

The role of gas in a decarbonised economy

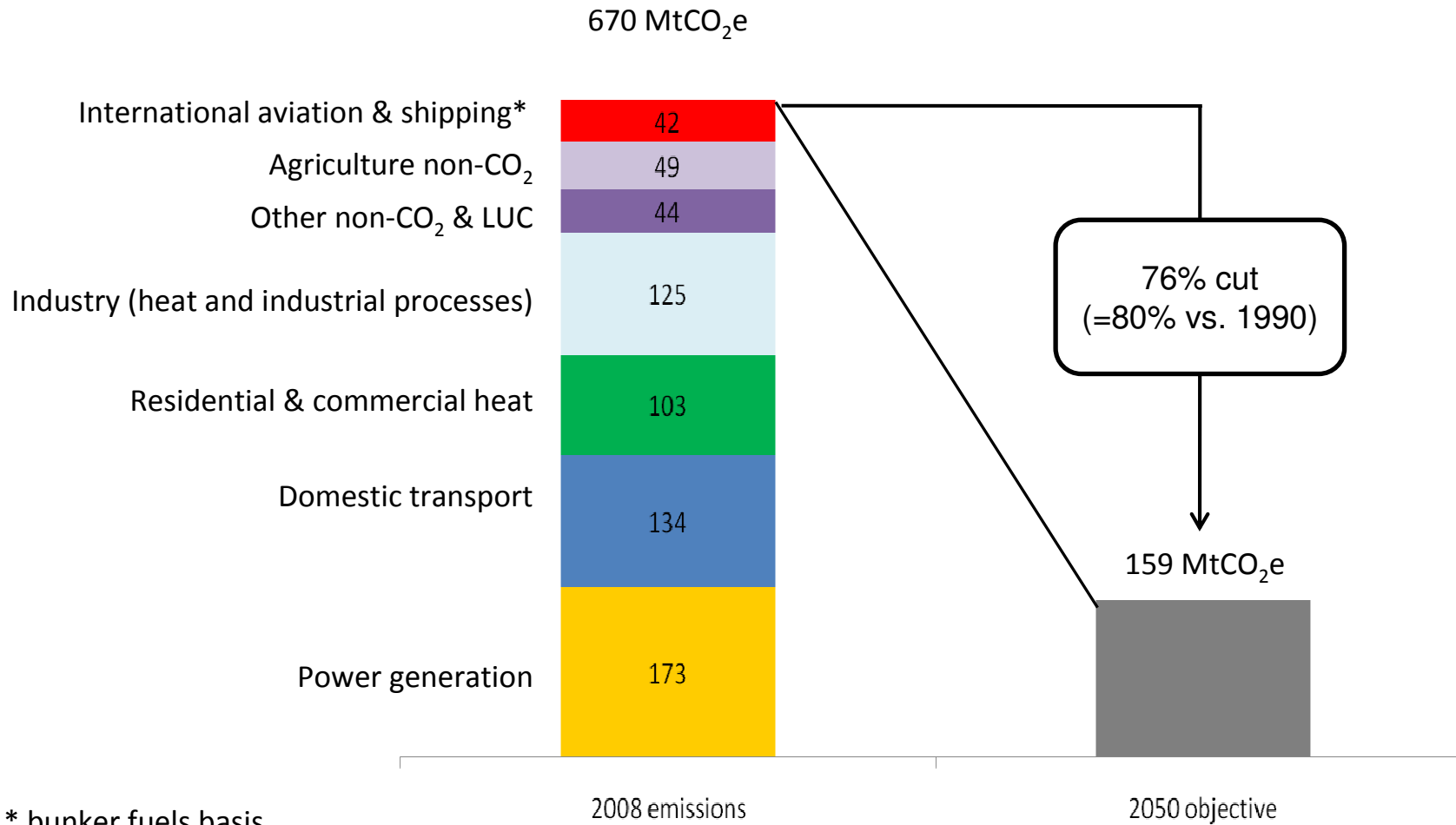
www.theccc.org.uk

Structure

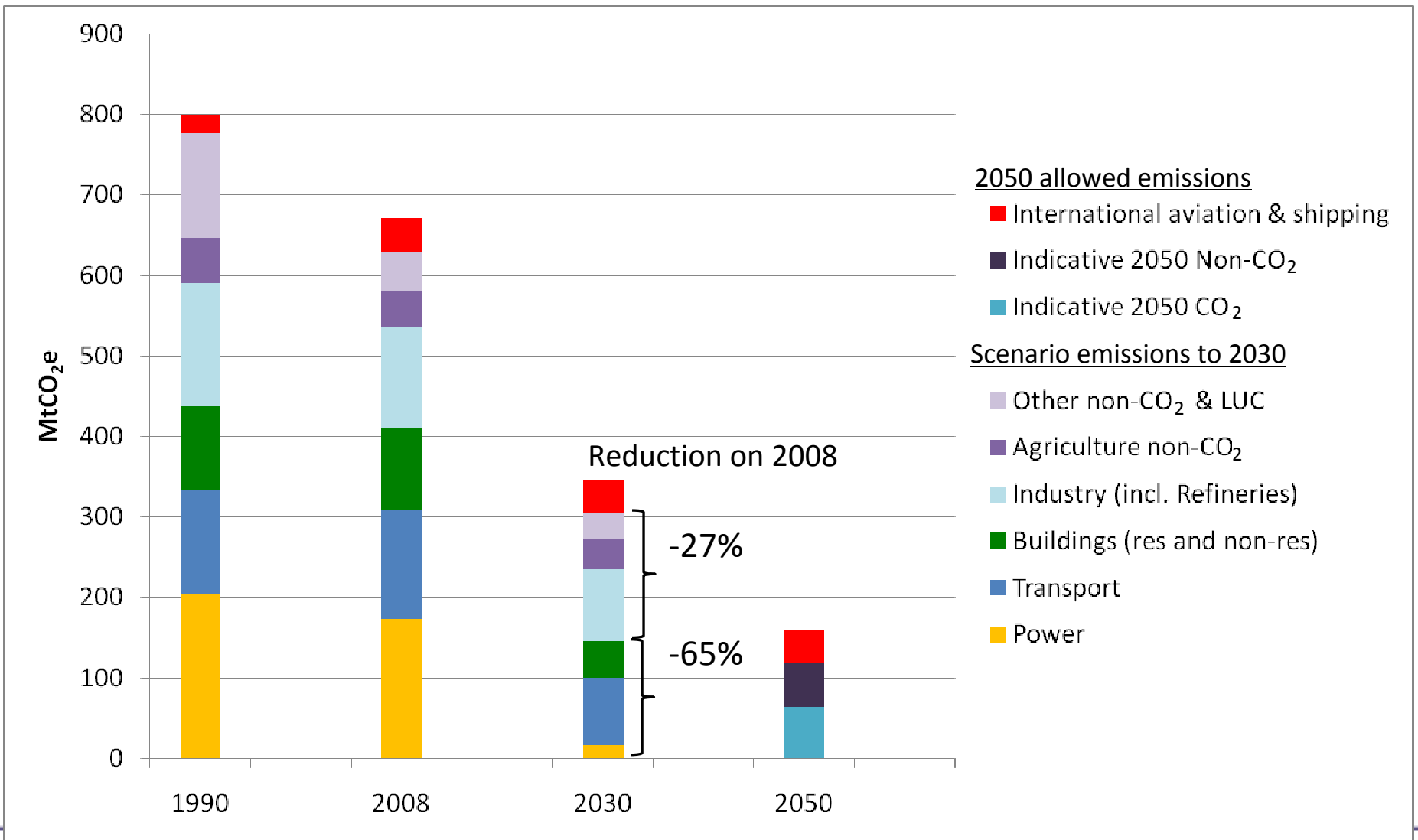


1. The 2050 target
2. The need for power sector decarbonisation
3. Costs and impacts
4. The EMR
5. Ongoing role for gas

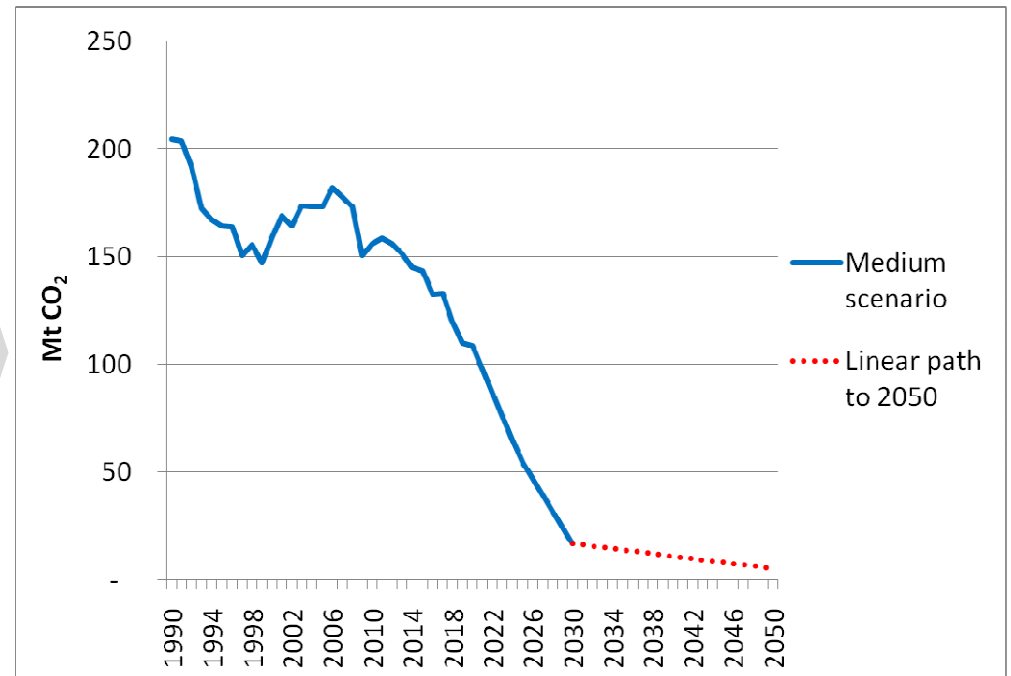
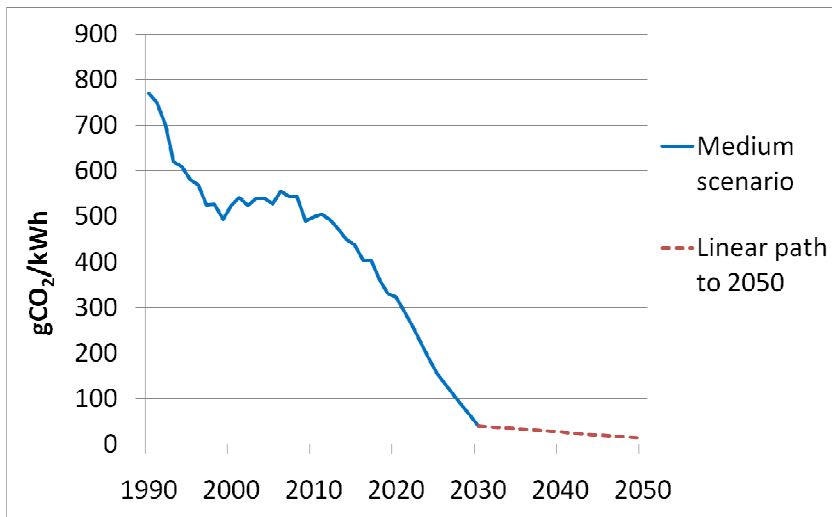
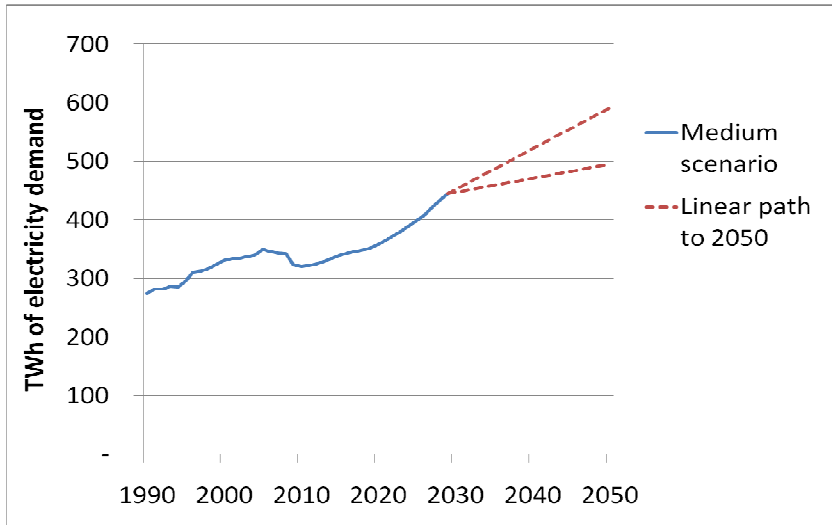
The UK's 2050 target



We have developed a feasible and cost-effective planning scenario for 2030 that is compatible with the 2050 target

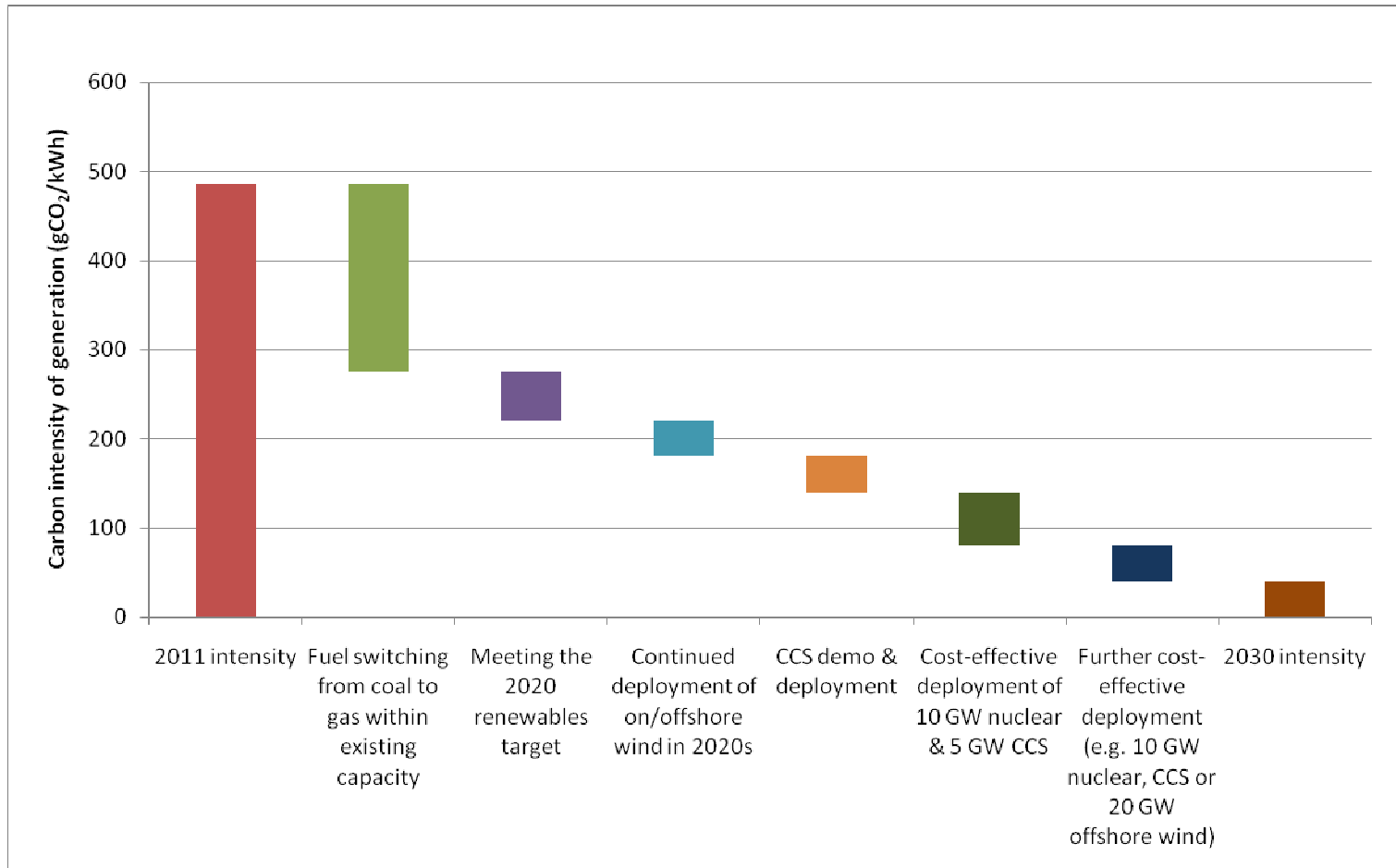


Power sector: Emissions intensity will have to decrease, whilst demand is likely to increase...

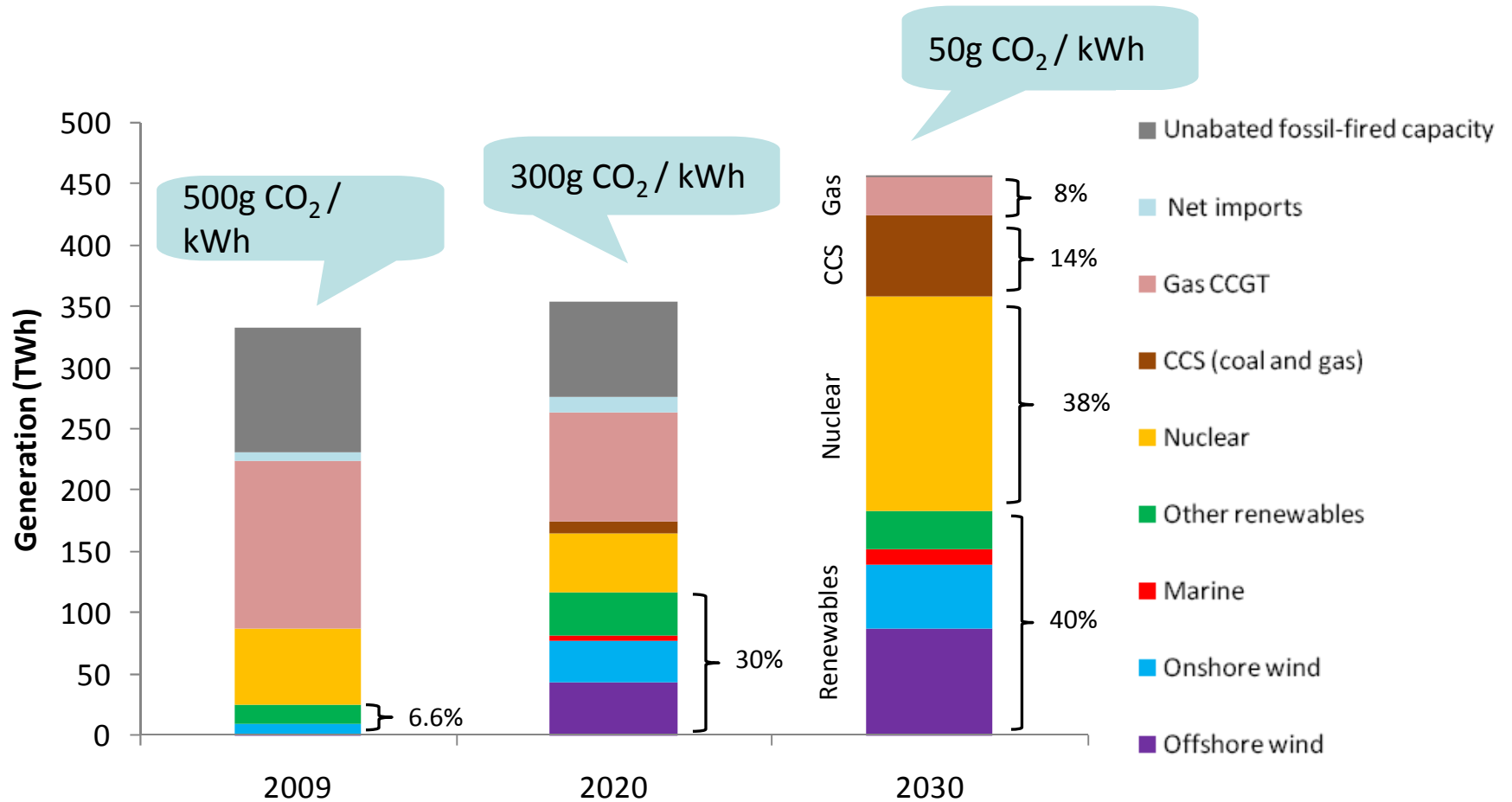


Source for 2050: range of MARKAL model runs for CCC (2010)

Getting from 500gCO₂/kWh to 50gCO₂/kWh

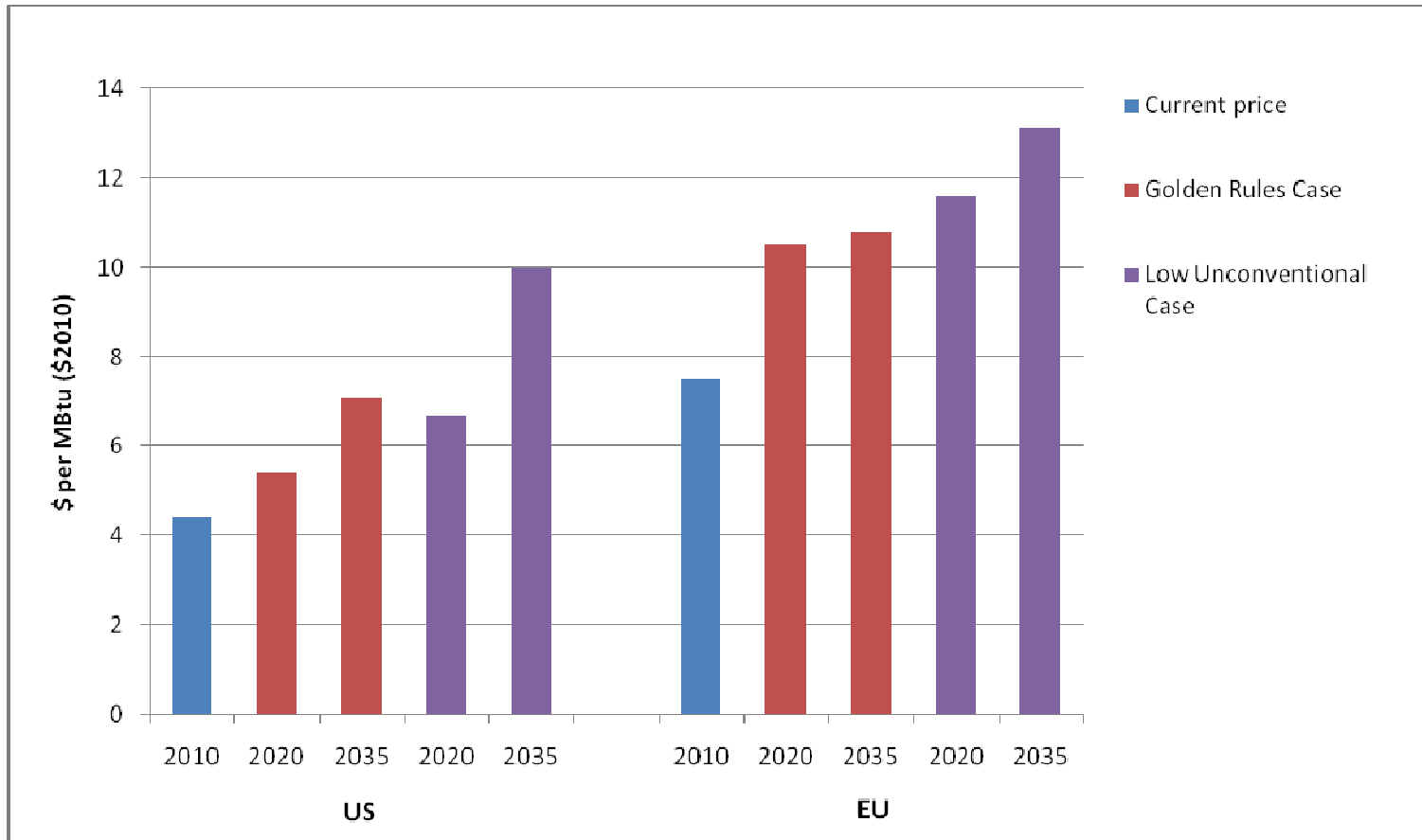


An illustrative scenario for power sector decarbonisation to 2030 – 40% renewable, 40% nuclear

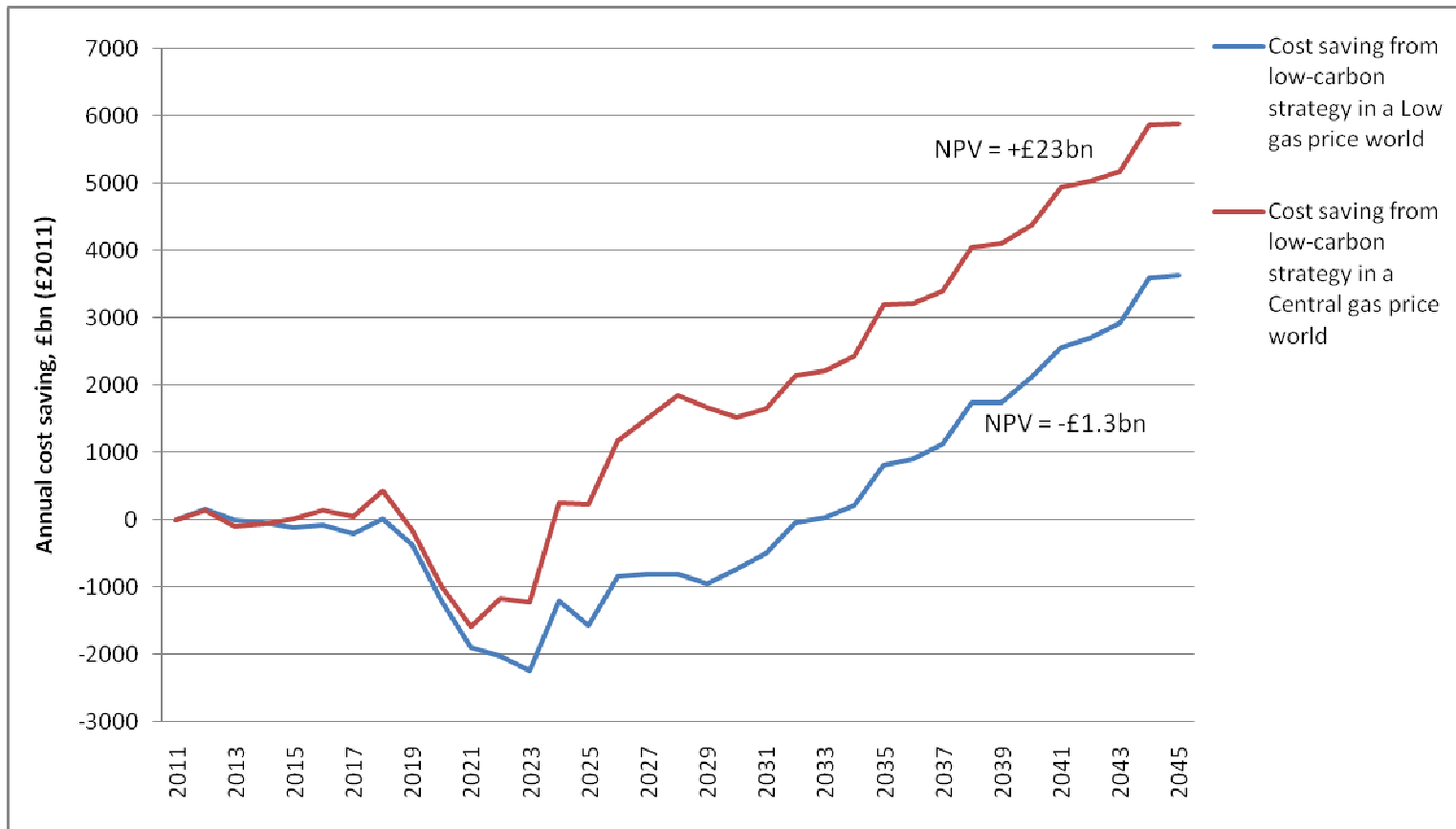


Source: DUKES (2010), CCC Calculations, based on modelling by Pöyry Management Consulting. Includes losses, excludes generator own-use and autogeneration.

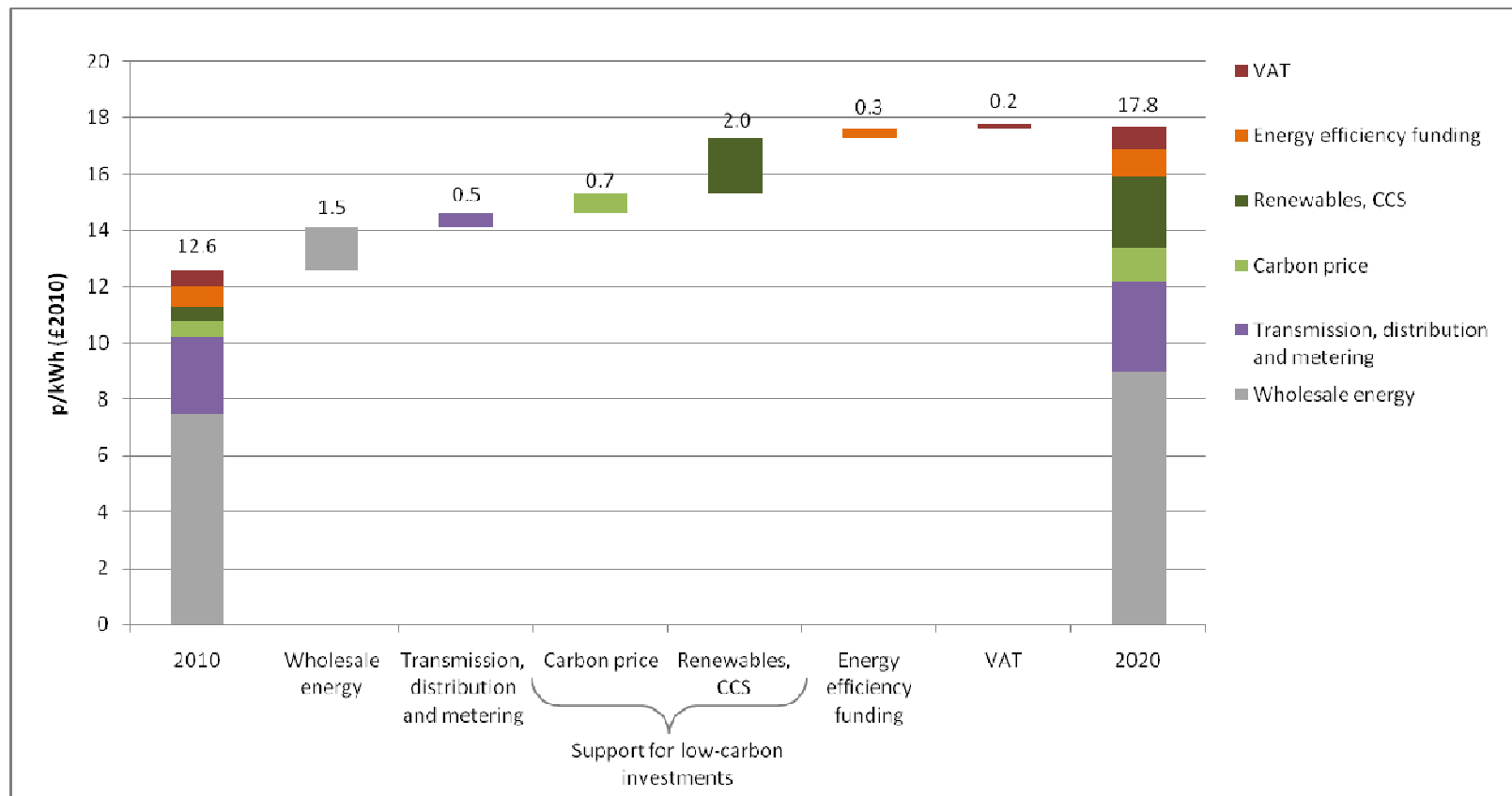
IEA gas price projections, US and EU



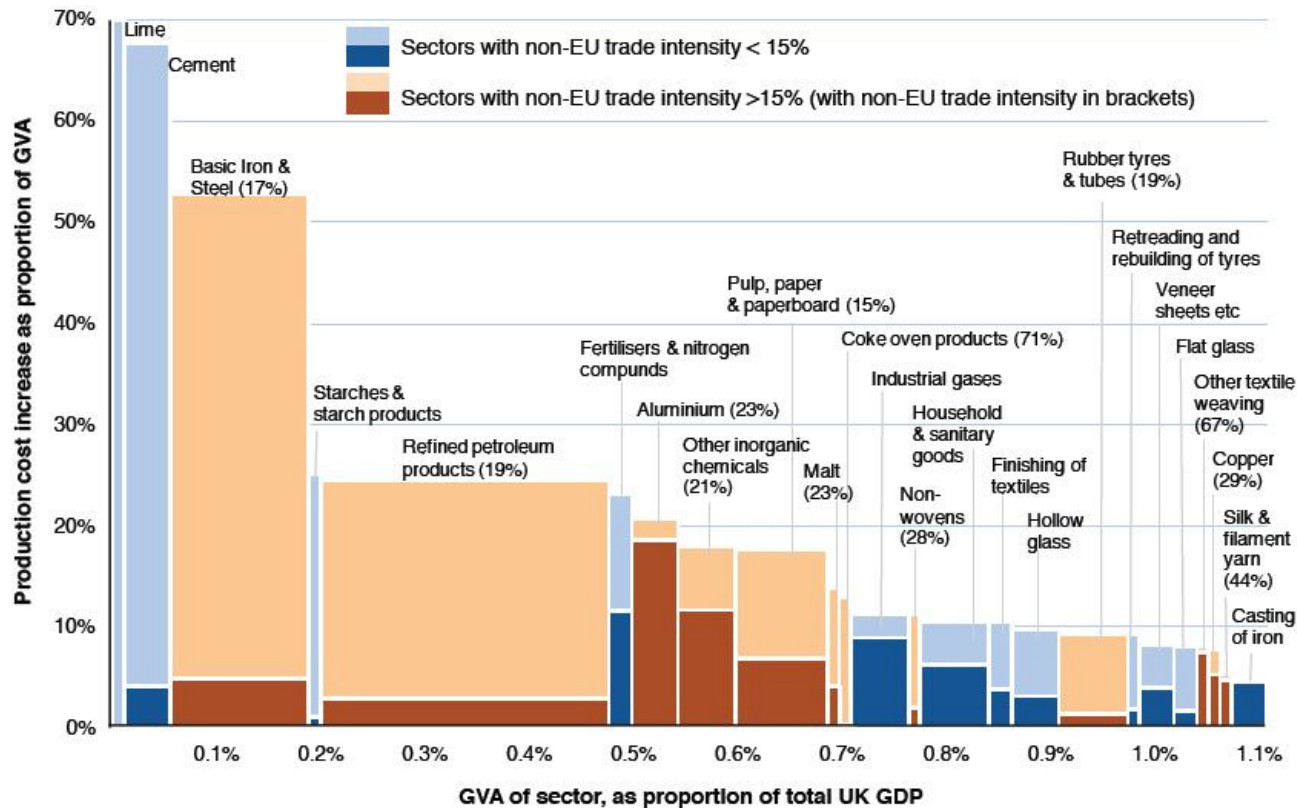
Cost saving from investment strategy focused on low-carbon rather than gas during the 2020s –central and low gas price worlds



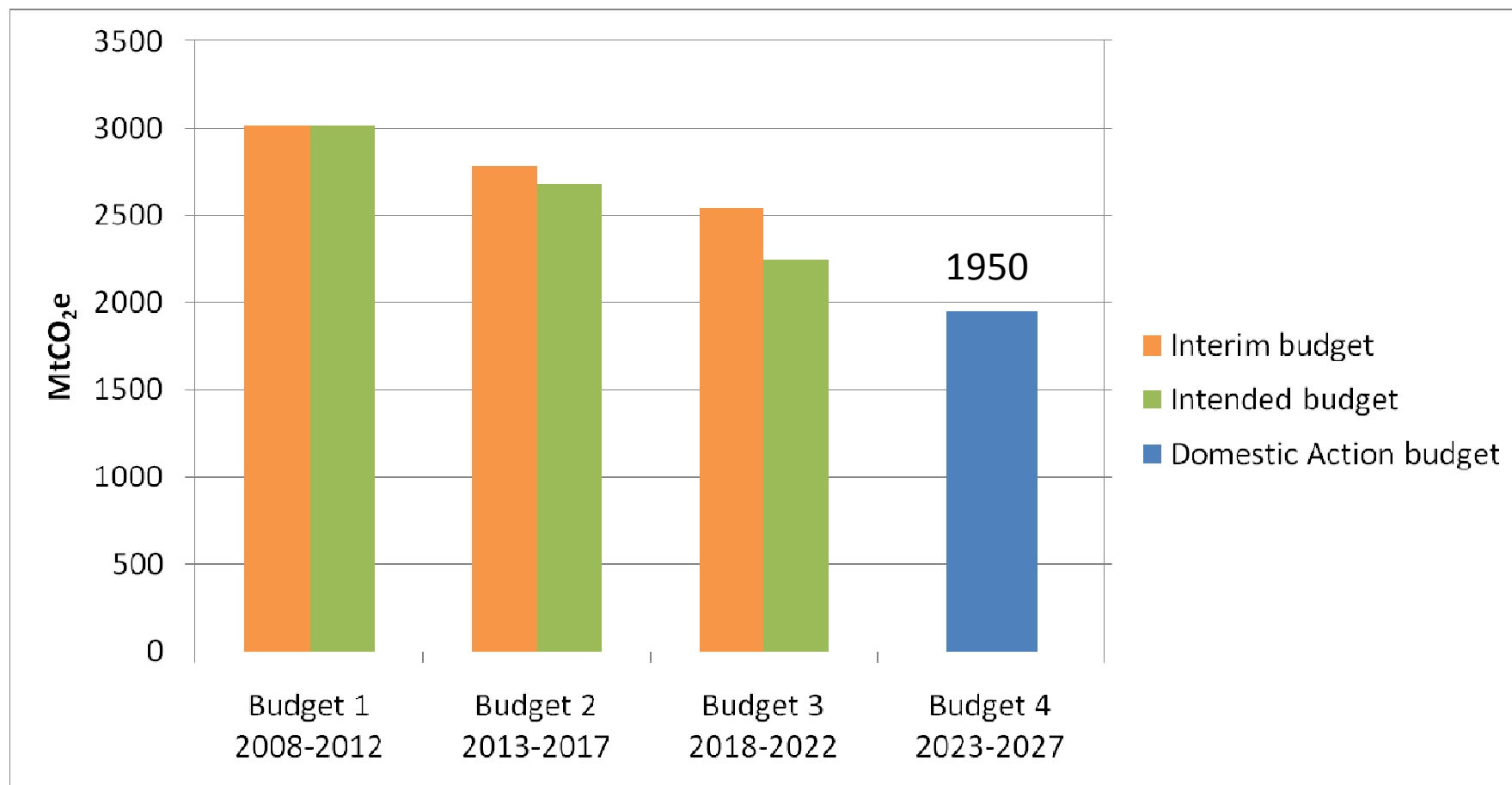
Projected increases in domestic retail electricity prices (2010-2020)



Competitiveness impacts – relevant for some energy intensive industries



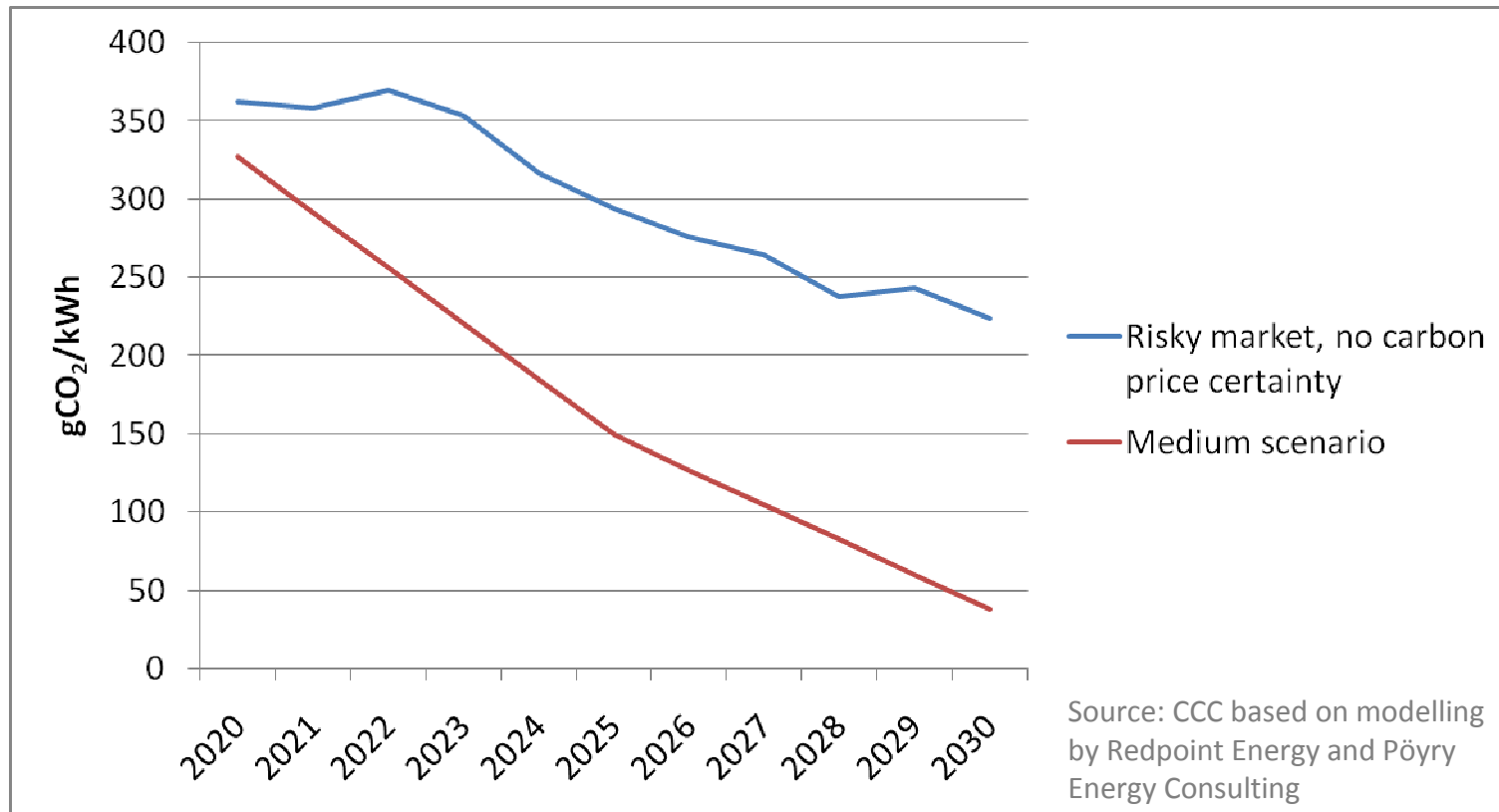
Interim, Intended and Domestic Action budgets



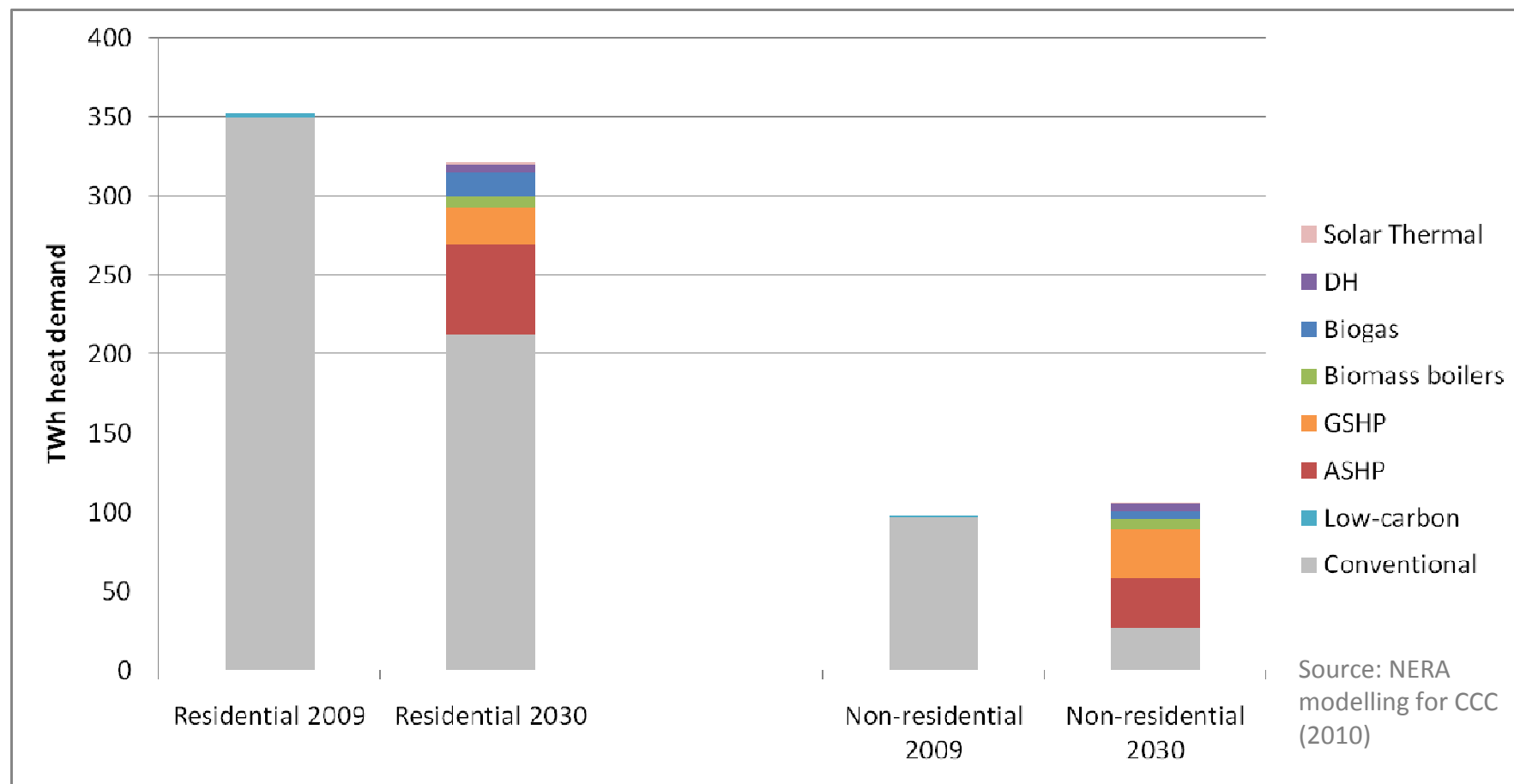
Power: New market arrangements needed to make investments bankable



Emissions intensity trajectory under current market arrangements compared to required path



Heat in buildings: majority still gas based in 2030



- Demand reductions from efficiency improvements, including 3.5 million solid walls by 2030 in residential buildings
- Low-carbon sources reach 33% of residential heat demand and 74% of non-residential heat demand in 2030

Summary of recommendations



- The UK's 2050 target of an 80% emissions reduction remains appropriate.
- Early power sector decarbonisation is key to achieving 2050 target; this remains the case in a shale gas world.
- Costs and impacts of power sector decarbonisation are manageable; legal commitments made through the fourth carbon budget.
- Important role for unabated gas in power generation (but declining load factors), gas CCS, heat in buildings and industry.
- Key policies are EMR (CfDs, capacity mechanism) and CCS demonstration.