

The role of business in achieving Net Zero

Chris Stark, Climate Change Committee

Our approach

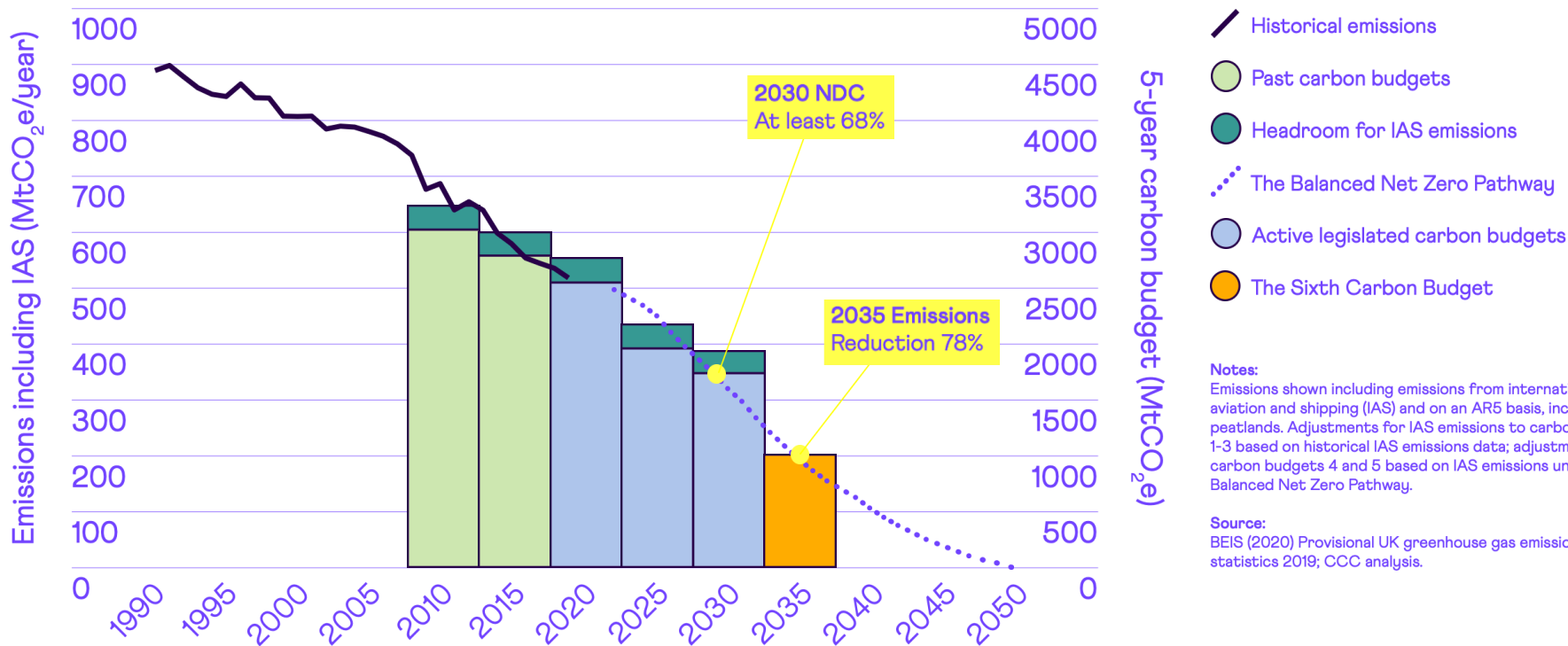
A real-world constraint: asset lives

Sector	Asset	Lifetime
Transport	Light Vehicle	14 years (average)
	HGV	8 – 13 years
Manufacturing and Construction	Combustion (Boilers, furnaces, mobile machinery, generators, kilns, compressors, dryers, heaters, ovens, Other process assets.	10-35 years
Buildings	Fossil fuel boiler	15 years
	Air Source Heat Pump	15 years
	Ground Source Heat Pump	20 years
	Loft and cavity insulation	42 years
	Solid wall insulation	36 years
	New build home	60 years
Power generation	Gas plant	25 years
	Offshore wind	30 years
	Nuclear plant	60 years
Aviation	Aircraft	30 year technical
Shipping	Ships	30 years technical

Sector	Asset	Lifetime
Fuel Supply	Offshore platforms, flaring, compressors, generators	25-35 years
	Biofuel plants	30 years technical
	BioH2 plants	30 years technical
	Biogas, biomethane plants	20 years technical
	Waste to jet plants	20 years technical
Wastes/Bio	Refuse collection vehicles	8 years technical
	Landfill methane capture and biocovers	20 years technical
	Waste water treatment equipment	25 years technical
	Composting equipment	20 years technical
Removals	DACCS	25 years technical
	Biomethane displacing natural gas	20 years technical
	Wood in construction	Set by buildings sector
	BECCS	Set by asset lifetimes in each sector

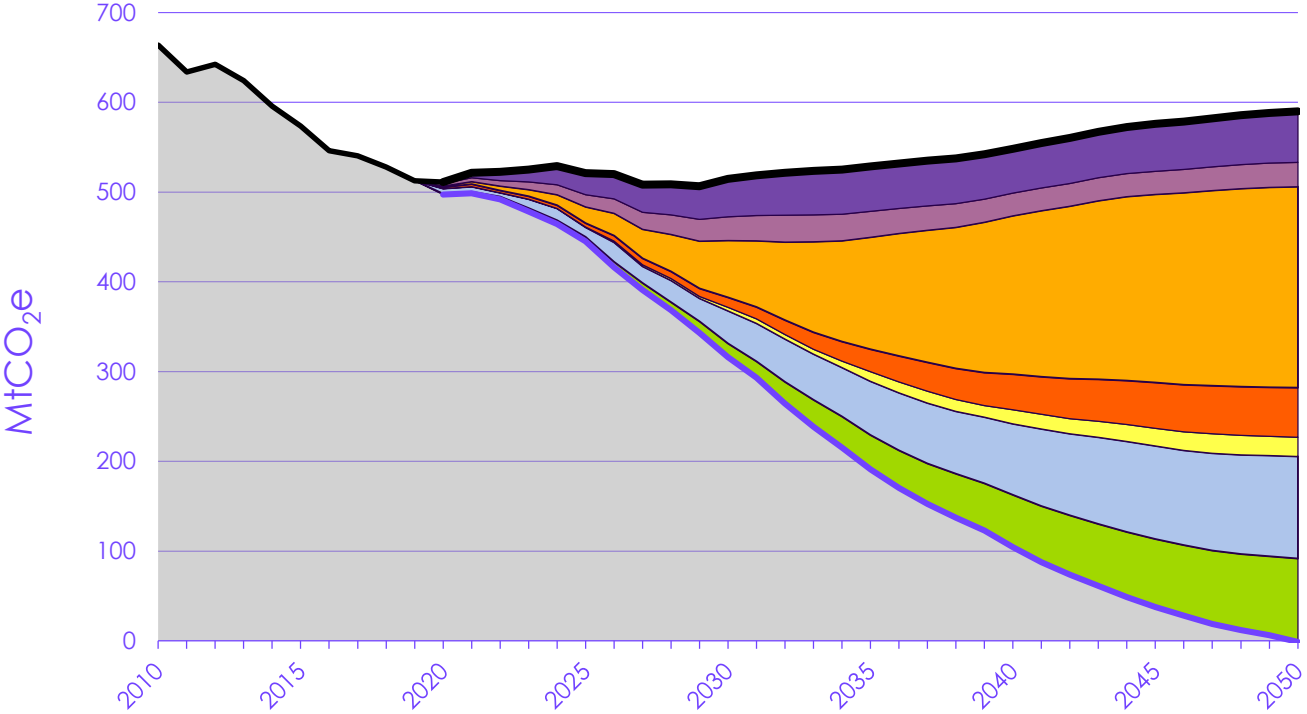
Our recommended path

The recommended sixth carbon budget and 2030 NDC



Emissions abatement on the recommended path

Meeting Net Zero requires actions across four key areas



1. Demand reduction and efficiency

- Reduced demand for carbon-intensive activities
- Greater efficiency in use of energy and resources

2. Take-up of low-carbon solutions

- Electrification
- Hydrogen and other low-carbon technologies
- CO₂ capture from fossil-fuels and industry

3. Expansion of low-carbon energy

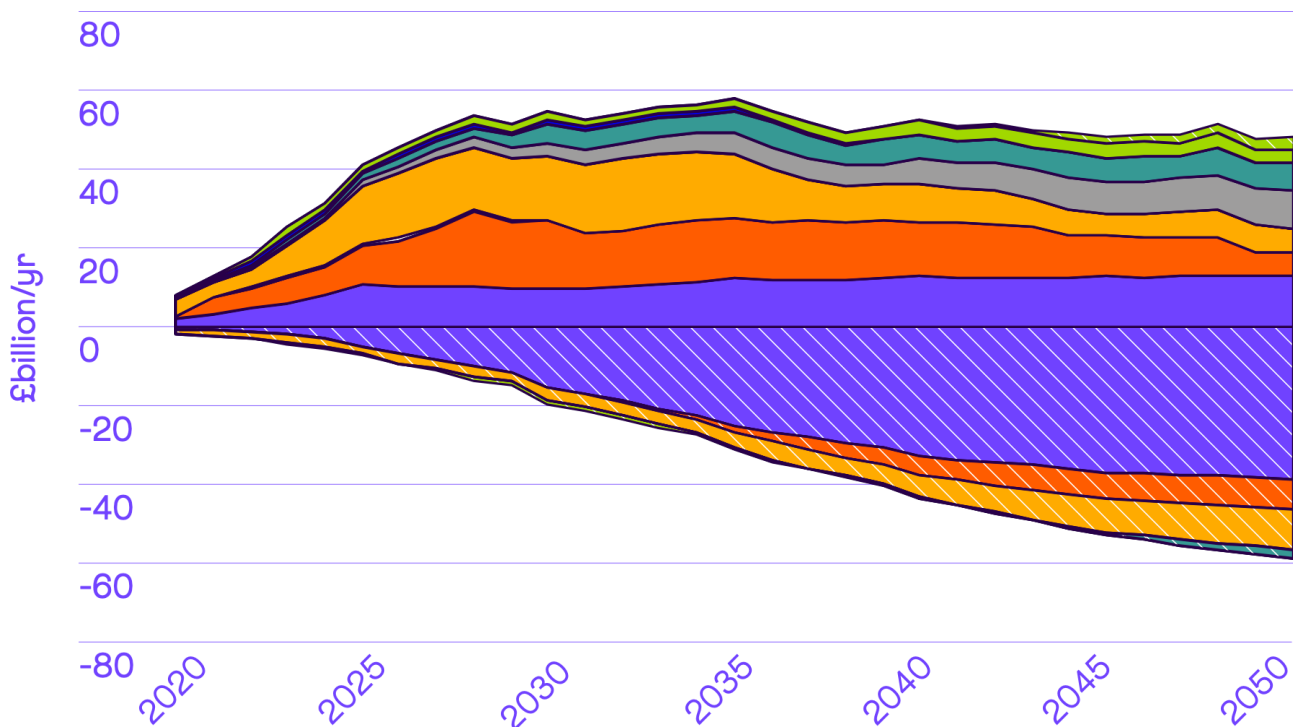
- Low-carbon hydrogen and electricity production

4. Offsetting emissions

- Natural carbon storage and greenhouse gas removals

Investing for Net Zero

Major investment programme, delivering offsetting operating cost savings



- Surface transport OPEX
- Buildings OPEX
- Electricity supply OPEX
- M&C / Fuel supply OPEX
- Other OPEX
- Surface transport CAPEX
- Buildings CAPEX
- Electricity supply CAPEX
- Networks CAPEX
- M&C / Fuel supply CAPEX
- Other CAPEX

Notes:

Costs of electricity are included in the energy supply sector, whereas costs of other low-carbon fuels such as hydrogen and bioenergy are included in the sectors that use these fuels.

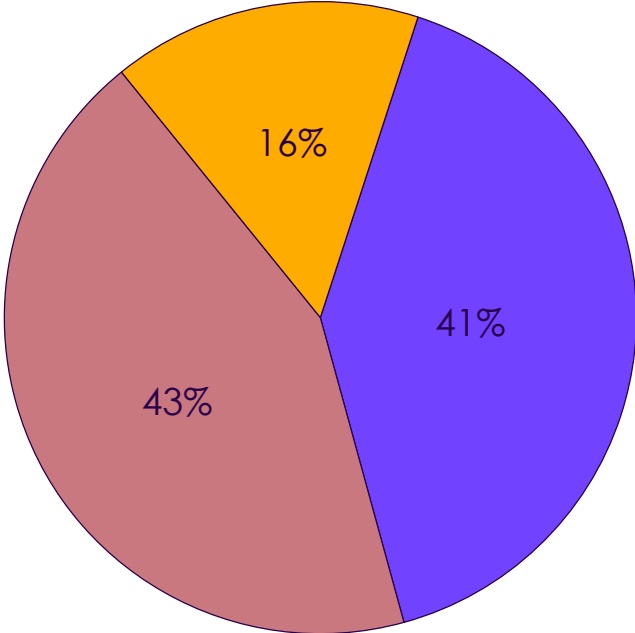
M&C is manufacturing and construction. "Other" category includes aviation, shipping, land-use, land-use change and forestry, agriculture, removals, waste and F-gases. CAPEX refers to additional annual capital investment. OPEX refers to savings due to operational cost reductions

Source:

CCC analysis.

Emissions abatement on the recommended path

Role of behavioural and societal change in meeting the Sixth Carbon Budget (by 2035)



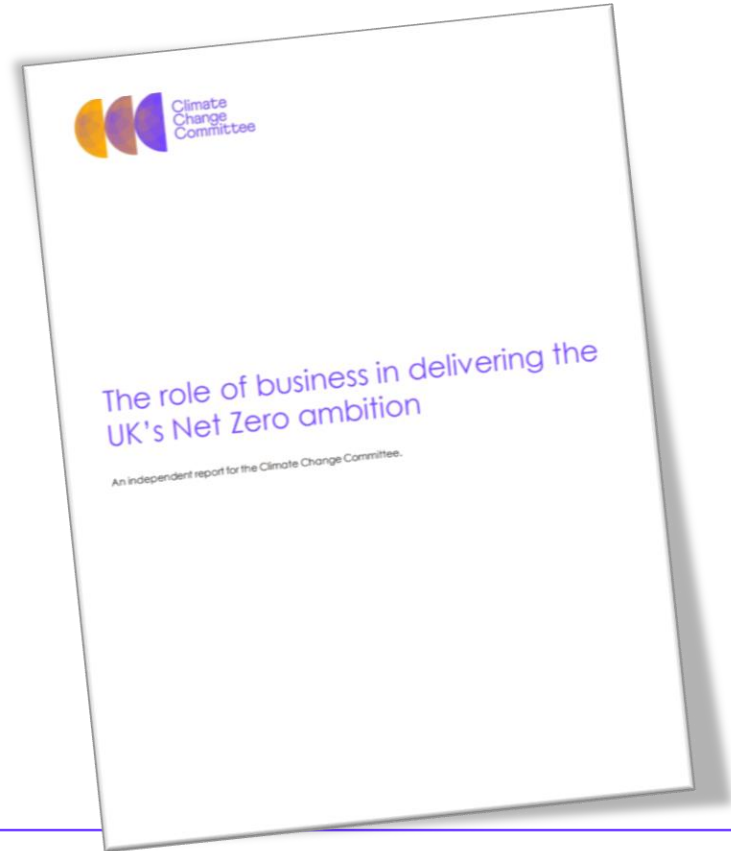
- Low-carbon technologies or fuels, not societal/behavioural changes
- Measures with a combination of low-carbon technologies and societal/behaviour changes
- Largely societal or behaviour changes

Source: CCC Analysis

The role of business in delivering the UK's Net Zero ambition

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1. Do the basics – measure, disclose, target, act, adjust.
2. Adopt the highest possible ambition
3. Address all emissions, (to Scope 3) and go beyond.
4. Push Climate Change to the highest levels of corporate leadership – and align executive incentives
5. Minimise the use 'offsets'



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