


28 May 2019

10 Years of the Climate Change Act

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UK Committee on Climate Change

UK Climate Change Act 2008



Climate Change Act 2008

CHAPTER 27

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CARBON TARGET AND BUDGETING

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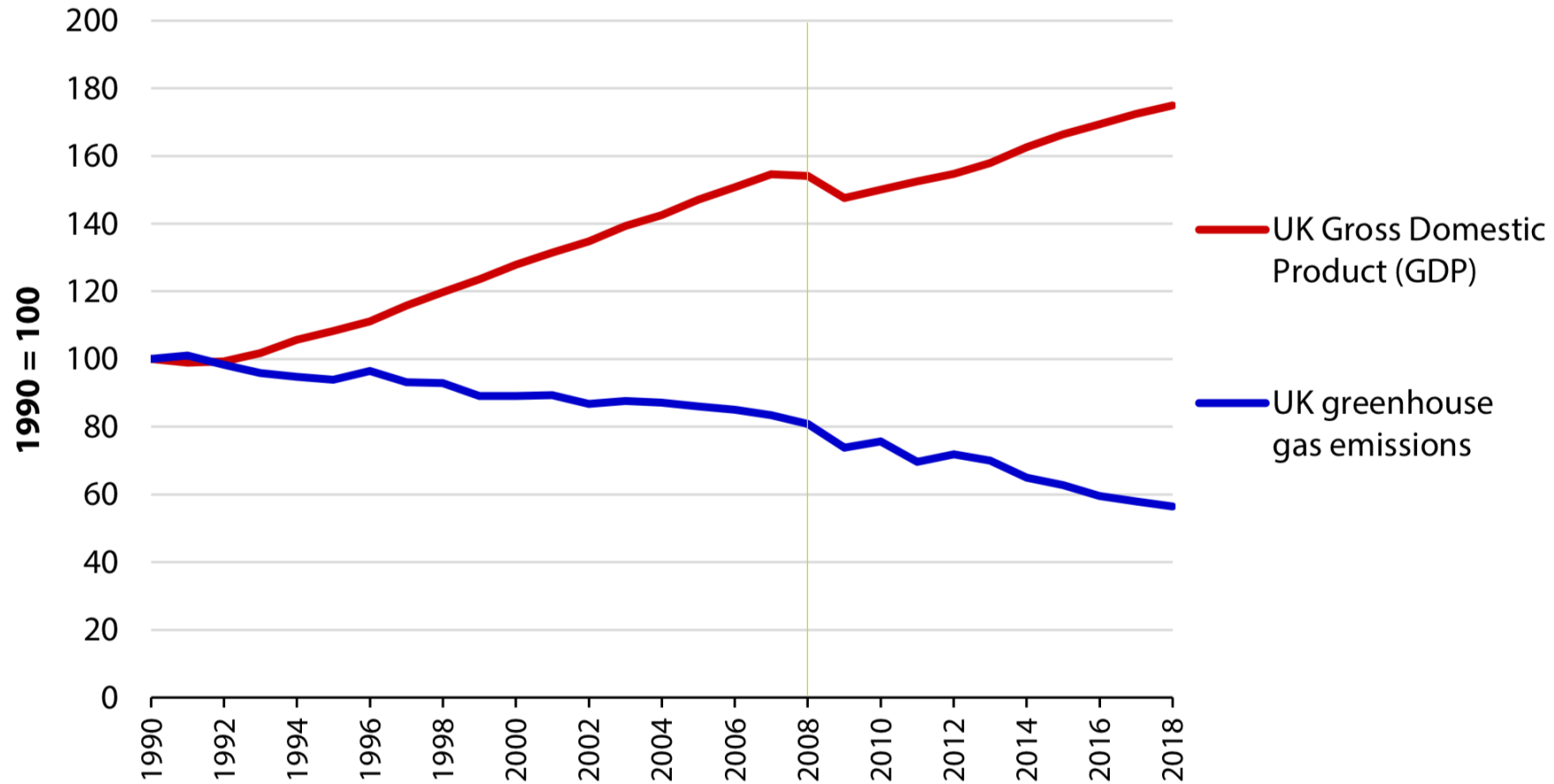
Proposals and policies for meeting carbon budgets

- 13 Duty to prepare proposals and policies for meeting carbon budgets
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1) Story of the decade

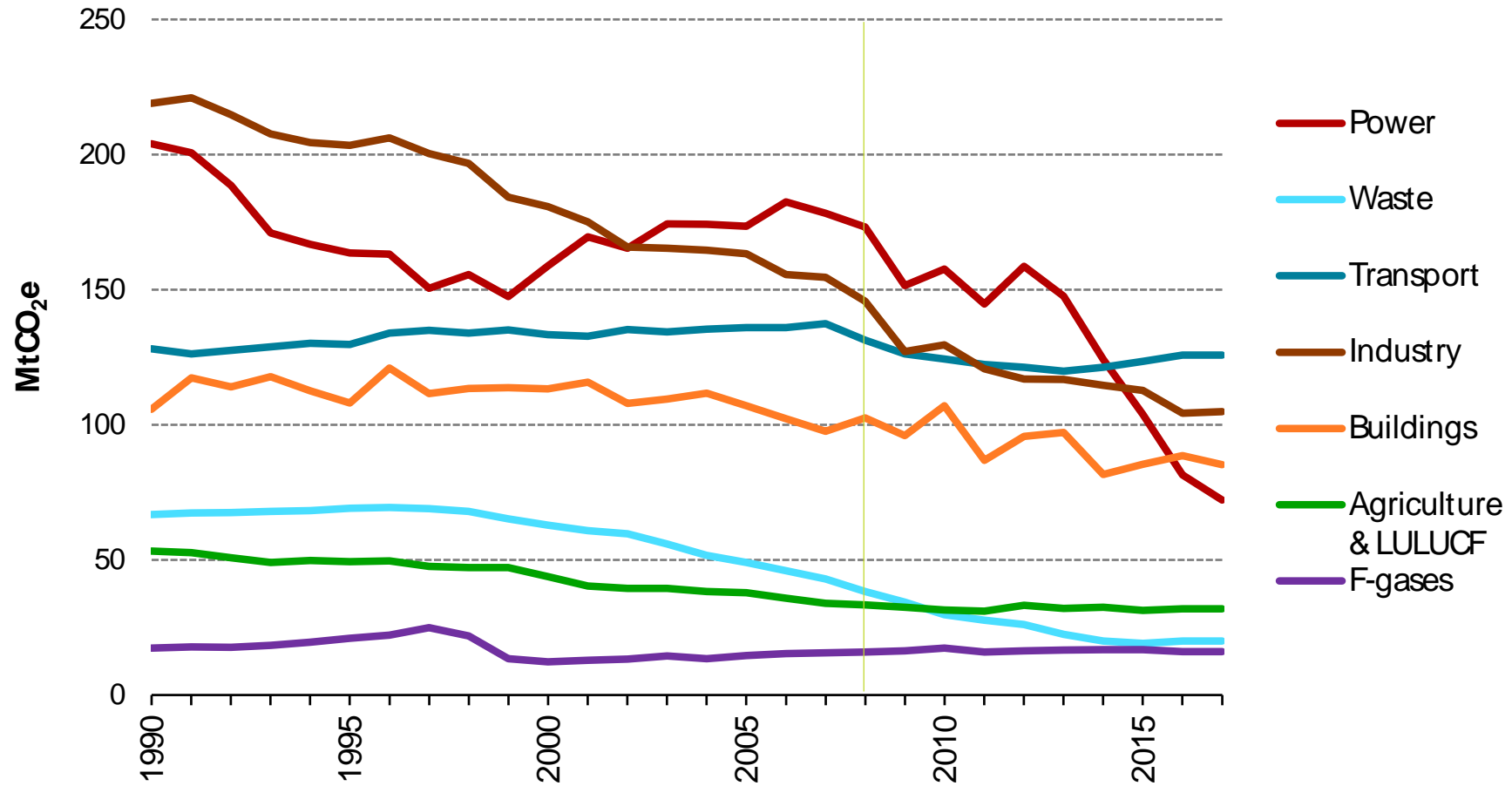


Emissions performance



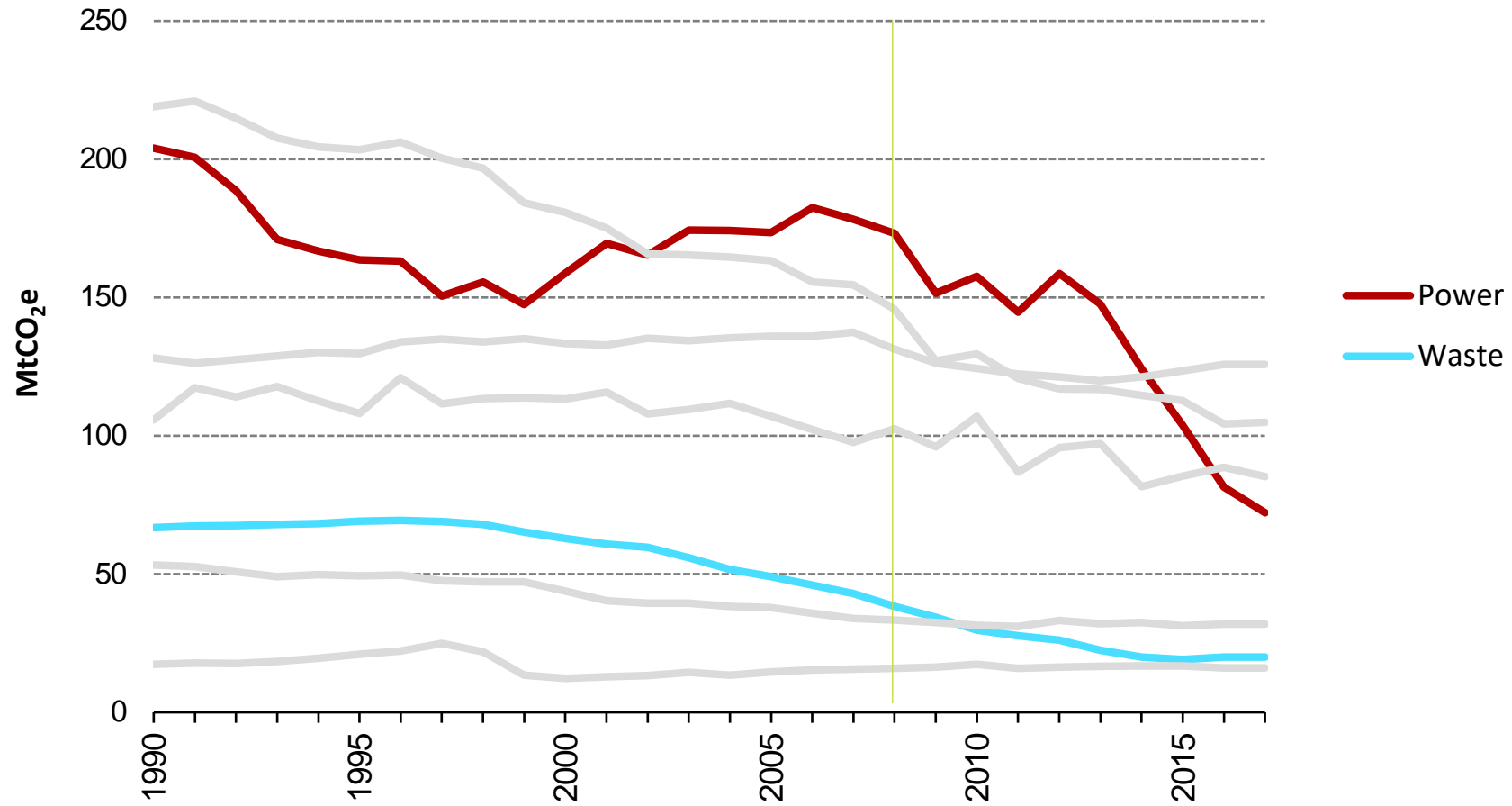
Source: CCC analysis

Emissions performance



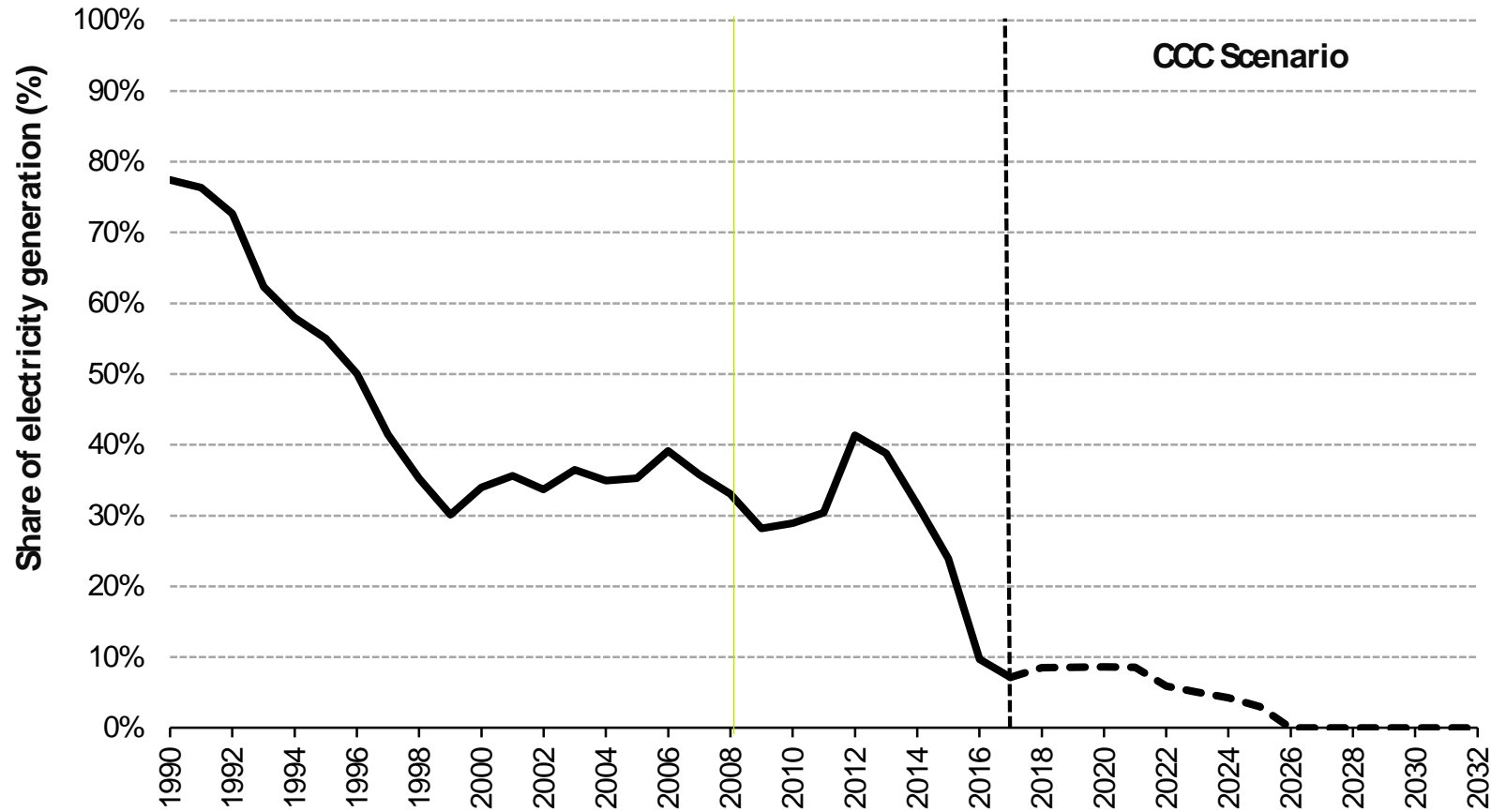
Source: CCC analysis

Emissions performance



Source: CCC analysis

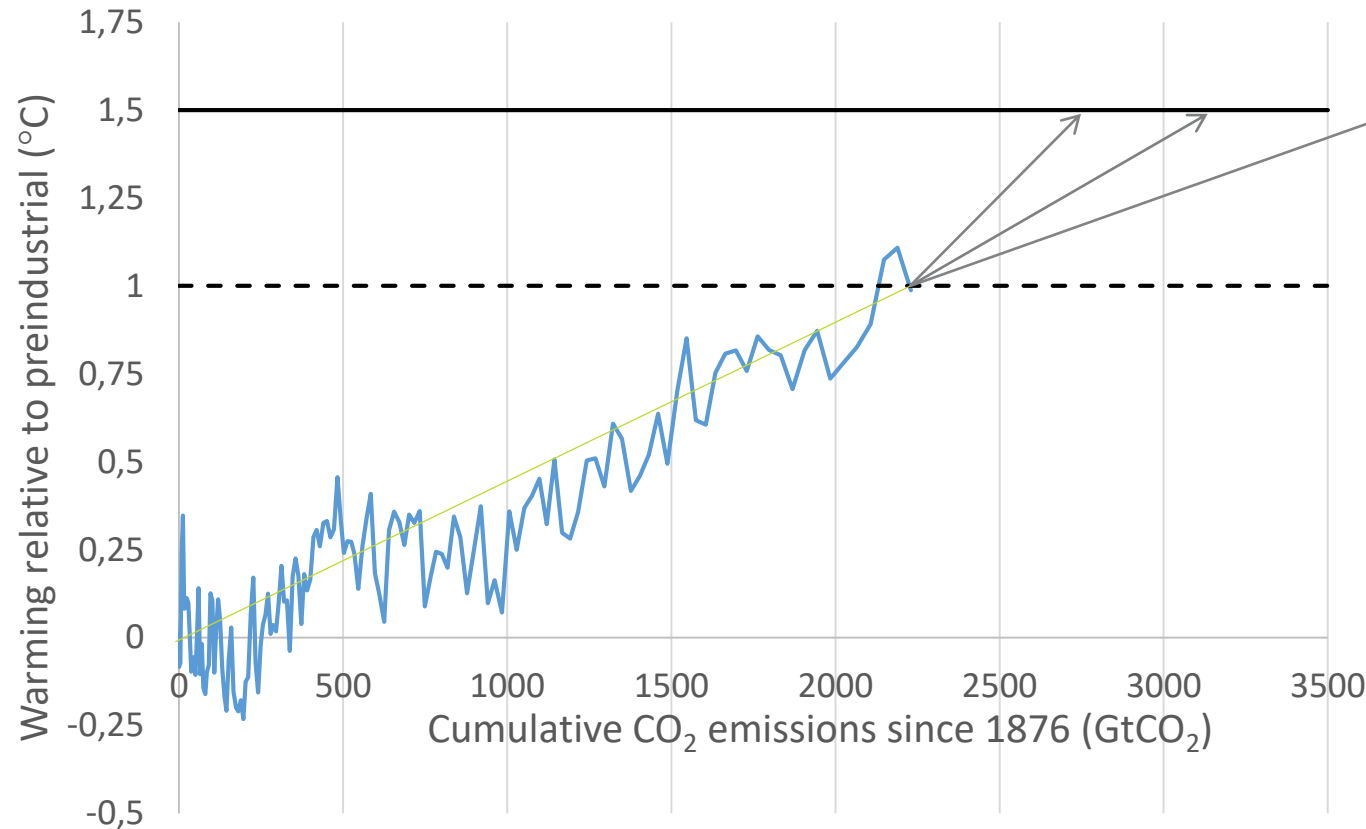
Role of coal in UK Electricity Generation



Source: CCC analysis

2) What follows – Net Zero

Observed and human-induced warming



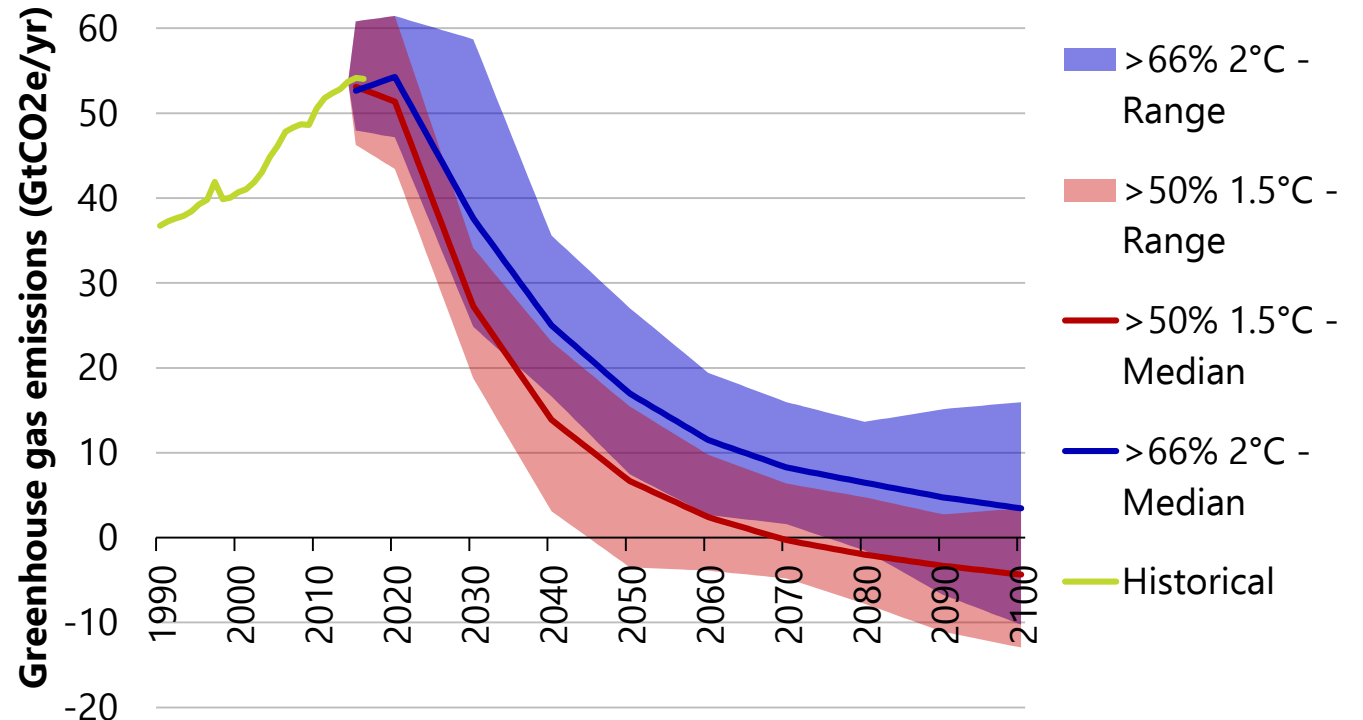
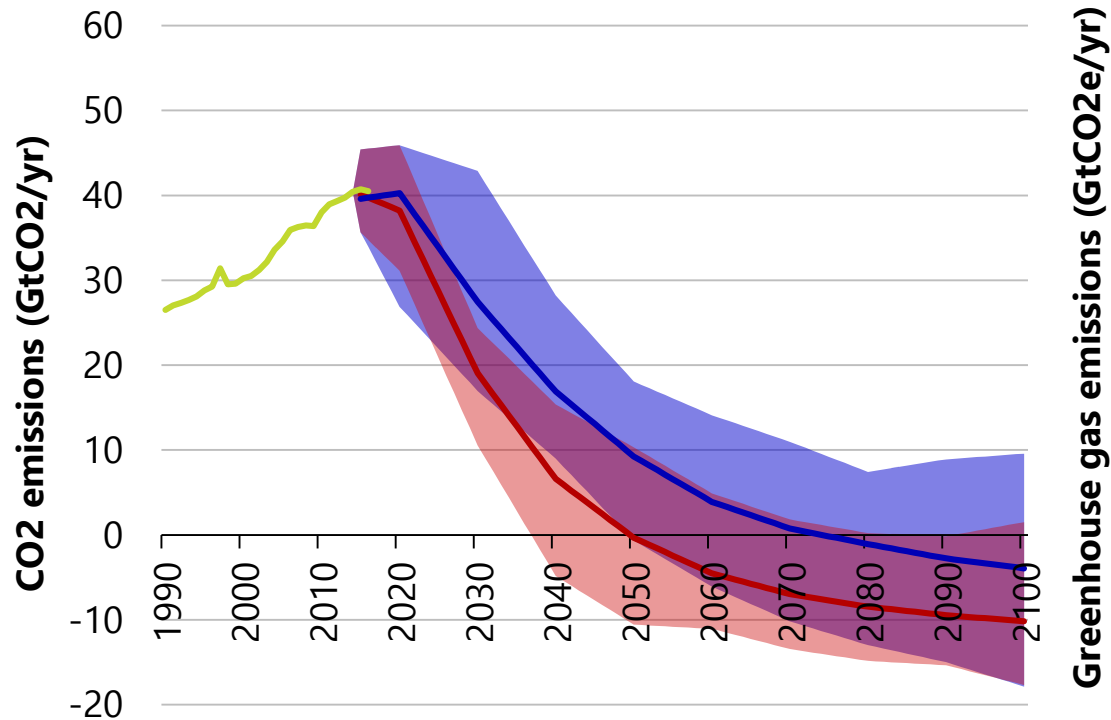
Estimated fossil fuel reserves:
3,670 – 7,100 GtCO₂

Estimated fossil fuel resources:
31,300 – 50,050 GtCO₂

Source: Carbon Tracker

Global emissions pathways consistent with Paris

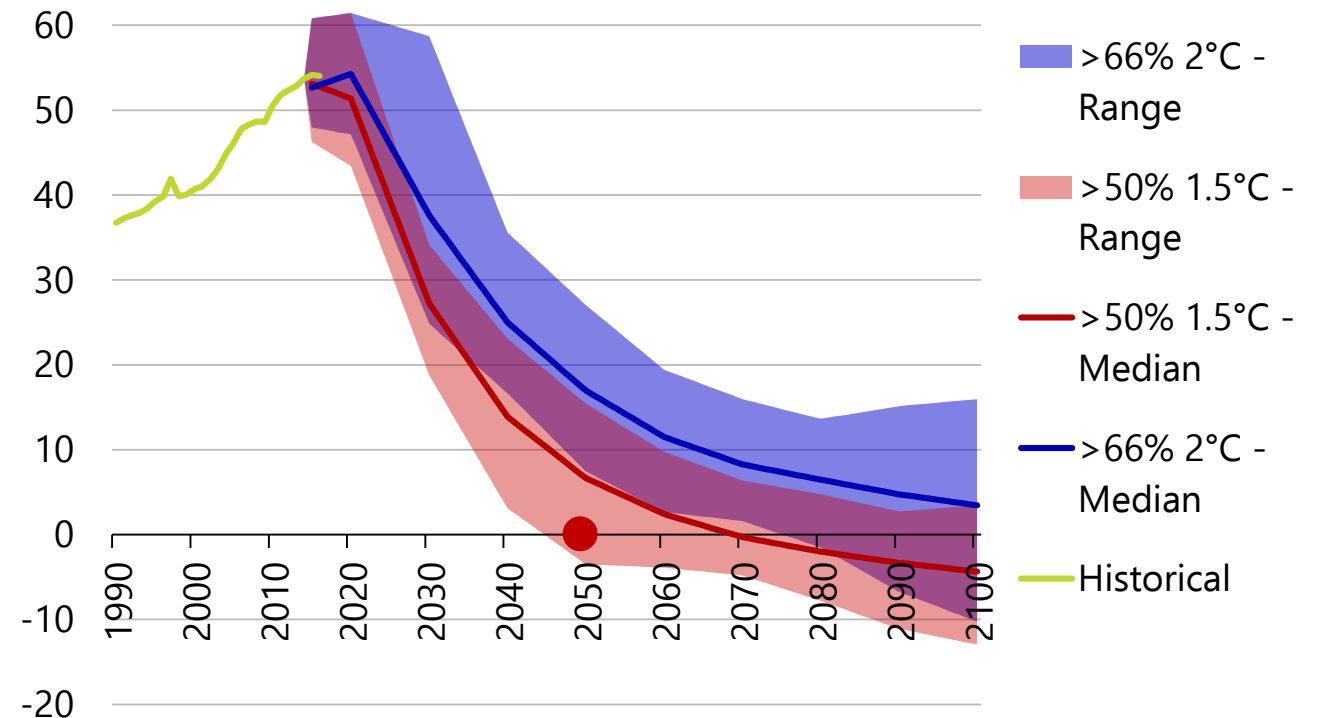
Global emissions pathways consistent with Paris CO₂ (left) Aggregated GHGs (right)



Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

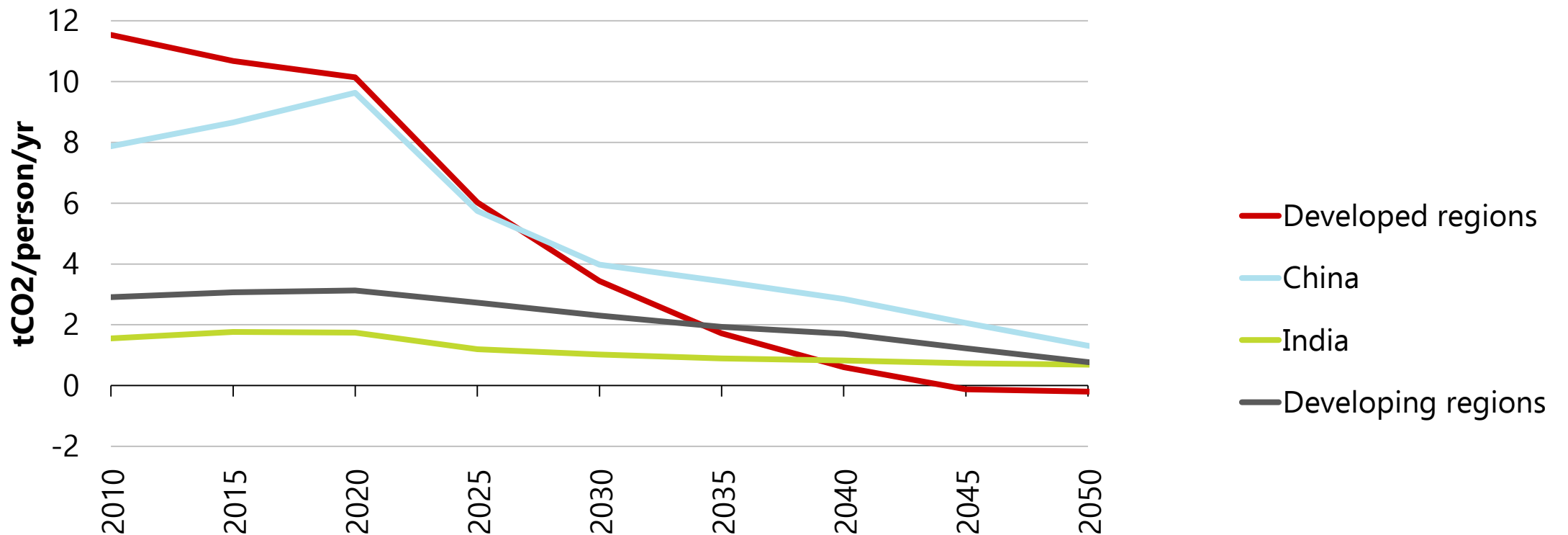
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Global emissions pathways consistent with Paris CO₂ (left) Aggregated GHGs (right)



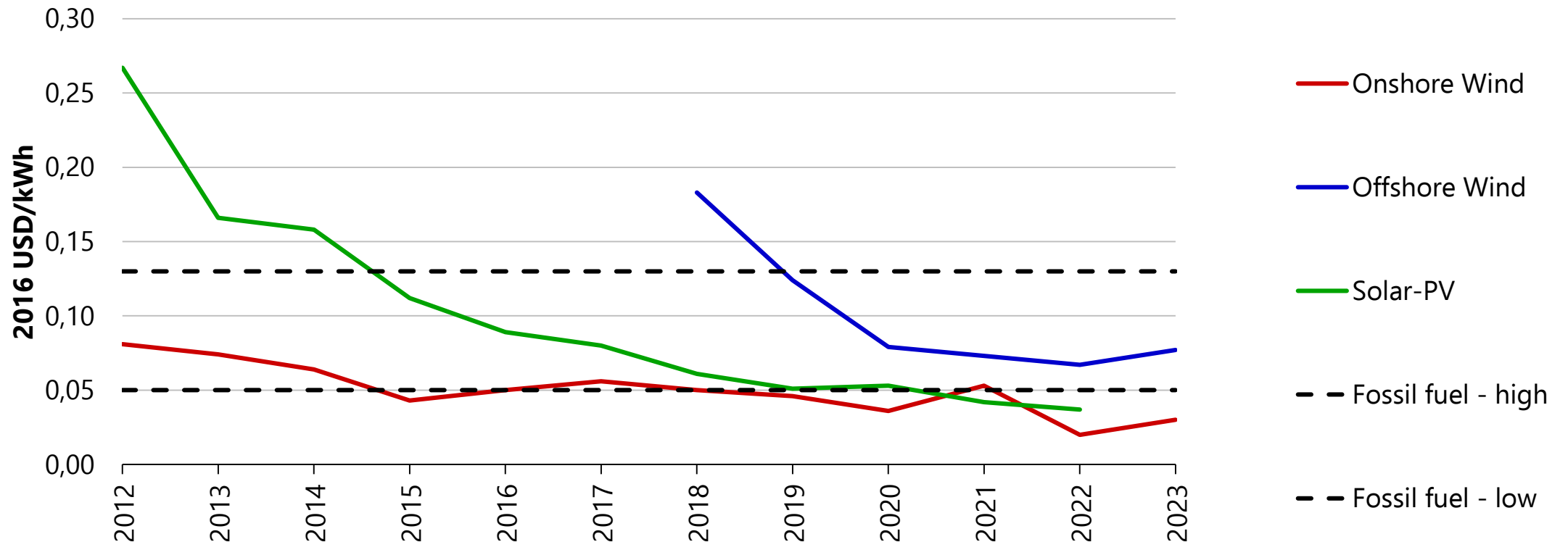
Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

Per capita CO₂ emissions (2010-2050) 'Leadership-driven' scenario consistent with limiting global warming to well below 2°C



Source: UCL (2019) Modelling 'leadership-driven' scenarios of the global mitigation effort

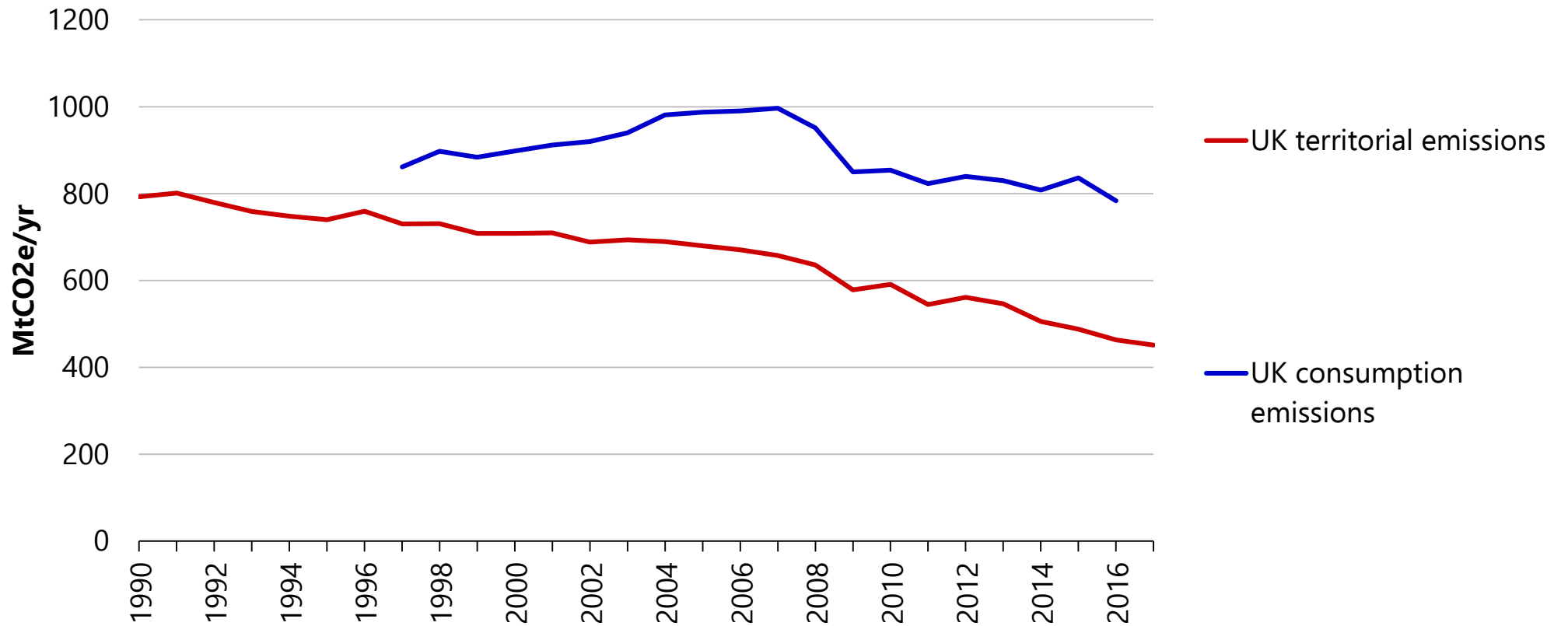
Global average auction prices by commissioning date



Source: IEA (2019) Renewable Energy 2018

Appropriate UK contribution to global emissions pathways

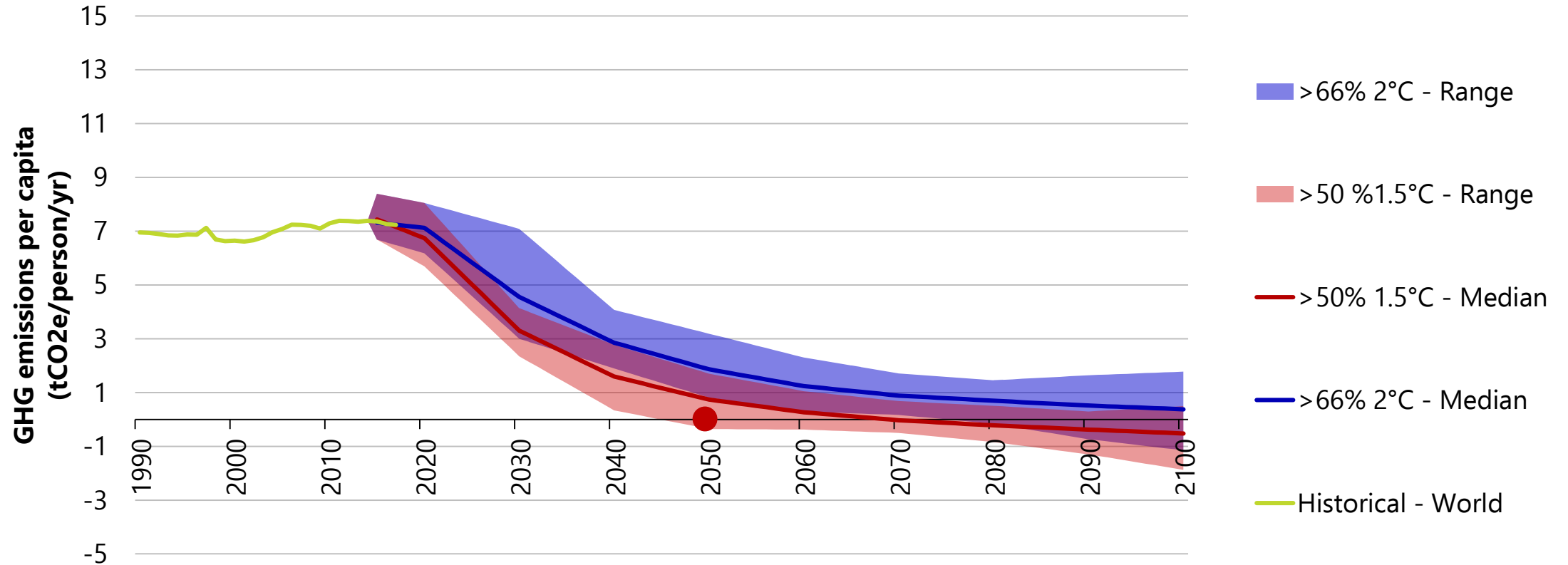
Historical consumption emissions in the UK



Source: CCC analysis; Defra (2019) UK's carbon footprint; BEIS (2019) Final UK greenhouse gas emissions national statistics: 1990-2017.

Appropriate UK contribution to global emissions pathways

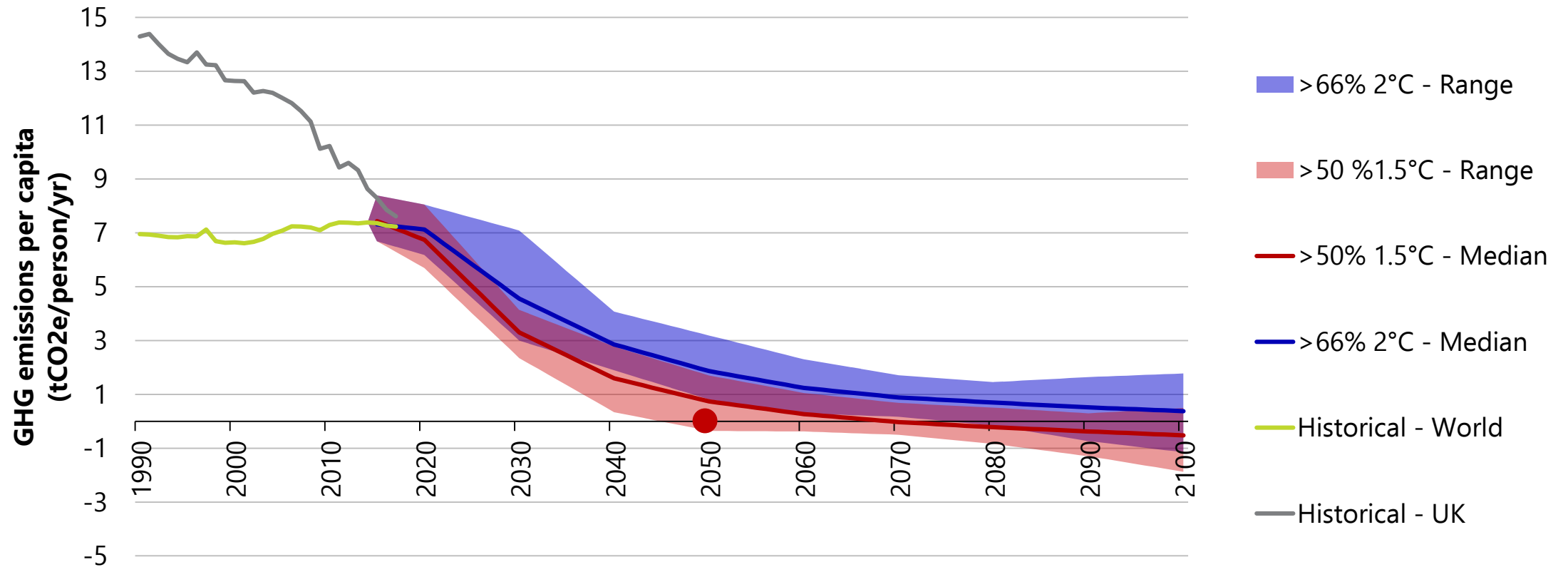
Evolution of global per capita emissions over time



Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

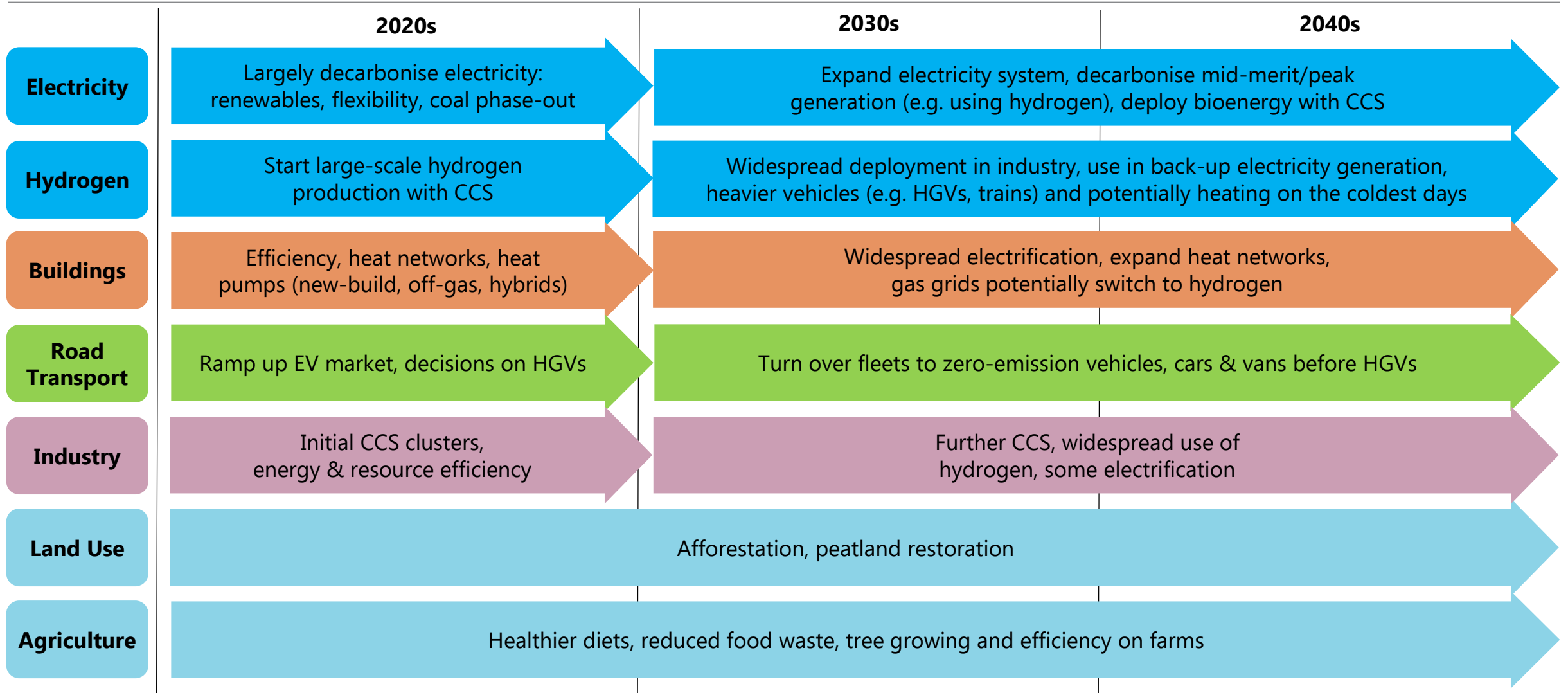
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Evolution of global per capita emissions over time

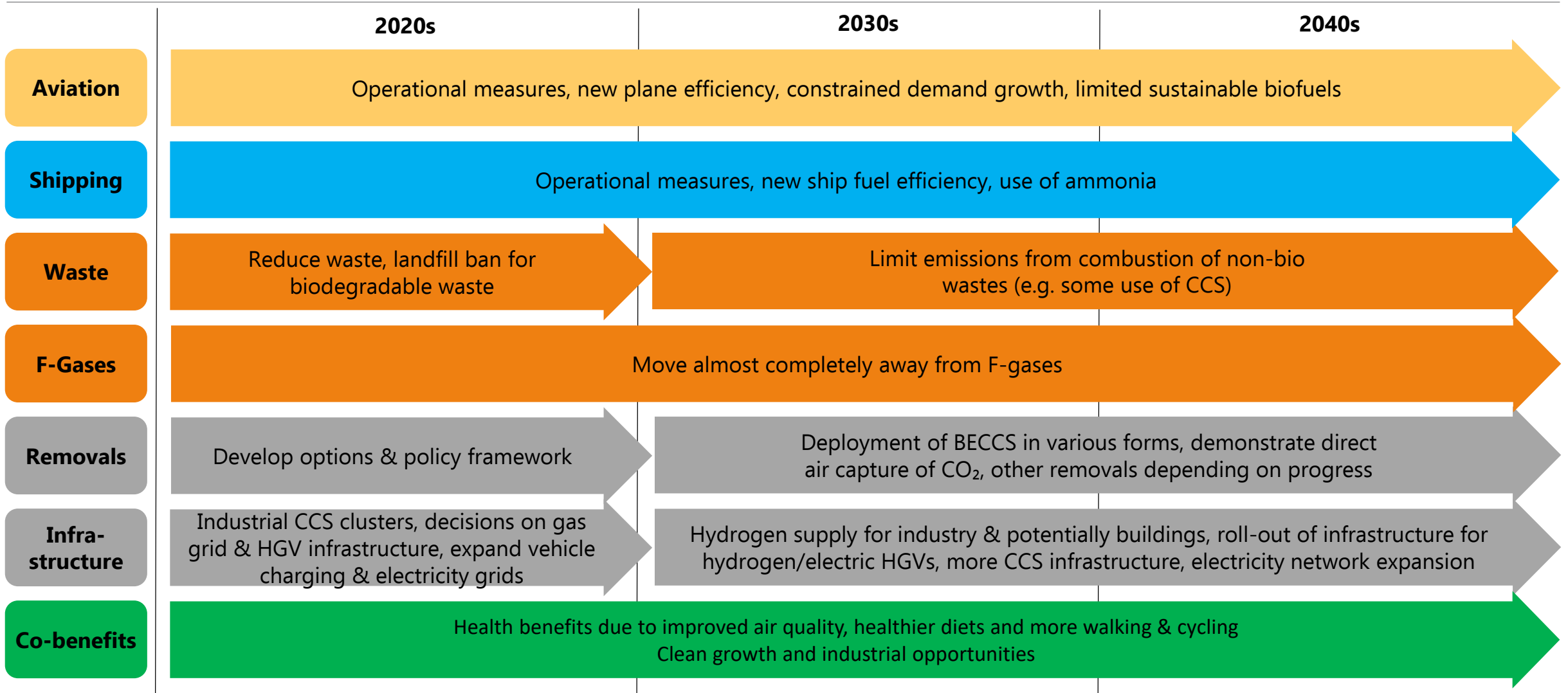


Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

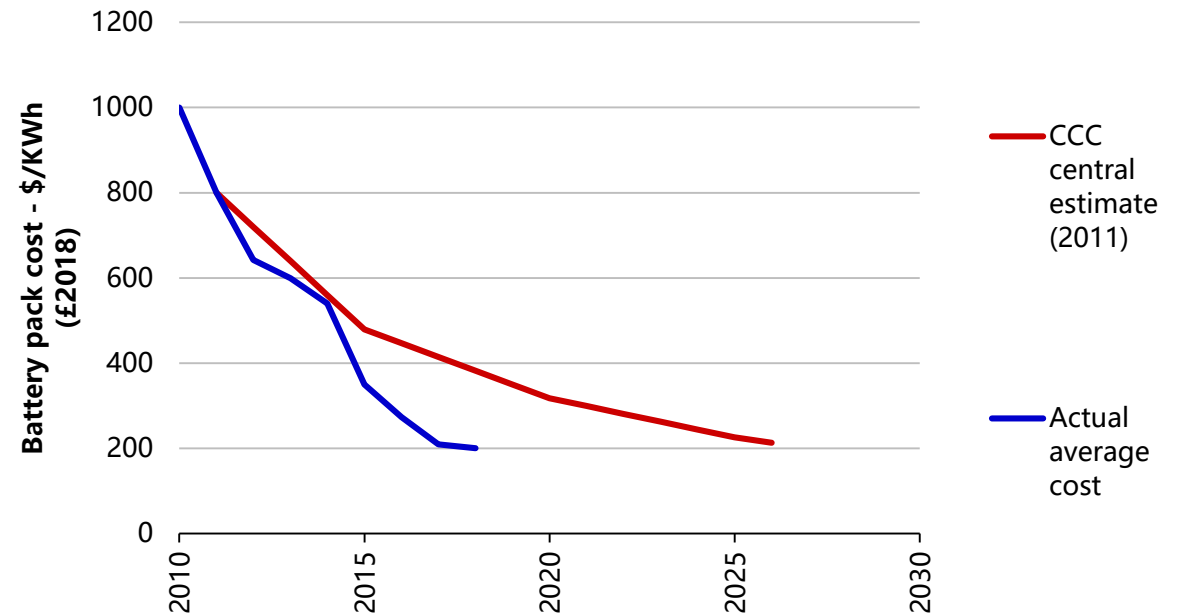
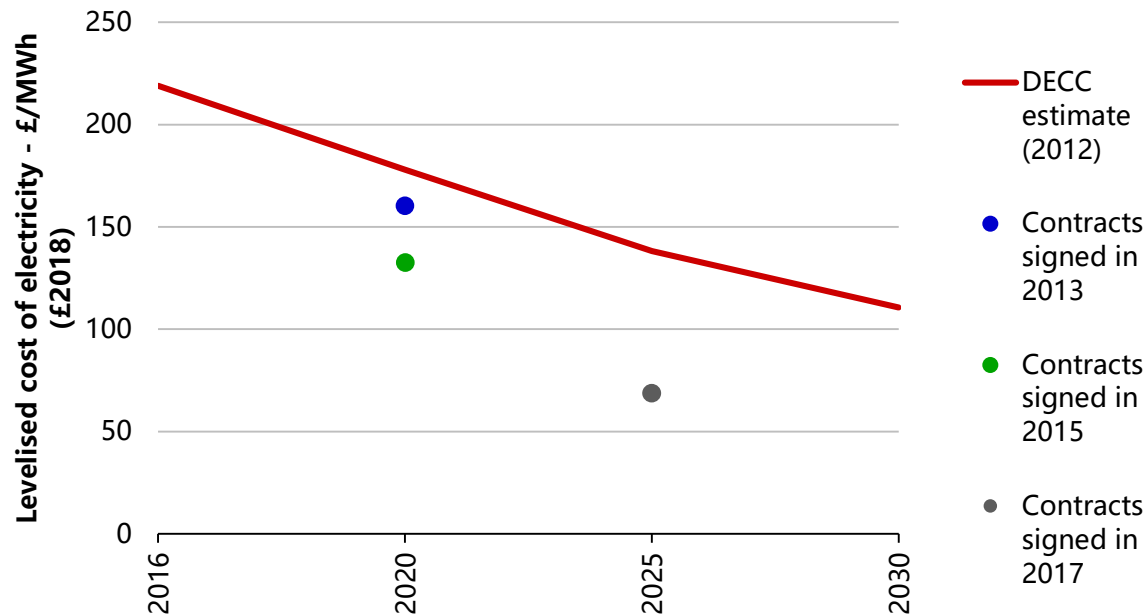
Reaching net-zero emissions in the UK



Reaching net-zero emissions in the UK



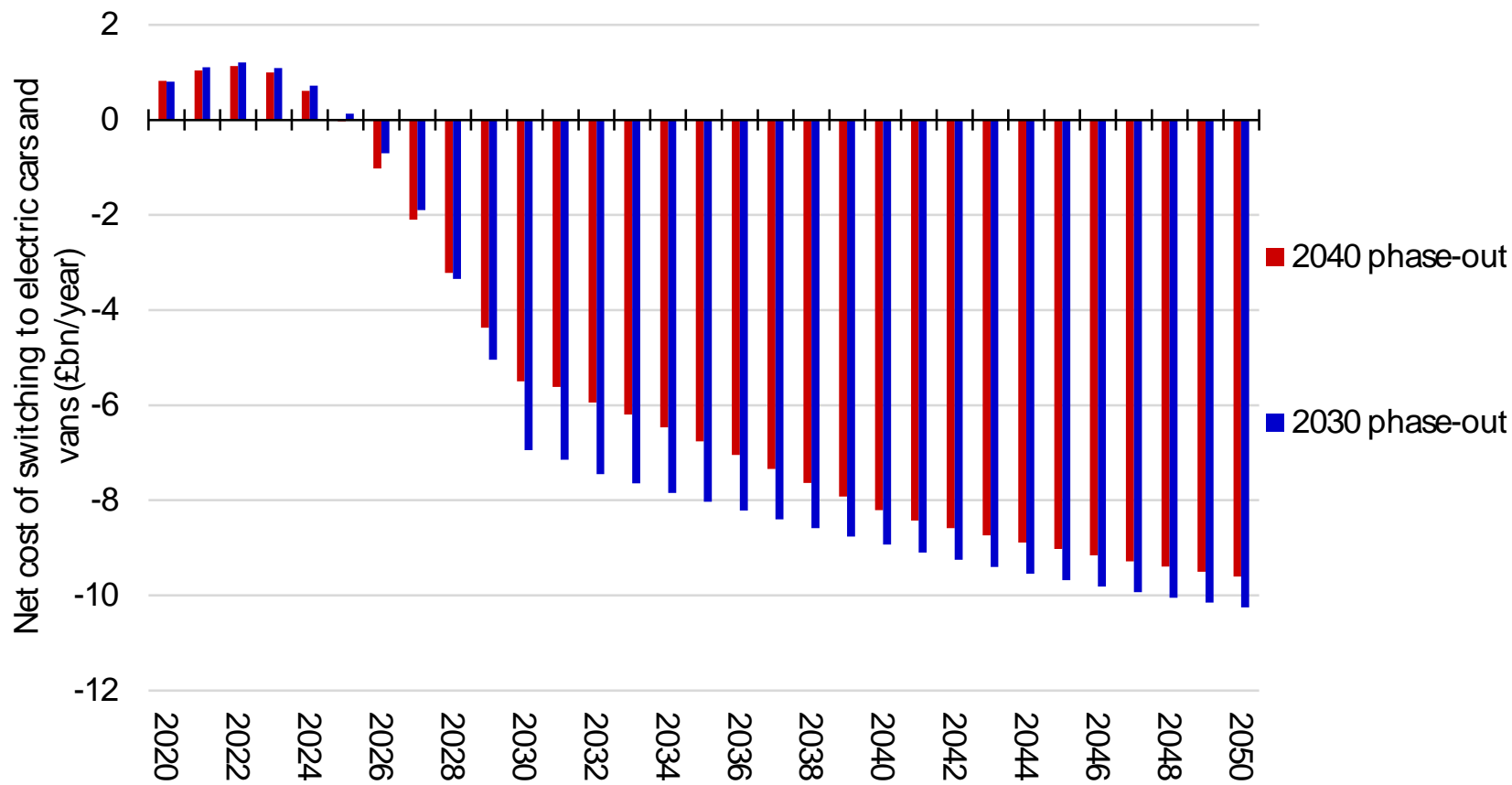
Costs of example low-carbon technologies compared to past projections Offshore wind (left) Battery packs (right)



Source: Offshore wind costs, CCC analysis based on DECC (2012) Electricity generation costs and LCCC (2019) CfD register. Battery forecasts, CCC (2015) Sectoral scenarios for the 5th Carbon Budget, outturn costs from BNEF (2018) Electric cars to reach price parity by 2022

Costs and benefits of meeting a UK net-zero target

A 2030 switchover to electric vehicles would save more money than a 2040 switchover



Source: CCC analysis

The impact of innovation on the costs of achieving carbon targets

- Overall, innovation and falling technology costs mean that we now estimate that the UK's 80% emissions target could be met at a lower cost than we estimated in 2008 – under 1% of GDP in 2050, rather than 1-2% of GDP.

Changes in cost estimates for long-term emissions goals

GHG emissions reduction target (relative to 1990)	Year and report	Cost range estimated for 2050
60% reduction in CO ₂ (~55% reduction in GHG)	2003 - <i>Energy White Paper</i>	0.5-2.0% of GDP
80% reduction in GHG	2008 - <i>Building a low-carbon economy – the UK's contribution to tackling climate change</i>	1-2% of GDP
100% reduction in GHG (net zero)	2019 - this report	1-2% of GDP

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