

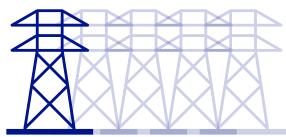
nationalgrid



**Network
regulation as an
enabler of net zero**

The scale of the challenge

The government has set a target to decarbonise the power system by 2035,¹ while at the same time demand for electricity will increase by 50%.² For us, that means by 2030:



Building over

5 times more

transmission overhead or underground lines than we have built in the last 30 years.



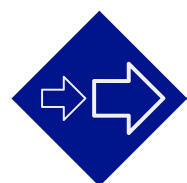
Building around

4 times more

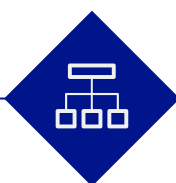
transmission marine cables than our current offshore network.

The nature of the challenge

Delivering for 2035 requires a new way of working and planning our investment. There are three main challenges we need to overcome to meet our goals:



Speed of delivery



Managing supply chain constraints



Attracting the investment needed

Responding to the challenge:

recommended approach to the regulatory framework

Either a 'mix & match' based approach, incorporating elements of all three parts of the framework design put forward by Ofgem, applying the most appropriate model for each category of investment, reflecting its characteristics;

Or a cost pass-through ('ex-post') approach, with a fixed rate of return across all investment, which enables networks to progress delivery at speed through a simpler and more agile framework.

We believe the future framework needs to adhere to these principles:

- Establish need and delivery responsibility early
- Enable anticipatory investment
- Be streamlined, agile and proportionate
- Enable stable and predictable returns to attract investment

We must ensure the regulatory framework is set up for delivery. It should focus on consumers, take a holistic approach, enable us to tackle supply chain challenges, ensure we can attract the investment required, and embed anticipatory investment.

Focus on consumers

The future framework needs to focus on the whole-bill impact of our investments. Our analysis shows that significant capex expenditure on electricity networks results in a net reduction in consumers' energy bills. It is also important to balance current consumers with future consumers when assessing the benefit to consumers.

Holistic approach

The future framework needs to unlock consumer and wider society benefits by adopting a holistic approach to network investment. When we get access to a site, we need to be able to undertake all the work necessary there to deliver a future-ready network, avoiding repeated site access costs and minimising disruption to local communities.

Supply chain challenges

Geopolitical factors are impacting the pool of suppliers and there is increased competition within the supply chain. There are increasing lead times for the supplies needed for the work required on the existing and future network to reach net zero targets. There is an acute need to create a pipeline of skilled workers. We are also facing volatile and increasing costs across the supply chain.

Attracting investment

We need to attract investment at the scale and pace required to unlock the future consumer benefits with returns that are acceptable for the risks involved in investing in the energy transition. Market conditions are no longer stable, and the level of investment needed is unprecedented. We need to make

sure the financial framework compares favourably internationally as we are operating in a global market. Market conditions are no longer stable, and the level of investment needed is unprecedented. We need to make sure the financial framework compares favourably internationally as we are operating in a global net zero market.

Embedding anticipatory investment

The future framework needs to ensure investment can be made not just to meet immediate firm needs, but to support what we know will be needed in the future, where demand is expected to increase, and the energy system must withstand the new extremes that climate change delivers.

We need Ofgem to approve the need for investment on a rolling basis and in an agile way so networks can begin upgrading the system. Ofgem's Accelerated Strategic Transmission Investment (ASTI) model, which approved future-looking network expansion outside of the existing regulatory cycle, provides a good basis for developing these approaches in both transmission and distribution networks. As highlighted in our 'Delivering for 2035' publication,³ a Strategic Spatial Energy Plan is needed to provide an authoritative evidence base for key clean energy projects that are needed to deliver our 2035 and 2050 targets.



References and sources

- ¹ As outlined in Net Zero Strategy: Build Back Greener, October 2021, the government committed to "fully decarbonise our power system by 2035, subject to security of supply"
- ² Climate Change Committee's (CCC's) Balanced Pathway for the Sixth Carbon Budget
- ³ National Grid's Delivering for 2035: Upgrading the grid for a secure, clean and affordable energy future, May 2023

1-3 Strand
London WC2N 5EH
United Kingdom

Registered in England and Wales No. 4031152

nationalgrid.com