

Foratom event – 29 April 2015

**New nuclear in the UK and
Electricity Market Reform**



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EDF Energy – A UK energy leader

Generation

- The UK's **largest electricity generator**, generating ~1/5 of UK electricity
- Operates **8 of the UK's 9 nuclear power stations** (9GW)
- One of the largest **coal operators** (2 stations, 4GW)
- **A new CCGT** (West Burton, 1.3GW);
- **EDF Energy Renewables** currently operates >400MW of onshore wind farms in the UK and a >60MW offshore wind farm;
- Leader in Low Carbon Generation developing projects for **up to 4 new nuclear reactors**, and further **renewables project pipeline**

Customers

- **Largest electricity supplier to business customers** with ~20% market share¹
- Major residential supplier of electricity and gas with **~5.5m customer accounts**, of which ~1.6m nuclear-backed **Blue product accounts**

Operator of a diversified generation fleet and managing a significant customer supply business. Investor in low carbon generation projects.

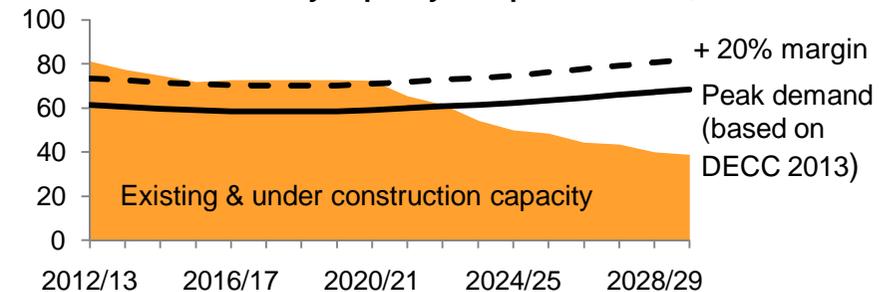


HPC is key in meeting common objectives of EU and UK energy policy

Security & diversity of supply

1. 50% of the plant on the current UK electricity system will have closed by 2030.
2. UK faces **massive investment needs** in electricity generation: >£200bn by 2030¹
3. HPC would provide enough secure, baseload electricity to power 6 million homes

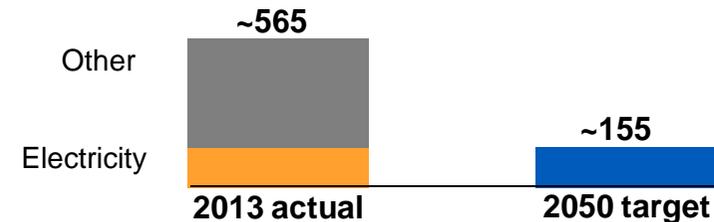
Great Britain electricity capacity and peak demand, GW



Decarbonisation

- The UK has a legally binding emissions reduction target of 80% by 2050 vs. 1990
- Proposed EU target of 40% by 2030 vs. 1990
- Assuming it replaces new gas generation, HPC will avoid 9 million tonnes of CO₂ emissions p.a.

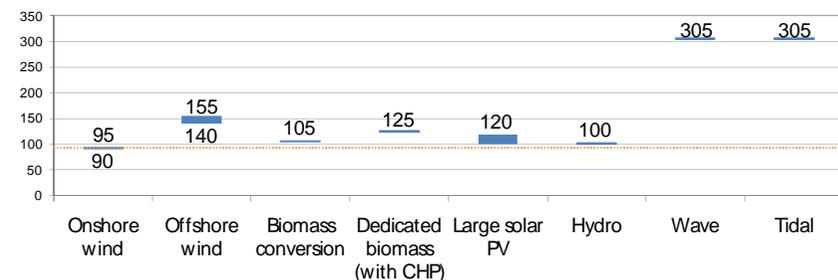
UK GHG emissions and decarbonisation target, MtCO₂e



Affordability

- Government aim to limit domestic bill and preserve competitiveness of UK energy
- HPC strike price is competitive with other forms of low carbon generation

Initial strike prices by generation technology, £₁₂/MWh



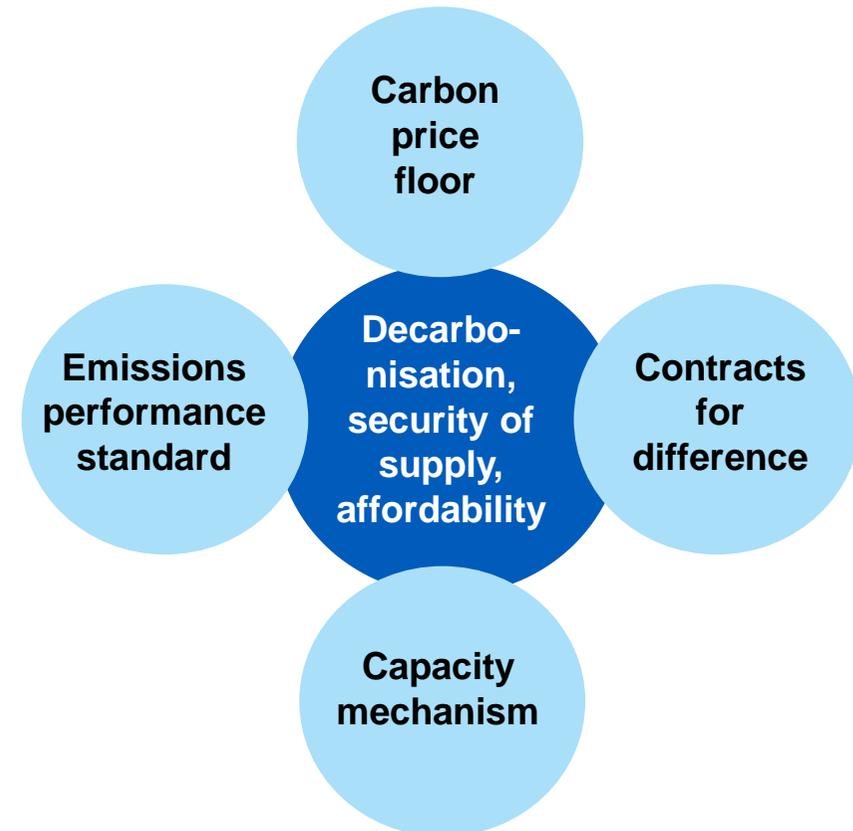
- Nuclear is a valuable option
- Broad political and public support for NNB in the UK

Electricity Market Reform (EMR) – the UK delivery mechanism

UK faces an unprecedented investment challenge. The existing market alone could not deliver the level of investments required

- **Carbon price floor:** puts a fair price on carbon and provide a stronger incentive to invest in clean technologies.
- **Contract for difference:** helps to provides a more stable and predictable revenue stream for investors in reliable low-carbon electricity generation.
- **Capacity mechanism:** designed to promote investment in generation capacity to ensure security of supply, by paying providers of reliable capacity for being available
- **Emissions performance standard:** provides a clear regulatory signal on the amount of carbon new fossil-fuel power stations can emit.

EMR objectives and measures



- **Four mechanisms to support the market and provide required incentives for investment in clean technologies.**
- **A planned transition back to a normal market**

HPC EU State Aid – after detailed 12 month investigation, European Commission supported UK case



Nuclear clearly contributes to common interest objectives: acknowledged that is fully in line with the Euratom Treaty and meets objectives of common interest. In the UK in particular, nuclear provides significant benefits in terms of diversity of supply & security of supply



There is a set of combined genuine market failures preventing current electricity markets from delivering a new nuclear power plant



There is a need for government intervention, as no combination of existing measures effectively address the market failures preventing new nuclear investment



The proposed instrument (CFD) is appropriate, as it addresses the market failures, will have an **incentive effect** and ensures no over-compensation



The proposed instrument is proportionate, as the strike price has been set at the minimum level to incentivise the investment and includes measures to prevent over-compensation



The proposed instrument does not distort the market. No distorting effect on prices and does not impact the functioning of the market by restricting capacity or limiting interconnection.

“New Market Design” for EU

PROBLEM STATEMENT

- The electricity market is not functioning effectively. Wholesale electricity prices are currently so low that nobody can invest in any generation technology or energy efficiency project without support.
- Carbon prices are also so low that they do not incentivise low carbon choices.
- Cost of subsidies is very high and cannot be maintained and higher retail prices are impacting EU competitiveness.

WAY FORWARD

- Commission will come forward with a proposal for a new market design in June 2015 and launch a public consultation
- Legislative proposal expected in early 2016
- Market signals are best. But an orderly and agreed transition plan is needed to restore market signals

thank you