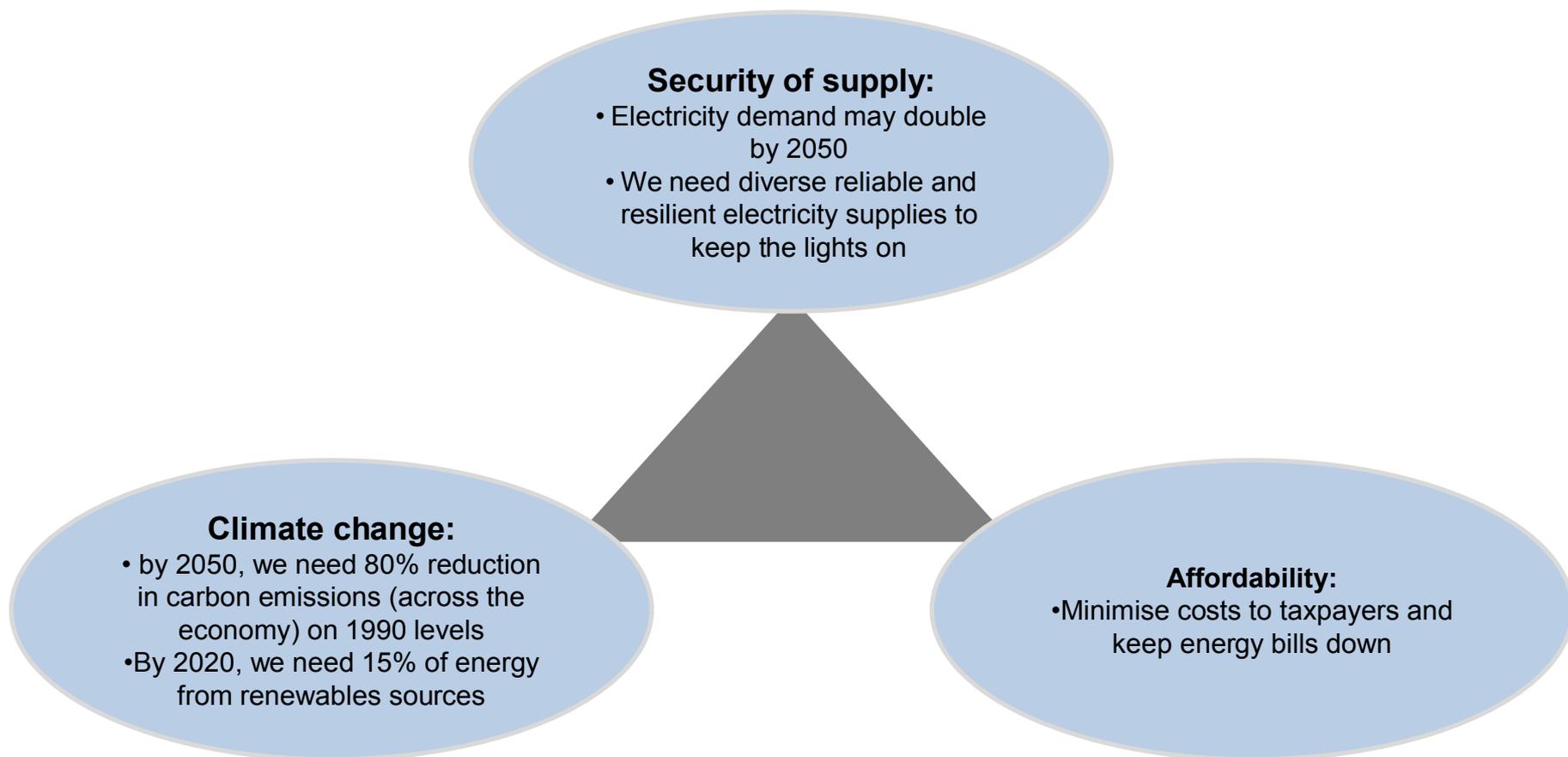


The future of nuclear energy in the UK

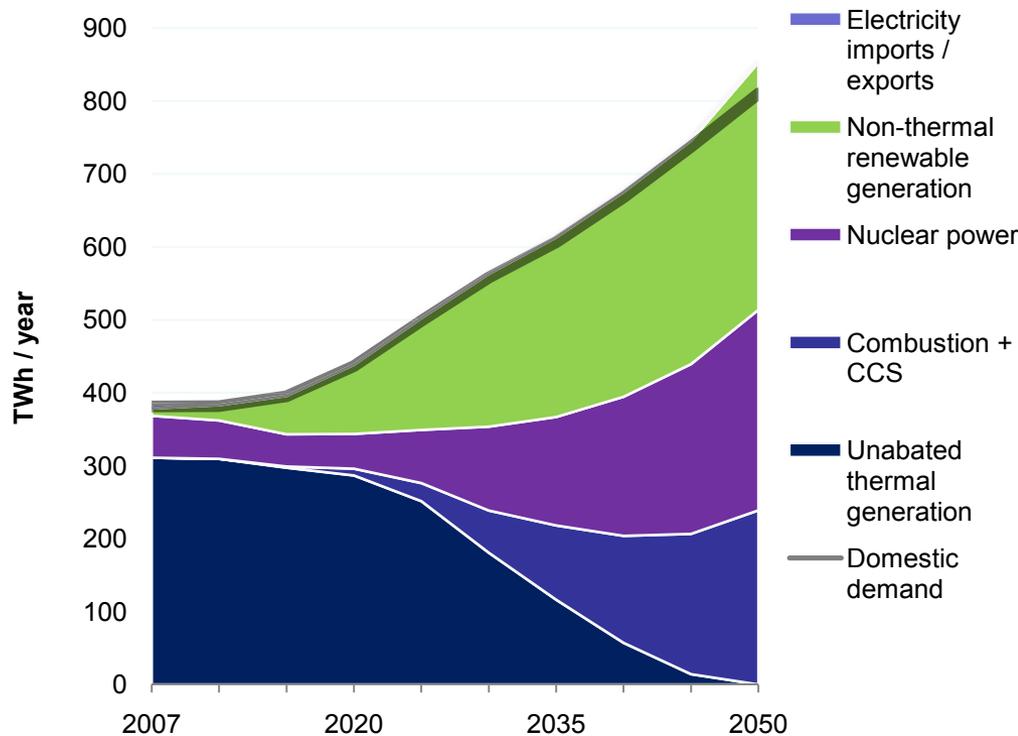
Hergen Haye

Our energy objectives



DECC 2050 pathway analysis

A balanced path (Pathway Alpha) will get us there but will require effort on all fronts.



The “balanced” scenario means that by 2050:

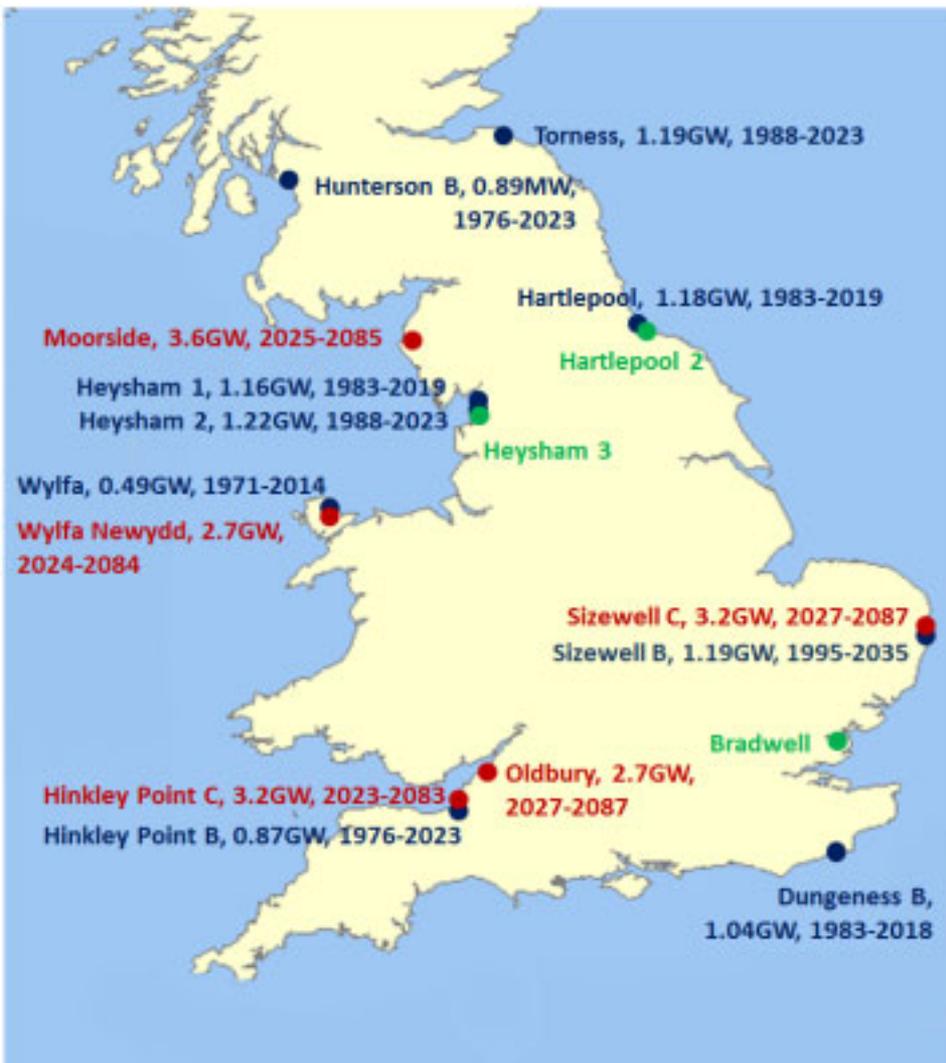
- 30-60% of home heating is electric
- 80% of cars miles are in electric cars
- 33% improvement in insulation properties in buildings
- Electricity demand doubles
- 25-40 new CCS power stations built by 2050
- An average of one new nuclear power station a year
- About 1000 new wind turbines a year
- Bioenergy crops cover 12% of UK land



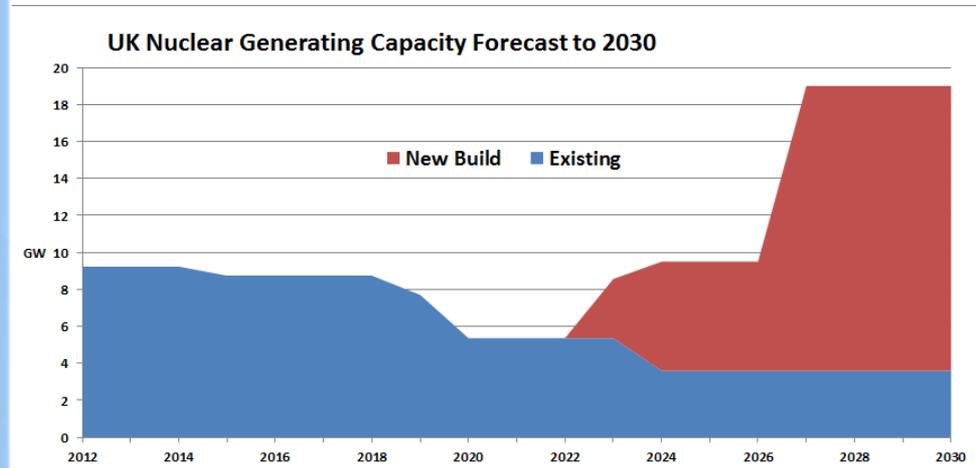
Department
of Energy &
Climate Change

CURRENT NUCLEAR GENERATION AND PLANNED TO 2030

- Sites currently generating
- *NPS sites with development in progress*
- *NPS Sites, no firm plans at present*



- Current nuclear capacity in the UK is 9.23GW. This is expected to decline substantially as plants „end of life’ approaches in mid-2020’s.
- 8 new nuclear designated sites contained within Nuclear National Policy Statement. Firm site development plans for Hinkley, Sizewell, Wylfa, Oldbury and Moorside.



New Nuclear Plans for UK

NNB GenCo (EDF) intends to build four new EPR reactors (amounting to 6.4GW) at Hinkley Point and Sizewell. Currently under negotiation for CFD.

Horizon Nuclear Power, a wholly owned subsidiary of Hitachi Ltd, plans to develop up to 7.8GW of new nuclear capacity at sites in Wylfa and Oldbury. FID expected by 2018

NuGen, (GDF and Iberdrola) have plans to build up to 3.6GW of new nuclear capacity at Moorside near Sellafield with Westinghouse/Toshiba AP 1000 technology

Challenges for new nuclear in the UK

- Imperative to get started but prospect of significant larger programme possible – up to 70 GW by 2050
- Introducing competition; need for cost certainty
- SMRs – a future for the UK ?
- Challenges for the future : finding new sites and building regulatory capacity

Challenges for new nuclear in the UK

- Better alignment between energy and industrial strategy (supply chain, wider local, regional and economic benefit)
- Plutonium Disposition
- Long term waste disposal

EU Energy policy and State Aid

- Nuclear is seen very differently among member states
- 2030 package
- Renewables vs nuclear?
- State Aid – no specific guidelines; considered under Treaty
- State Aid case crucial test for nuclear in UK and EU
- Opening decision published in EU Journal and open for four week consultation – now ended; decision expected by October 2014