

Infrastructure and Networks

Background

- The Government outlined its intentions and aspirations for the UK energy system in the 2003 Energy White Paper.
- These aspirations include ongoing commitment to emissions reductions, securing gas supplies via a fully liberalised European market and very significant growth in renewables and embedded generation.
- In order to achieve the required high level of gas imports, embedded and intermittent generation in the UK there will need to be fundamental changes to the existing transmission and distribution infrastructure for both gas and electricity.
- Provision of the appropriate infrastructure is critical to maintaining security of supply, in particular as the mix moves away from indigenous conventional generation.

What is it? How does it work?

- Existing electricity supply infrastructure is designed to deliver power from large thermal stations to consumers, via a high voltage transmission and a low voltage distribution system.
- The layout of the existing infrastructure is currently inadequate for the large-scale development of renewables resources in many of the most promising sites and significant investment in such connections would be required.
- The inclusion of a large number of embedded generation will require actively managed distribution networks to maintain network stability and delivered power quality.
- Securing gas supplies from a European market at the level expected will require significant investment in additional gas interconnector and/or storage capacity as well as upgrading existing networks in continental Europe and the UK.
- Depending on the approach, any progress towards the widespread adoption of hydrogen as a transport fuel would require very significant infrastructure development.

British Energy's position

- British Energy recognises that for the UK to meet its environmental and security of supply objectives significant investment will be required in the infrastructure of energy supply. However such costs should be borne by the technology it will serve.