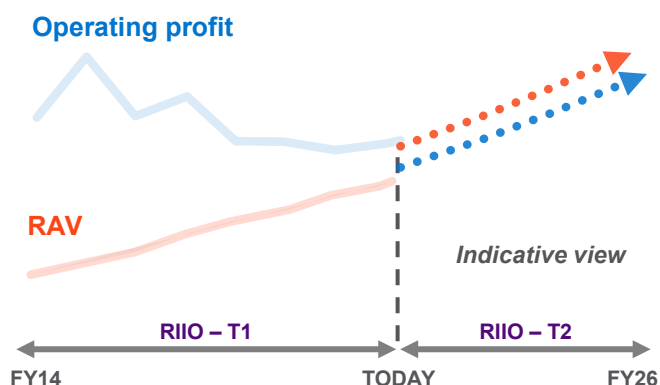
Developing new innovative ways to expand the network across the end to end process. Increasing capacity from our existing network remains a priority and we will continue to utilise the smart wires technology. We are currently working with stakeholders to reduce the time and cost for obtaining planning consent – which will be critical to meeting the Governments 2030 commitments.

Reimagining how we deliver our work on the existing network. In addition to standardising our designs to lock-in efficiencies at the beginning of the process, we are increasingly using internal resources to design, develop and project manage T2 asset health interventions. Cost savings are realised through lower contractor costs and greater flexibility to adapt to plan changes. 10-20% unit cost savings have been realised in initial projects.

RAV growth and profit growth in RIIO-T2 contributes to the Group's 6-8% Asset Growth, 5-7% Earnings Growth and delivering this within credit metric bands

RIIO-T2 operating profit growth drivers:

1. Investment growth leads to an increase in the regulatory asset value (RAV) which in turn drives higher revenues
2. Negotiated changes to the regulatory framework in RIIO-T2 improve our revenue position. Driven by moving from RPI to CPIH increases in period revenue collection; and greater alignment between regulatory capitalisation rates with our actual rates, which means higher recovery of revenue within RIIO-T2 than RIIO-T1.



The Government's 40GW of offshore wind by 2030 requires investment to the transmission network of around £10bn (£8bn in RIIO-T3) up to 15 projects along the East Coast across the length of the country, including:

Two planned offshore HVDC projects between Scotland and England out to 2030 to help bring Scottish Wind capacity to demand centres further South. An offshore HVDC link between Suffolk and Kent to help bring East Coast wind to demand centres in the South.

Around 10 new onshore projects to reinforce the network and bring clean power from where it is generated, to where it is consumed onshore.

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

Timescales of delivery for the HVDC and early onshore projects make the introduction of competition unlikely but there is still scope to introduce competition on some of the later projects. We are confident National Grid are well placed to bid and win.

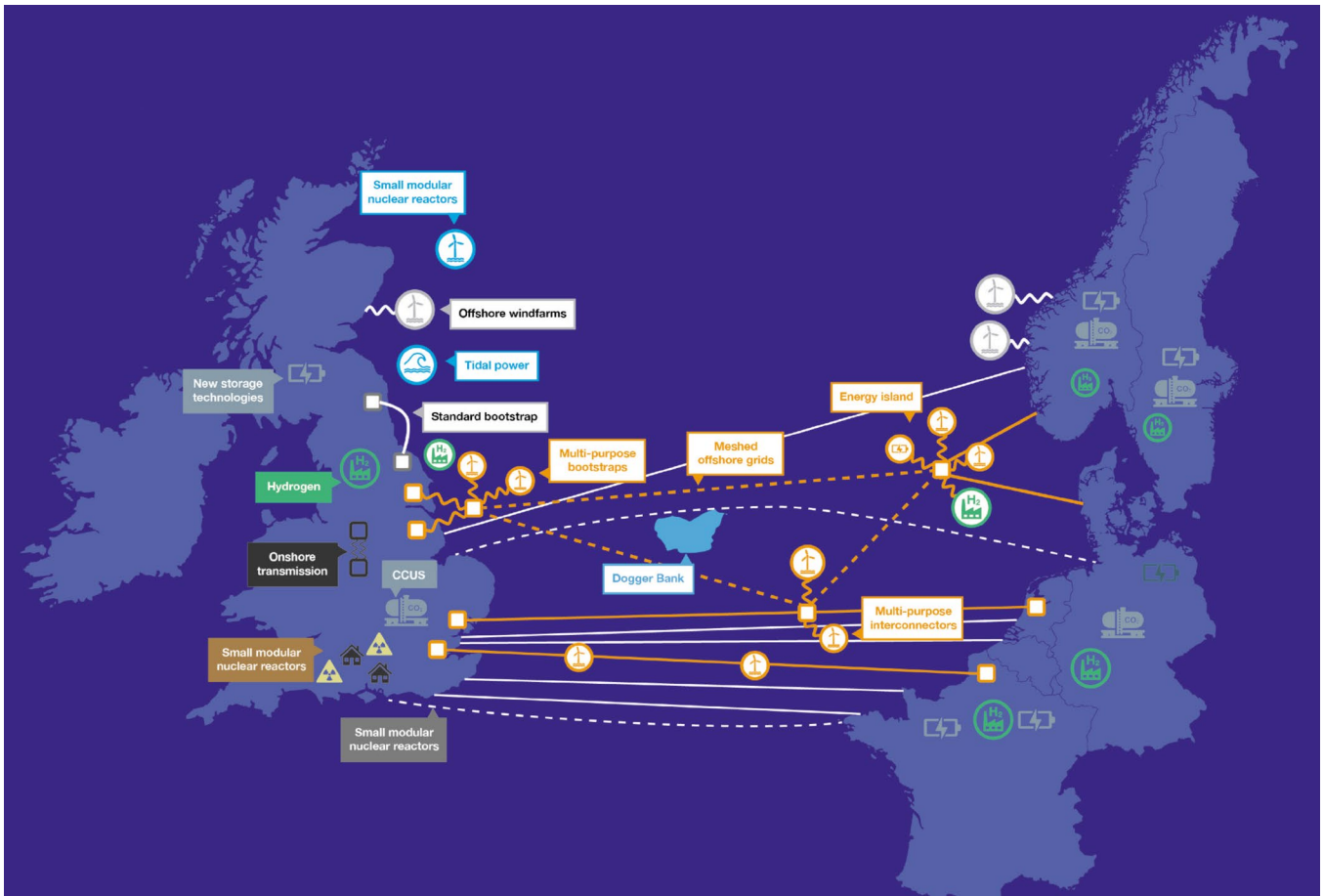
We will still need to connect demand customers, with an increasing number linked to the electric vehicle revolution.

The Government has set aside £950m to invest in infrastructure to facilitate new charging points that will be needed by 2035.

Continued investment to maintain security of supply and network resilience. We are likely to invest £900m p.a. in RIIO-T2, and this is forecast to remain at those levels in RIIO-T3.

As National Grid Ventures, we already have a major presence in the North Sea:

- Six Interconnectors, five of these are operational to France, Netherlands, Belgium, and Norway which total 6.4GW of capacity.
- The 1.4GW Interconnector to Denmark, called Viking Link, is in construction and due to commission at the end of 2023.
- On completion, we will be able to import c.15% of the UK's energy, or export energy when we have an abundance of wind or solar power, ensure a greener, more efficient power system.



The UK and the EU have ambitions for the North Sea, creating co-ordination between wind-farm developers, interconnector developers and the transmission networks in the countries that bound the North Sea.

- Phase 1 has been the development of point to point interconnectors between two countries.
- Phase 2, broadly to 2030, we expect to see two new types of Interconnector

Multi-purpose (or hybrid) interconnectors - interconnectors that connect two countries, picking up off-shore wind farms along the way. This means:

- Wind farm operators have access to two markets, sharing renewable energy across countries.
- Fewer landing points, fewer converter stations and less disruption for coastal communities, making these projects easier to secure planning consent for.

Energy Islands - largely man-made islands in the North Sea with intensive energy generation and the opportunity to include battery storage, hydrogen production and potentially CCUS infrastructure too. They will connect to 2 or more countries and allow even greater sharing of renewable energy.

At present, we are exploring phase 2 ‘pathfinder’ projects to the Netherlands and Belgium. These are supported by the UK government, and could enjoy derogations allowing movement ahead of legislative or regulatory changes. We have also agreed a working relationship with Statnett in Norway, supporting each other in exploring phase 2 opportunities.

- Phase 3, beyond 2030, creating a holistic, co-ordinated grid in the North Sea.

The future will always be uncertain, but that the transmission system will need to undergo a seismic transformation to meet Climate Change targets is not.

- By 2035 the UK could have a 100% clean electricity network.
- By 2040 the UK could be a net exporter of clean energy.
- By 2050 the world will rely on electricity like never before.

Growing Investment opportunities exist onshore and offshore for decades to come - to connect renewable forms of generation and meet rising demand for electricity as we decarbonise transport and heat.

We are ready and we are doing it right now.

Thank you.