UK Net Zero target and strategy for 2050

Low Emission Development to Achieve Carbon Neutrality and SDGs:
12th International Greenhouse Gas Conference

May 28th 2021

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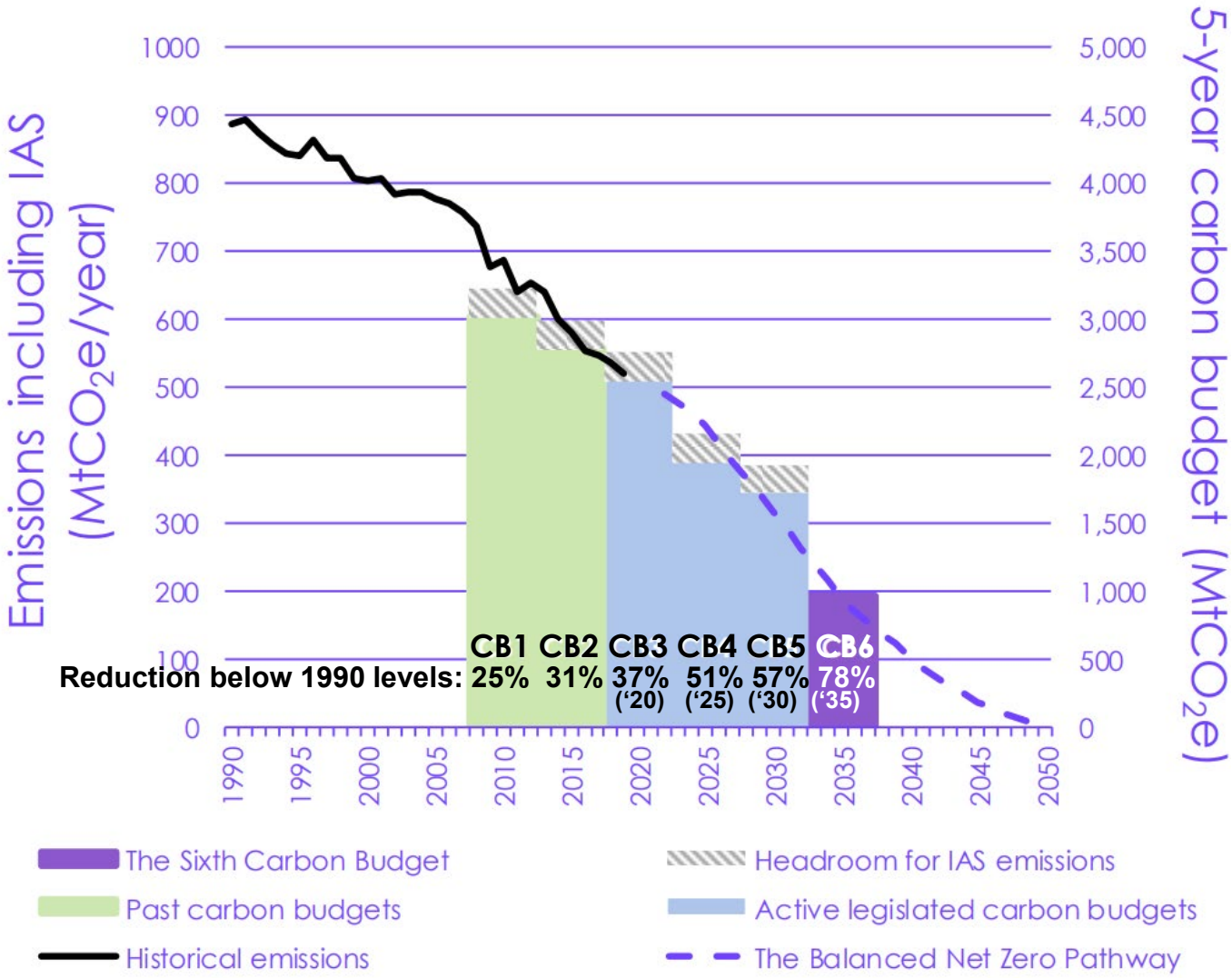
Agenda

- **UK Net Zero target**
  - Carbon budgets and pathway to Net Zero
  - Performance against carbon budgets
  - Emissions reductions so far
- **Strategy for Net Zero**
  - Key elements of approach
  - Required pace of emissions reductions
  - Types of abatement needed
  - Capital costs and operating cost savings
  - Overall sequence
  - Priorities for key sectors
- **Conclusions**

UK Net Zero target: Carbon budgets and pathway to Net Zero

- Legislation for the UK's Net Zero target by 2050 was passed in 2019.
- Legally-binding 5 year carbon budgets act as stepping stones towards target.
- Latest (6th) carbon budget to be legislated by June 2021.
- 6th carbon budget target is 78% reduction by 2035 from 1990 levels.



Source: The Sixth Carbon Budget – The UK's Path to Net Zero, UK Committee on Climate Change, December 2020

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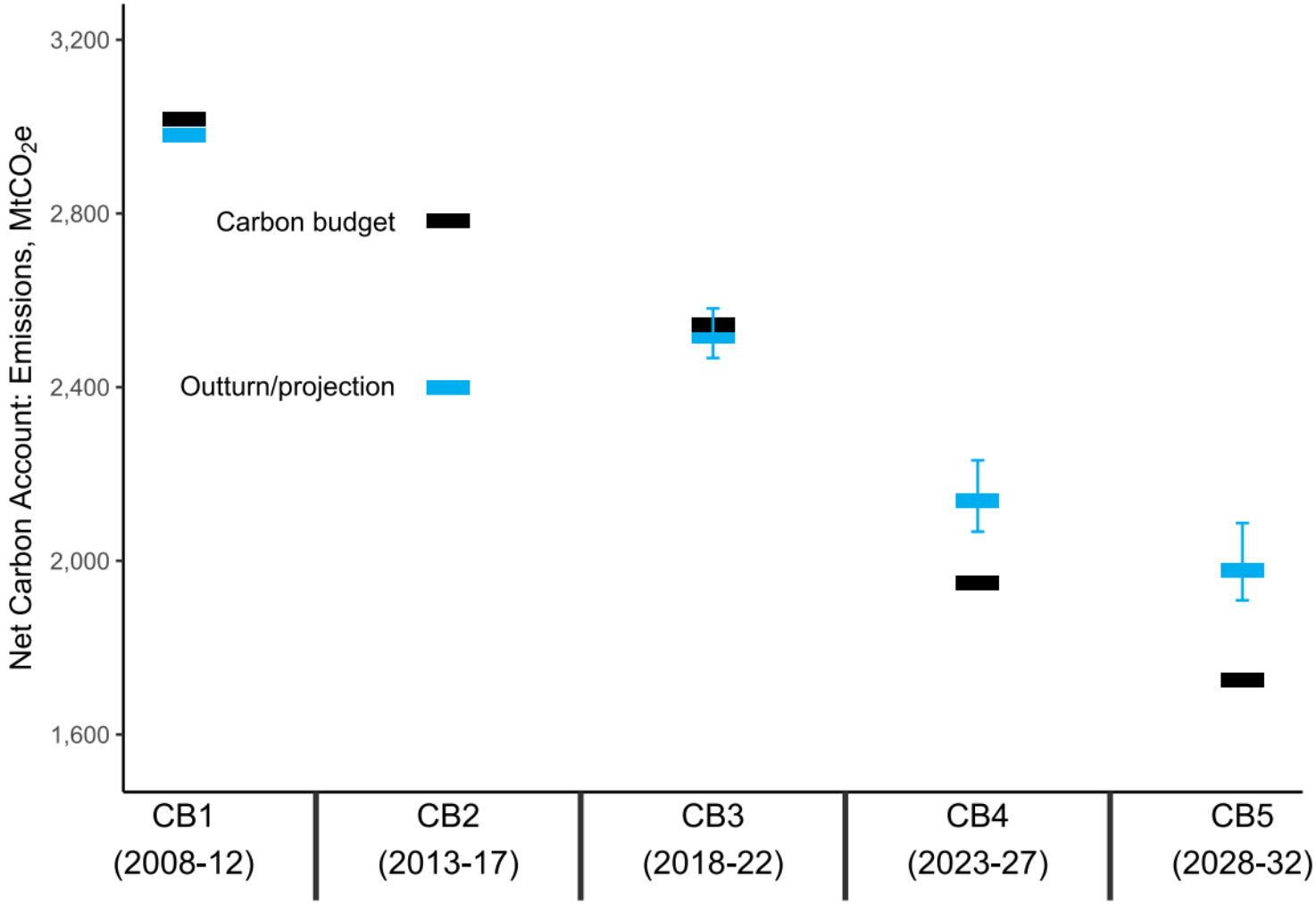
UK Net Zero target: Performance against carbon budgets



Target met? **Yes (1st)** **Yes (2nd)** **On track (3rd)** **Off track (4th)** **Off track (5th)**

Source: Updated energy and emission projections 2019, Department for Business, Energy & Industrial Strategy, October 2020

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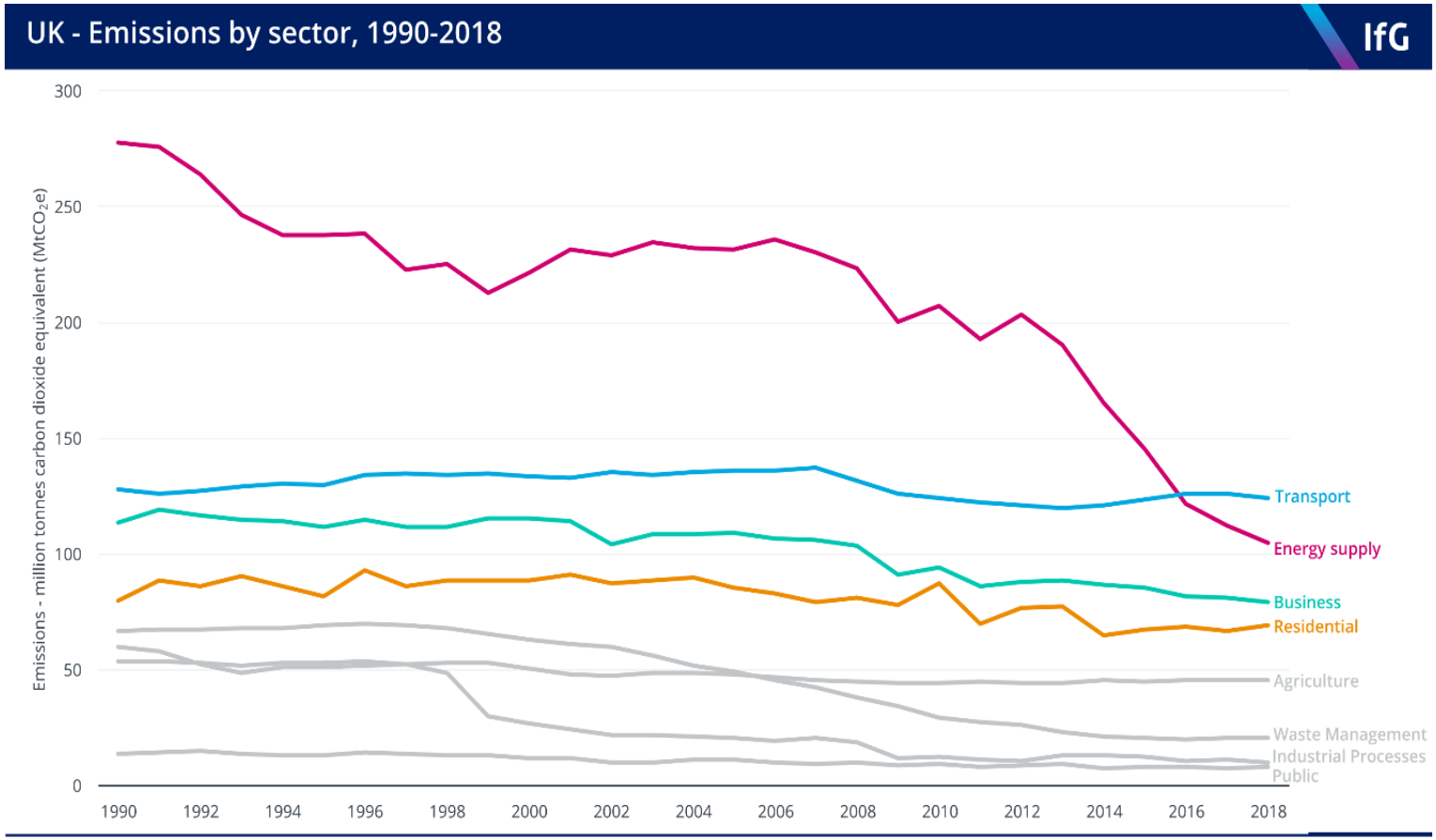
UK Net Zero target: Emission reductions so far



Source: Institute for Government analysis of: *Final UK greenhouse gas emissions national statistics*, BEIS, February 2020
Note: Net negative emissions from LULUCF not shown.

- Most progress in reducing emissions from power sector – due to EU-ETS carbon price, support for offshore wind & closure of coal power stations.
- Emissions largely unchanged in transport, homes & agriculture.

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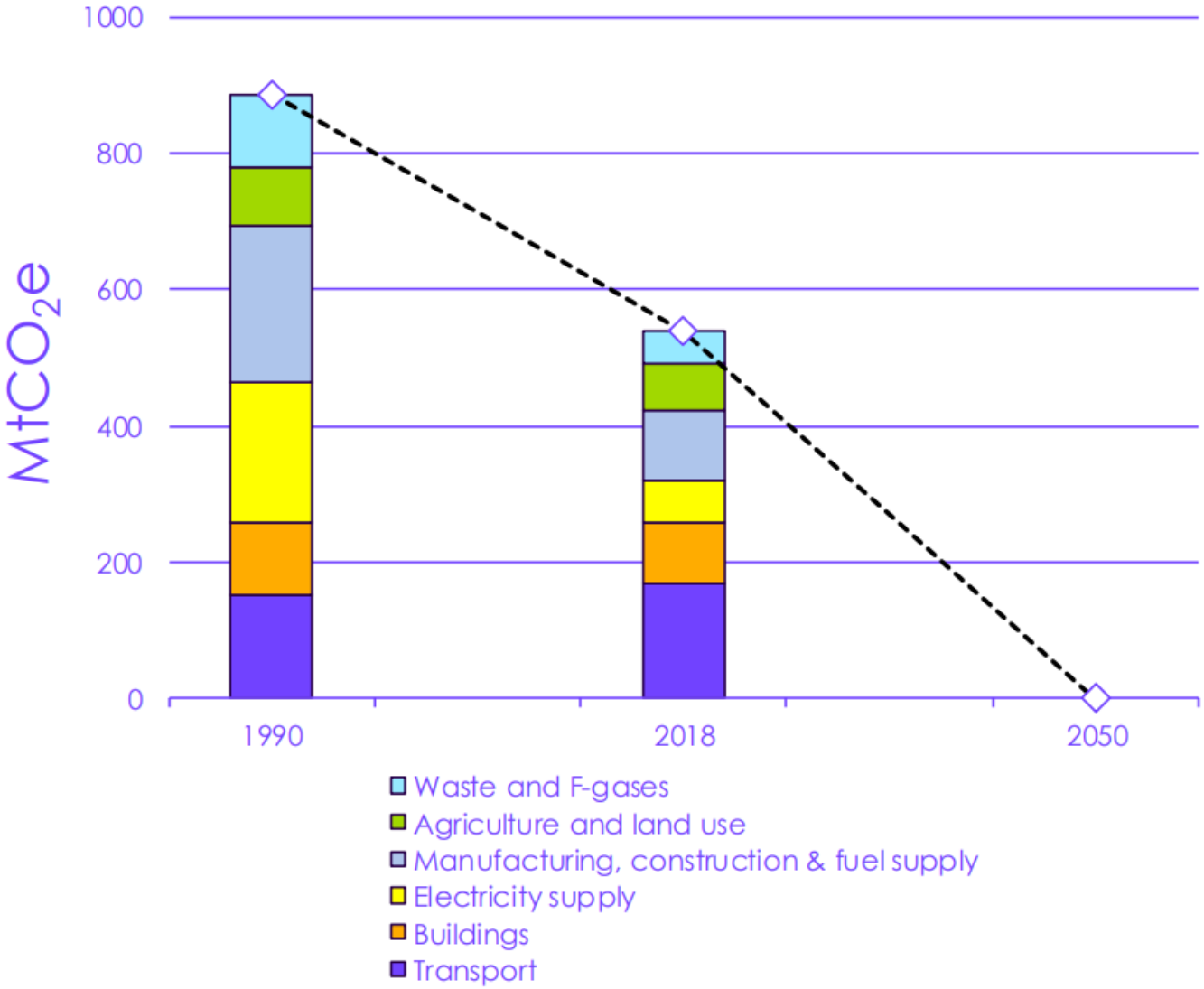
Strategy for Net Zero: Key elements of the approach

- The Climate Change Act provides the legal framework for Net Zero targets.
- It assigns duties and responsibilities for action based around independent expert advice and monitoring.
- The basic framework of the Act ensures that goals are evidence-based and translated into near-term action.
- Key elements of the approach are summarized below.

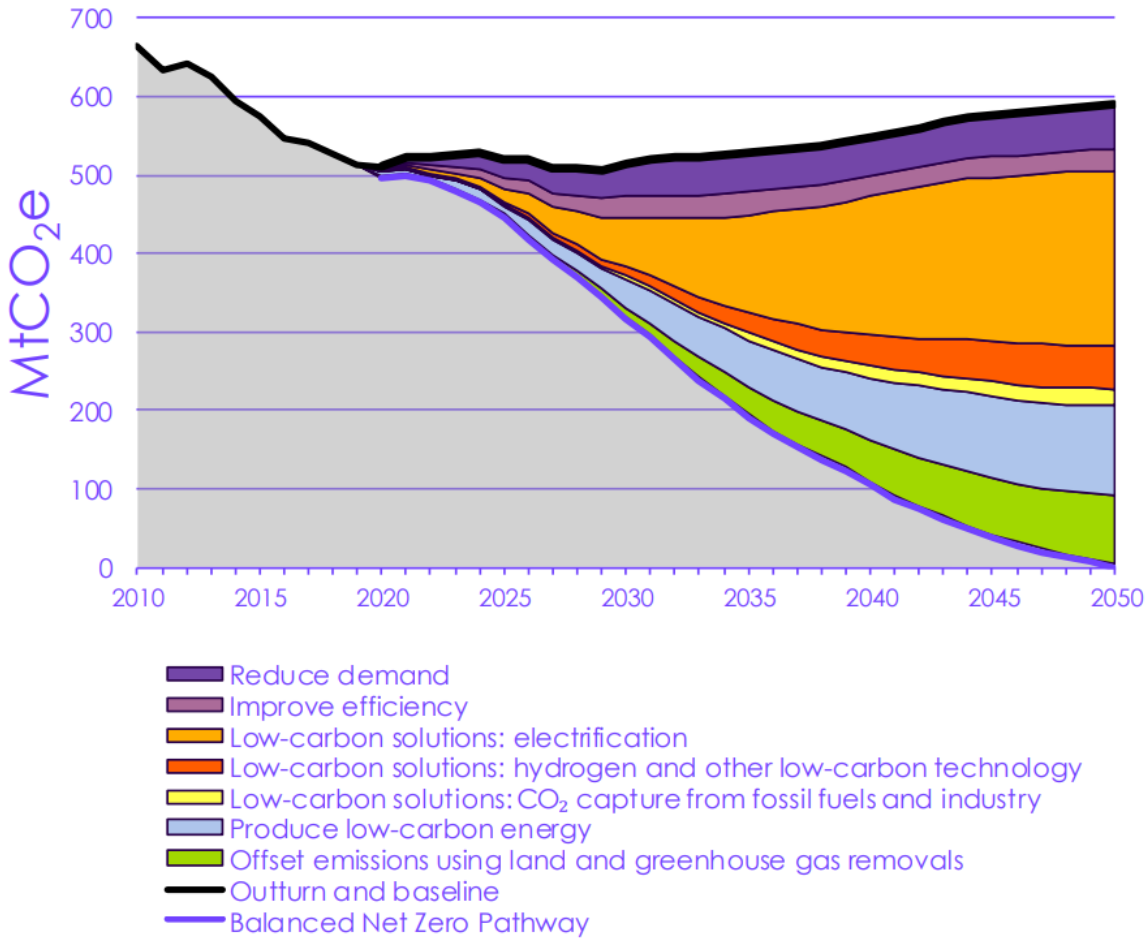
1 **A goal**	**2050 Emissions Target**
2 **A pathway**	**Carbon Budgets**
3 **A toolkit**	Requirement that Government brings forward **policies**
4 **A monitoring framework**	**Committee on Climate Change** to monitor progress and suggest changes

Strategy for Net Zero: Required pace of emission reductions



Source: The Sixth Carbon Budget – The UK's Path to Net Zero, UK Committee on Climate Change, December 2020

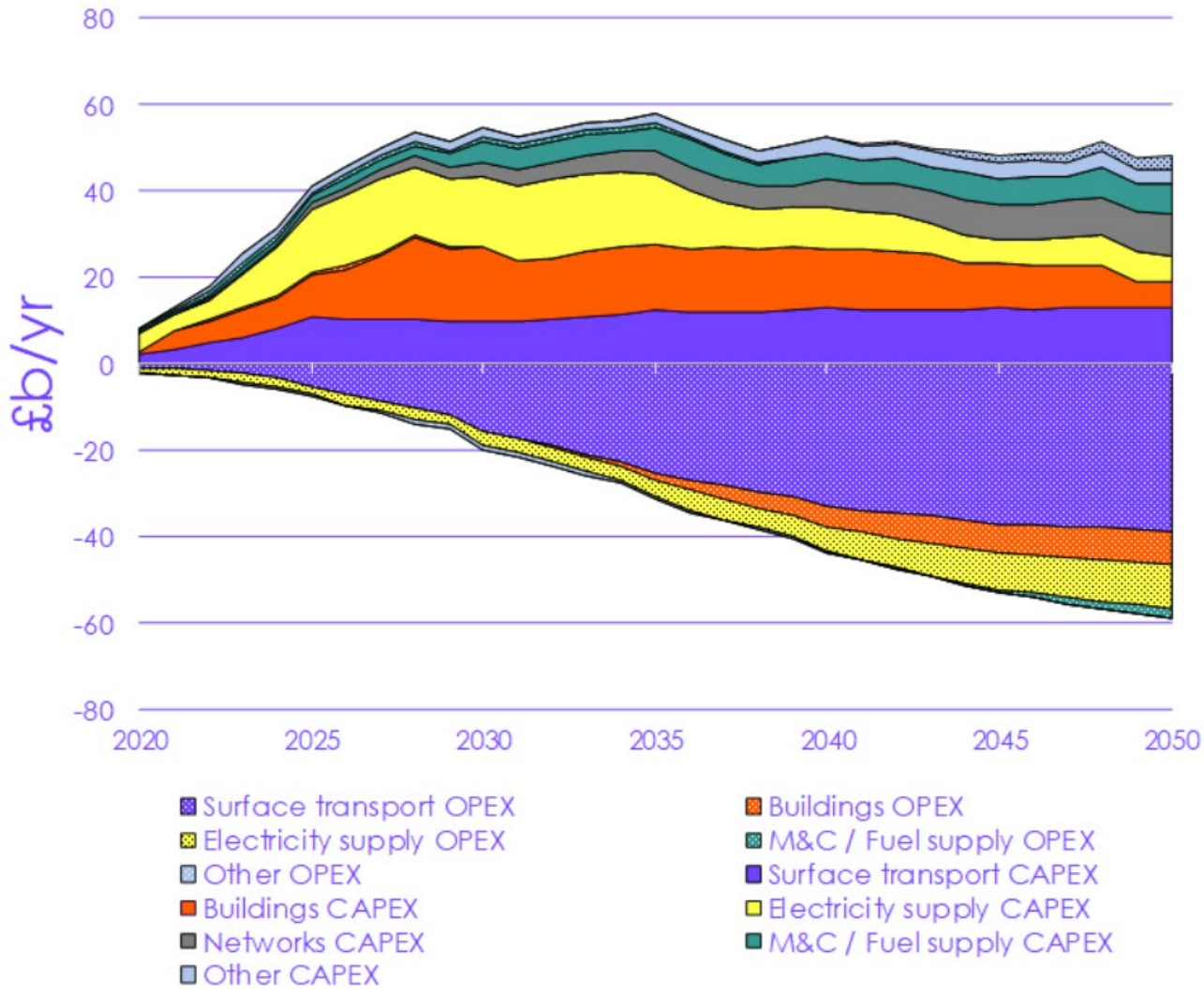
Strategy for Net Zero: Types of abatement needed



Source: The Sixth Carbon Budget – The UK's Path to Net Zero, UK Committee on Climate Change, December 2020

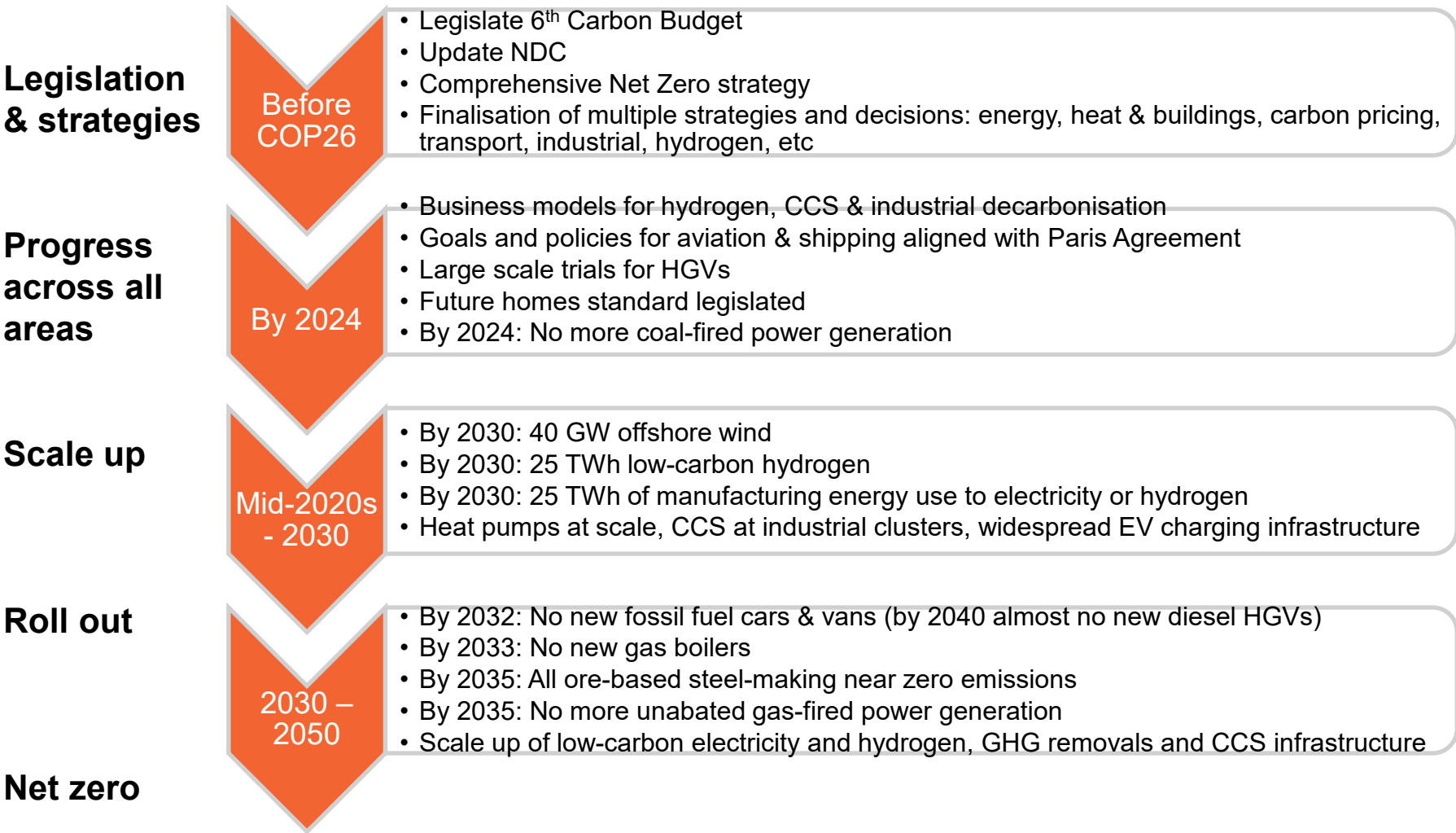
Strategy for Net Zero: Capital costs and operating cost savings

- Low carbon investment must scale up to £50 billion each year.
- This generates substantial fuel savings from cleaner, more-efficient technologies.
- In time, savings cancel out the investment costs entirely.
- Central estimate for costs now below 1% of GDP throughout the next 30 years.



Source: The Sixth Carbon Budget – The UK's Path to Net Zero, UK Committee on Climate Change, December 2020

Strategy for Net Zero: Overall sequence



Strategy for Net Zero: Priorities for key sectors

- **Surface transport**
  - Policies to phase out new sales of petrol & diesel cars & vans by 2030.
  - Commitment to phase out sales of diesel heavy goods vehicles no later than 2040.
  - Recharging and refuelling infrastructure to develop to meet the range of emerging needs.
  - Policies to reduce travel demand.
- **Industry**
  - Comprehensive transition support framework including funding to ensure industries stay internationally competitive while reducing emissions.
  - Development of longer-term policies, such as border carbon tariffs or carbon standards.
  - Policy must tackle both demand-side and supply-side for low-carbon products.
- **Buildings**
  - Heat and buildings strategy including phase-out of fossil heating, rebalancing of policy costs between electricity and gas, & commitments to funding and delivery plans.
  - Timetables for standards to make all buildings energy efficient and ultimately low-carbon.
  - Scale up supply chains for heat pumps & heat networks & develop option of hydrogen for heat.
- **Electricity generation**
  - Auctions of renewable contracts to support scale-up of low-carbon generating capacity.
  - Policy to address barriers to major scale-up required, including connections from offshore windfarms to onshore network and strengthening UK's power grid.
  - Following on from 2024 coal phase-out, gas-fired power without CCS phased out by 2035.
  - Improve flexibility must accelerate to accommodate the increasing shares of variable power.
- **Low-carbon hydrogen**
  - Hydrogen strategy to be published in 2021. To set out vision for hydrogen's role in meeting Net Zero together with actions, regulations and incentives.

Conclusions

- To reach Net Zero target there must be a process, a sequence and a governance system.
- The early years of the UK's pathway focus on scaling up new policy development, ramping up new supply chains for low-carbon goods & addressing sectors that have progressed too slowly: transport, industry, buildings, agriculture.
- Sales of most high carbon goods are phased out in UK altogether by the early 2030s. Emissions fall sharply over the 2030s, before levelling off in the 2040s, as final hurdles are cleared to reach Net Zero.
- Utmost focus is required from UK government over the next ten years to scale up policy across every sector, encourage business to invest and engage people in the challenge.
- The UK has already made significant progress towards Net Zero in the power sector due to carbon pricing and investments in renewables.
- The UK's process & governance system for achieving Net Zero can be a good example, although detailed pathway may not be transferable to other countries as it depends on country-specific emissions profiles and other circumstances.
- Based on the UK's estimates, investment costs to achieve Net Zero are below 1% of GDP per year, with savings due to more efficient technologies outweighing these costs in later years.

Thank you

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