

LONG-TERM PATHWAYS IN THE UK

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The Climate Change Act framework

Long-term target

The UK Climate Change Act commits the UK to an at least **80% reduction in Greenhouse Gas emissions** in 2050 compared to 1990 levels.

Carbon budgets

The Act requires that we cap GHG emissions over **successive 5 year periods**.

Scrutiny

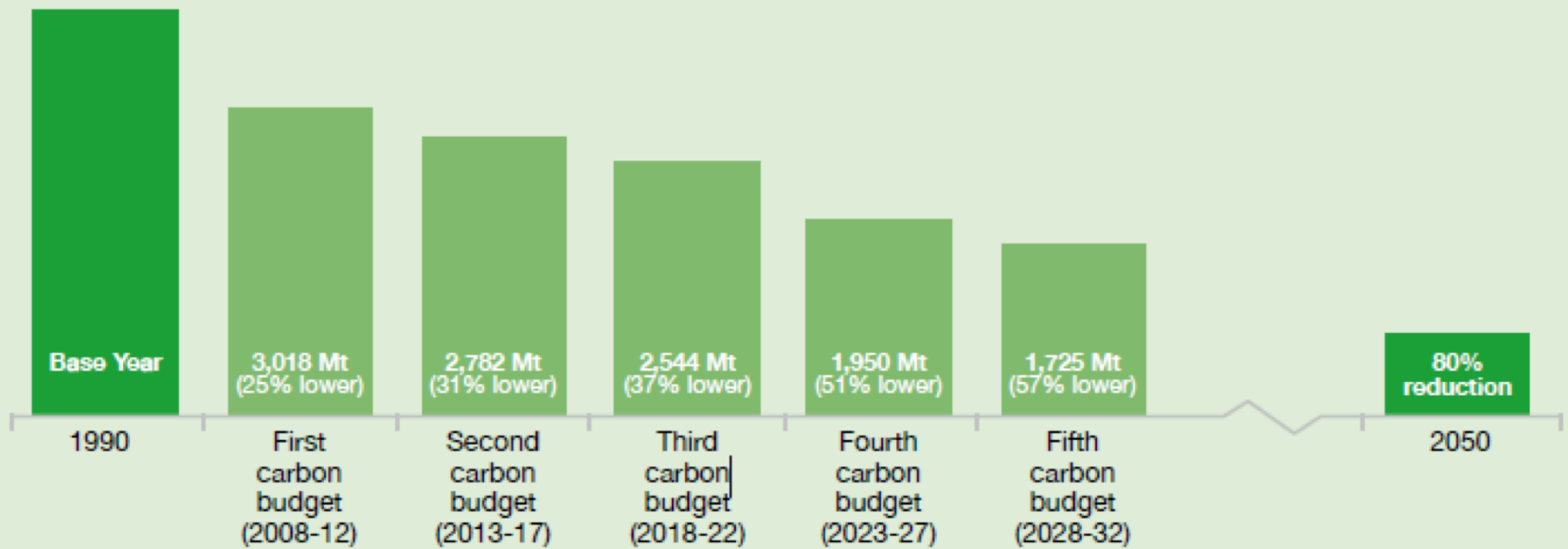
The Act established an independent **Committee on Climate Change (CCC)**.

Cross Party Support



Carbon Budgets

Figure 3: UK carbon budgets and 2050 target³⁵



Source: UK legislation; BEIS

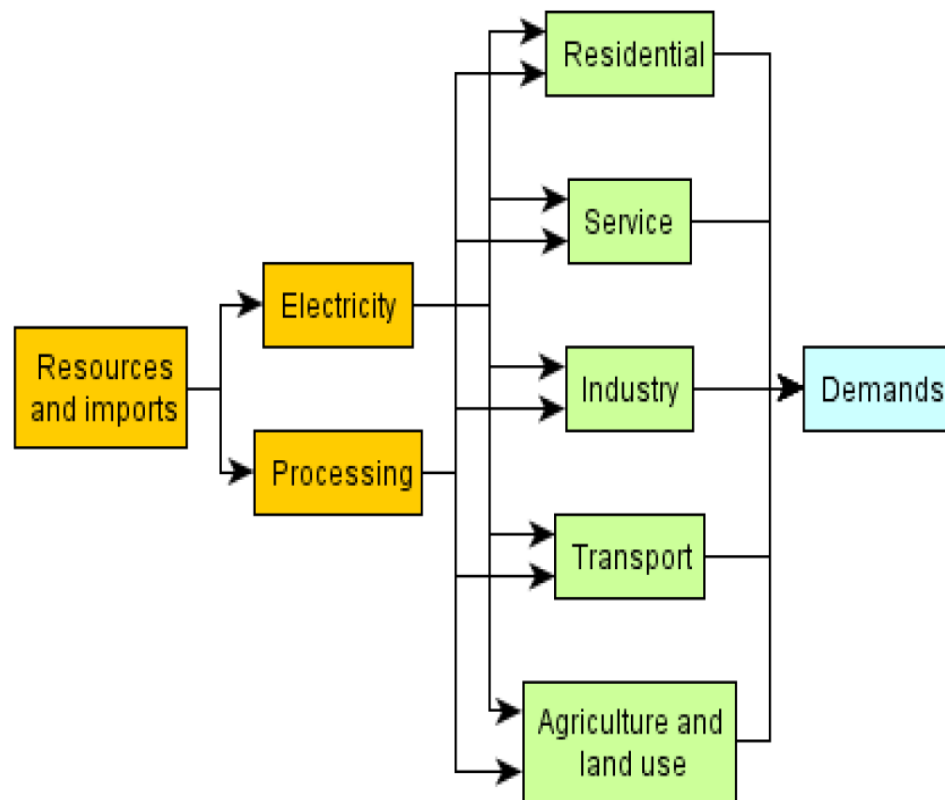
Pathway model: UK TIMES

What is UK TIMES?

- dynamic, linear programming optimisation model of the UK energy system.
- Identifies pathway that meets energy service demands with the lowest cost, given constraints on greenhouse gas emission.

What are the limitations?

- Cost is the only criteria used to select a pathway. Costs to 2050 are very uncertain.
- Takes no account of relative uncertainty/risk of pathways or other factors such as public acceptability.
- Outputs require careful interpretation and need to be used alongside other modelling to inform decisions.



Use of UK TIMES

One of the three “lenses” used in the analysis to set UK’s interim target for 2028-2032 (Carbon Budget 5):

- Run under different technology availability scenarios and with different CB5 levels.
- Outputs used to assess whether a given target was consistent with smooth pathways to 2050 at low relative cost.

Clean Growth Strategy policy proposals

- Run under different technology availability scenarios to assess no-regrets options and research priorities. Influenced priority given to energy efficiency, CCUS and power sector decarbonisation.

Innovation funding

- Piloting a method for using UKTIMES to target innovation funding to technology groups where impact likely to be greatest.

