

Case study

REGIONAL FES

Regional Future Energy Scenarios

Across our energy system, huge changes are happening that will have a far-reaching impact on it. Understanding what effect they will have is crucial for both gas and electricity network operators.

Our Regional Future Energy Scenarios (FES) project, run with energy consultants Regen, developed a methodology for assessing how different regions might respond to the availability of new technologies that have an impact on gas supply and demand.



Need

We need evidence to justify future investments and we have to demonstrate we are delivering a network that takes into account economic and social factors such as decarbonisation, decentralisation, energy security and fuel poverty. That means creating projections for whole systems that contain enough detail, so we can more accurately predict supply and demand – an energy distribution FES.

While the industry already has future energy scenarios, they are currently too high-level, either at a national level or only focusing on gas or electricity.

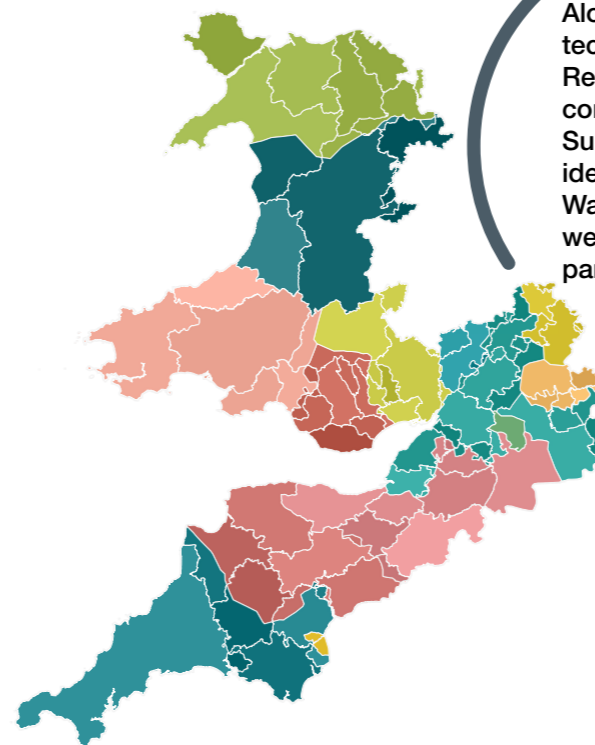


Approach

The project team developed and trialed a new forecasting methodology similar to one used for electricity networks to create a set of regional scenarios for gas and heat to the year 2035. These would provide the evidence to help us and other stakeholders understand future demand, supplies and reductions in carbon.

By developing methodologies used by the DNO in our network and incorporating local authority development plans, we were able to produce energy forecasts for gas and electricity combined – a prototype Distribution FES.

Using the four National Grid FES 2018 energy scenarios and adding a fifth, Hybrid Accelerator, provided a common framework and an overarching set of assumptions. The scenarios were developed using data gathering, energy system analysis and stakeholder engagement in Wales and south west England.



Alongside our technical partner Regen, analysis was conducted on 100 Gas Supply Areas identified across Wales and the south west of England as part our study.



Benefits

This innovative approach to developing regional future energy scenarios for gas networks is the first of its kind. Mapping every locality in our region to find long-term solutions for heat, power and transport provides benefits for all – allowing data to be extracted in geographies that are most relevant for different stakeholders.

Ultimately, it will enable closer alignment between regional gas and electricity network planning, which will be essential to a future 'whole-system' approach.

FACT FILE

- We engaged with more than 165 stakeholders at four stakeholder events across Wales and the south west of England.
- Meeting our heat demands with electricity alone would cost £300 billion in more power generation and distribution capacity, which would add an extra cost of £12,000 for every household.