

COUNTRY FACTSHEET

UNITED KINGDOM

WHAT ARE THE NATIONAL CIRCUMSTANCES THAT INFLUENCE DEEP DECARBONIZATION IN THE UNITED KINGDOM?

- ▶ The concept of deep decarbonisation has been recognised in Government strategy documents since 2003. In 2008, a long-term goal to reduce GHG emissions by at least 80% relative to 1990 levels was legislated, and an independent advisory body, the Committee on Climate Change (CCC), was set up.
- ▶ While the institutions have been established, the necessary policy package is not yet in place to meet the stated ambition.
- ▶ From a technological perspective, the UK is in a favourable position to deliver a low-carbon energy system. The offshore renewable resource potential is one of the largest in Europe, with strong industrial expertise in offshore infrastructure. The natural geology offers strong potential for CO₂ storage, while existing nuclear power capacity potentially provides a platform for expansion of this technology.
- ▶ The challenges of a diminishing fossil resource base, ageing power generation sector and low efficient building stock make a low-carbon shift an obvious strategy for the UK. It is evident that meeting these policy challenges can be delivered at moderate additional cost, with multiple economy-wide benefits.

WHAT ARE THE MOST PROMINENT STRATEGIES TO BE IMPLEMENTED FOR DEEP DECARBONIZATION IN THE UNITED KINGDOM?

- ▶ The strategic plan of the UK Government is provided in *The Carbon Plan: Delivering our Low Carbon Future* (DECC 2011). It sets out the four 5-year carbon budgets (from 2008 to 2027) and the necessary actions across sectors to achieve a 50% GHG reduction by 2027.
- ▶ To deliver the carbon budgets, a strong push on power sector decarbonisation will be needed. This could be delivered by different generation technologies; however, whatever the mix, large scale investment will be required. Some progress has been made through Electricity Market Reforms (EMR) to incentivise the necessary investments.

*Illustrative pathway: UK - Decarbonise & Expand**

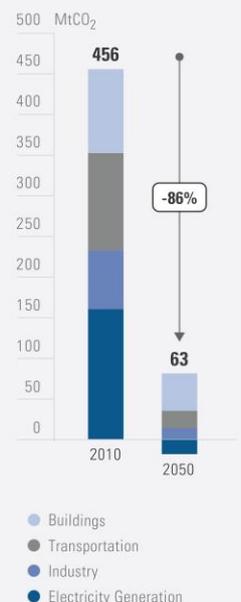
Development indicators from 2010 to 2050



Pillars of decarbonization from 2010 to 2050



Energy-related CO₂ Emissions



*This illustrative pathway is one of the 3 pathways developed in the DDPP country report.

COUNTRY FACTSHEET

UNITED KINGDOM

- ▶ Deep decarbonisation will also see a greatly expanded role for electricity, in household heating and to meet passenger car demand.
- ▶ If available at scale and cost-effective, the role of CCS is crucial for power generation, industry and hydrogen production. This includes the provision of negative emission credit, providing headroom for harder-to-mitigate sectors, such as international aviation, industry and non-energy sector GHGs.
- ▶ The role of fossil fuels is greatly diminished across all sectors; however, the role of gas remains, under scenarios that ensure availability of CCS, and given the difficulty of displacing gas as a heating fuel in households and industry.

CONTACT:

- ▶ Energy Institute, University College London