



**A4S**

**CFO LEADERSHIP  
NETWORK**

# EMBEDDING A CARBON PRICE INTO INVESTMENT DECISIONS

**Case study: National Grid**



THE PRINCE OF WALES'S  
CHARITABLE FUND

national**grid**

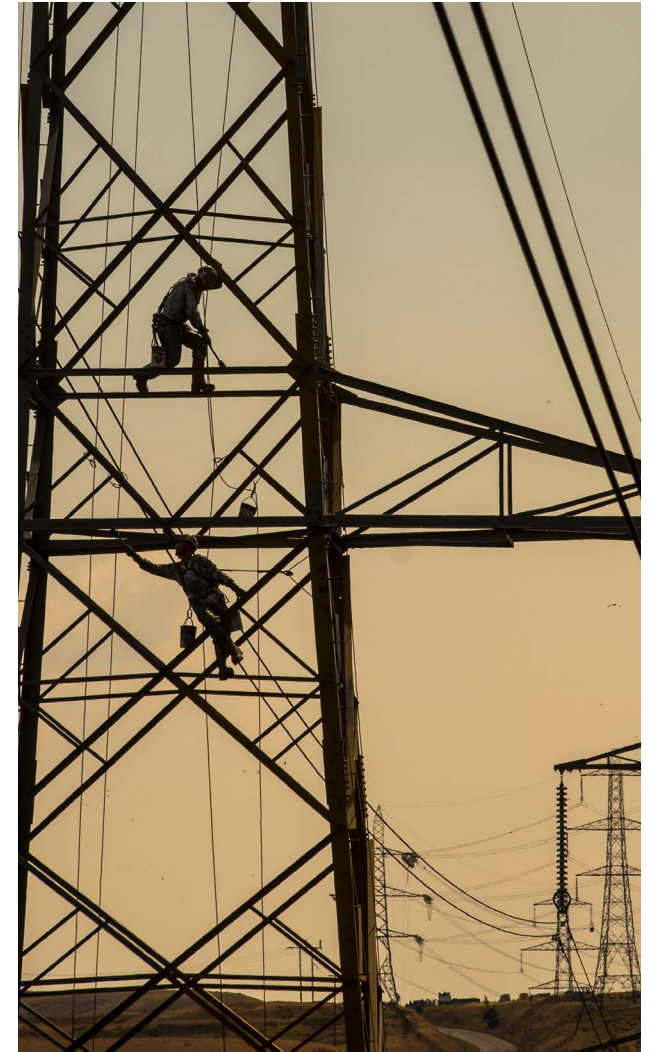


# WHAT?

National Grid lies at the heart of a transforming energy system, spanning the UK and the US. As the world changes to embrace cleaner energy and businesses shift to operate in a more responsible way, we are leading that charge in gas and electricity supply. We are focused on finding ways to decarbonize the energy system; from building interconnectors to allow the UK to share clean energy with countries in Europe, to investing in renewable energy generation in the US.

In the UK, we own and operate the electricity transmission network in England and Wales, with day-to-day responsibility for balancing supply and demand. We also operate, but do not own, the Scottish networks. We also own and operate the gas National Transmission System in Great Britain, with day-to-day responsibility for balancing supply and demand. As Great Britain's System Operator, we make sure gas and electricity is transported safely and efficiently from where it is produced to where it is consumed. In April 2019, the Electricity System Operator became a standalone business within National Grid, legally separate from all other parts of the National Grid Group.

In our electricity transmission business, we use a carbon price to inform investment decision making, alongside other tools such as low-carbon policies and carbon weightings. We have embedded carbon data into our existing cost estimation tool which is used by our investment engineers to cost proposed investments. This enables us to measure the carbon impact of new infrastructure when we are making investment decisions.

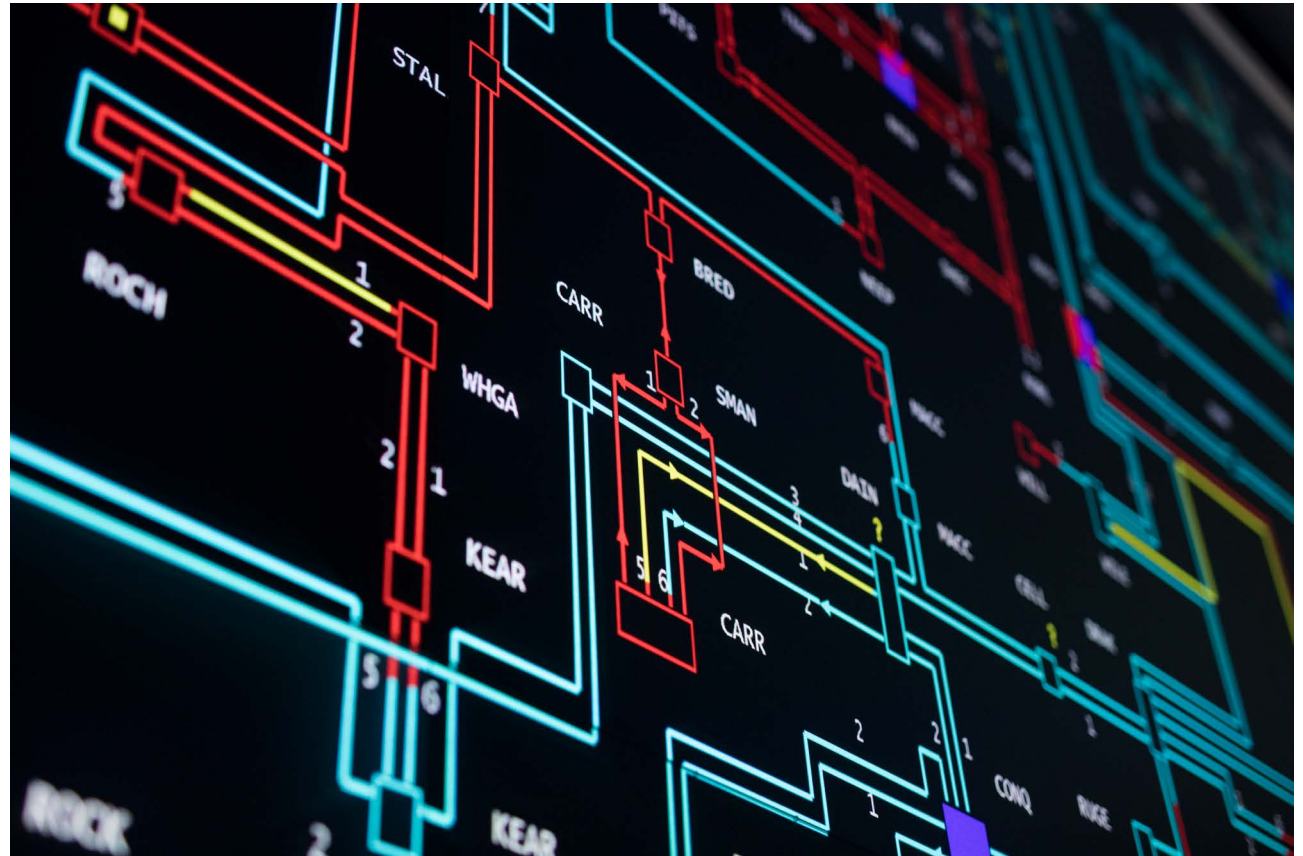


## WHY?

Meeting the UK's climate commitments means that we need a sustainable energy system. Enabling the energy transition for all is a strategic priority for us.

Connecting low-carbon energy to the UK's transmission network – and keeping that network running smoothly – requires ongoing investment in our infrastructure to ensure its safe and reliable operation. We have also set a target of net zero emissions for our own activities by 2050. Factoring in lifetime carbon emissions when we make major investment decisions can help us achieve our net zero target.

Adopting a carbon price is one way of ensuring we account for carbon emissions in our investment decisions.



## HOW?

To set an internal carbon price for our business, we gathered relevant information on carbon prices. For example, we are exposed to carbon pricing through our regulatory incentives and through traded markets, such as the UK emissions trading scheme.

We started with a price of £45/US\$60 per tonne of carbon to try and represent the different markets, regulatory mechanisms, and geographies in which we operate.

Our finance and sustainability teams have collaborated closely, ensuring we brought our carbon price into existing processes effectively. For example, we integrated carbon data into our existing cost estimation tool to inform investment decision making. To do this, we developed a carbon database that aligned carbon data with the specific assets that we use on our electricity transmission network. Our investment engineers use the tool in pricing investments, multiplying estimated carbon emissions by the internal carbon price to monetize the carbon impact. This feeds into our options analysis: we use it to calculate net present value assessments and discounted cash flows.

With this approach, we can make more carbon-efficient investment decisions. The process has also given us a greater understanding of carbon impact across our operations and where we should focus our efforts to help us achieve our net zero target.





## TOP TIPS

### INTEGRATE IT INTO YOUR EXISTING TOOLS AND PROCESSES

Adapting existing tools and processes helped to embed our carbon price: our people were already used to working with them. New tools and processes are time consuming to develop and to integrate into working practices. Start by looking at what you already have and see if you can build a carbon price into this.

### MAKE IT EASY TO USE

For carbon data to be useful, it has to be usable. A carbon price can help with this, as cost is often easier to understand than carbon tonnage. Help people to apply and interpret the carbon price by building automated tools and providing training if needed. We gave specific training sessions to the investment team for electricity transmission. Recognize that a carbon price is just one way to assess the carbon impact – the key is having the right carbon data.

### WORK WITH YOUR CONTRACTORS

If you use contractors, consider what information you need from them. We also include a carbon weighting in our tender process, with our contractors providing carbon data during the bidding process. This approach can help encourage suppliers to innovate and reduce their carbon emissions. We then ask our contractors to tell us the final carbon impact of infrastructure projects so we can make a comparison with what we set out to achieve.

### INTERNAL COLLABORATION

The collaboration between finance and sustainability made setting and using a carbon price possible. In our organization, both teams have the same goal: to enhance the long-term value for both our business and society. Find common ground across the departments involved and keep it in focus to bring complementary knowledge and skills to the decision-making processes.



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