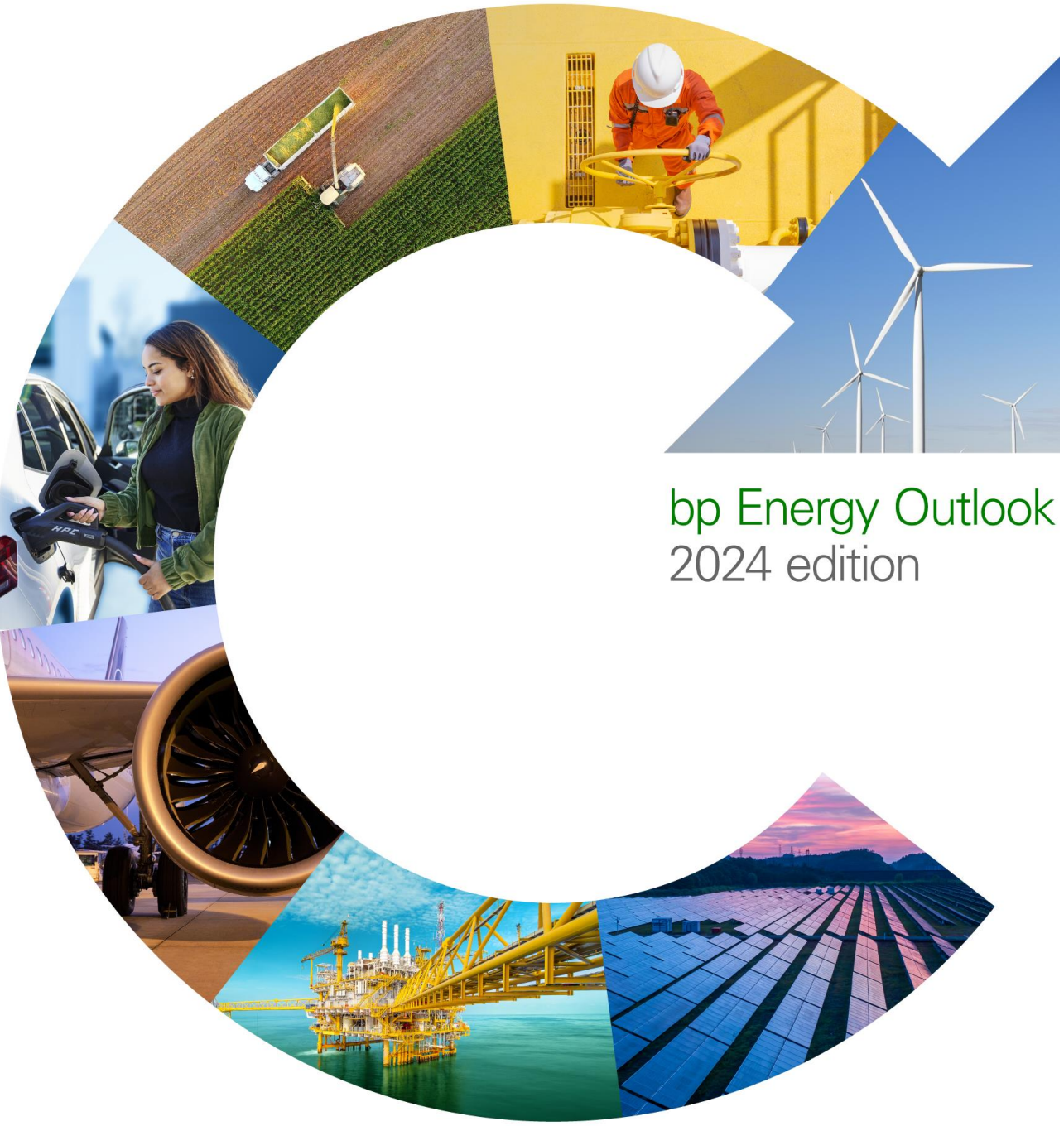

A focus on Europe

Gareth Ramsay
Head of Energy Transition & Systems Analysis

Plan for today

- Recent developments and emerging trends
- Two scenarios to explore the outlook
- From ‘energy addition’ to ‘energy substitution’
- Key features of the Energy Outlook
- Accelerating the energy transition

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- ….and progress on improving energy efficiency has been disappointing.
- Investment in clean energies is now double that of fossil fuels.
- But divergence between more and less mature energy vectors and technologies

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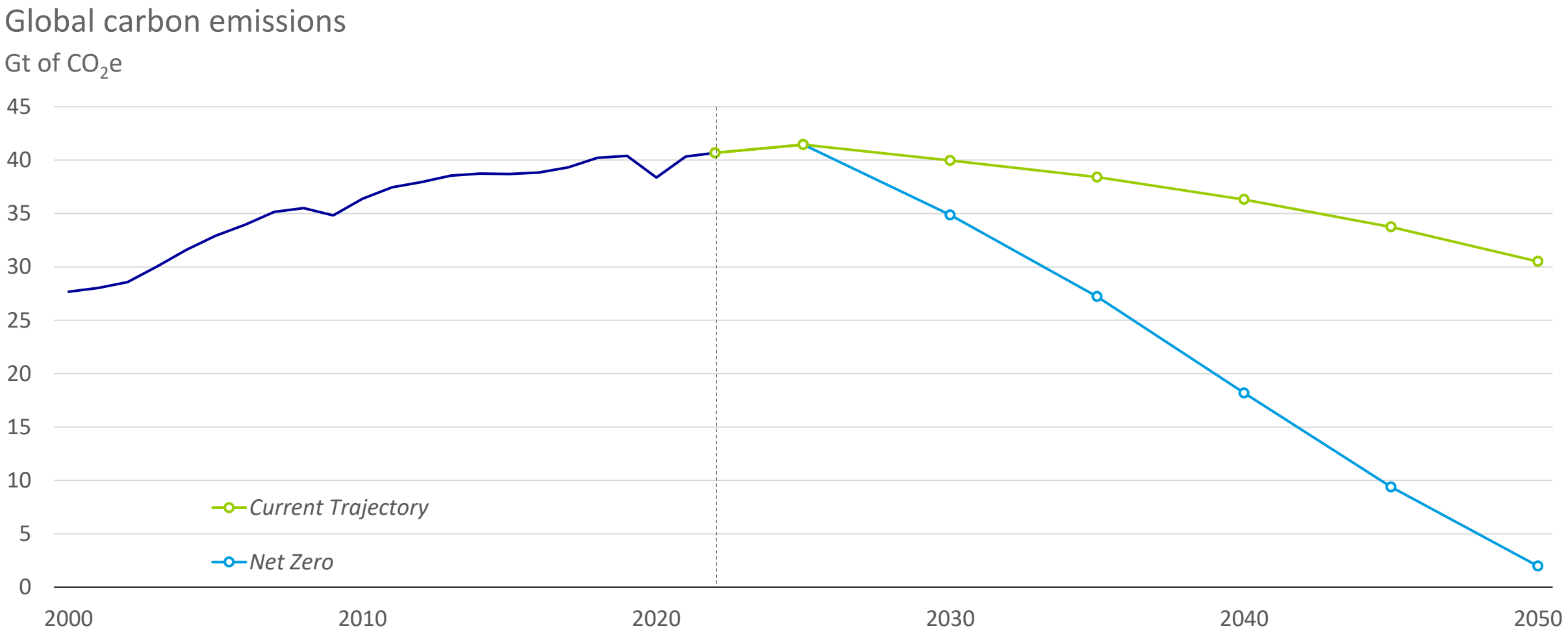
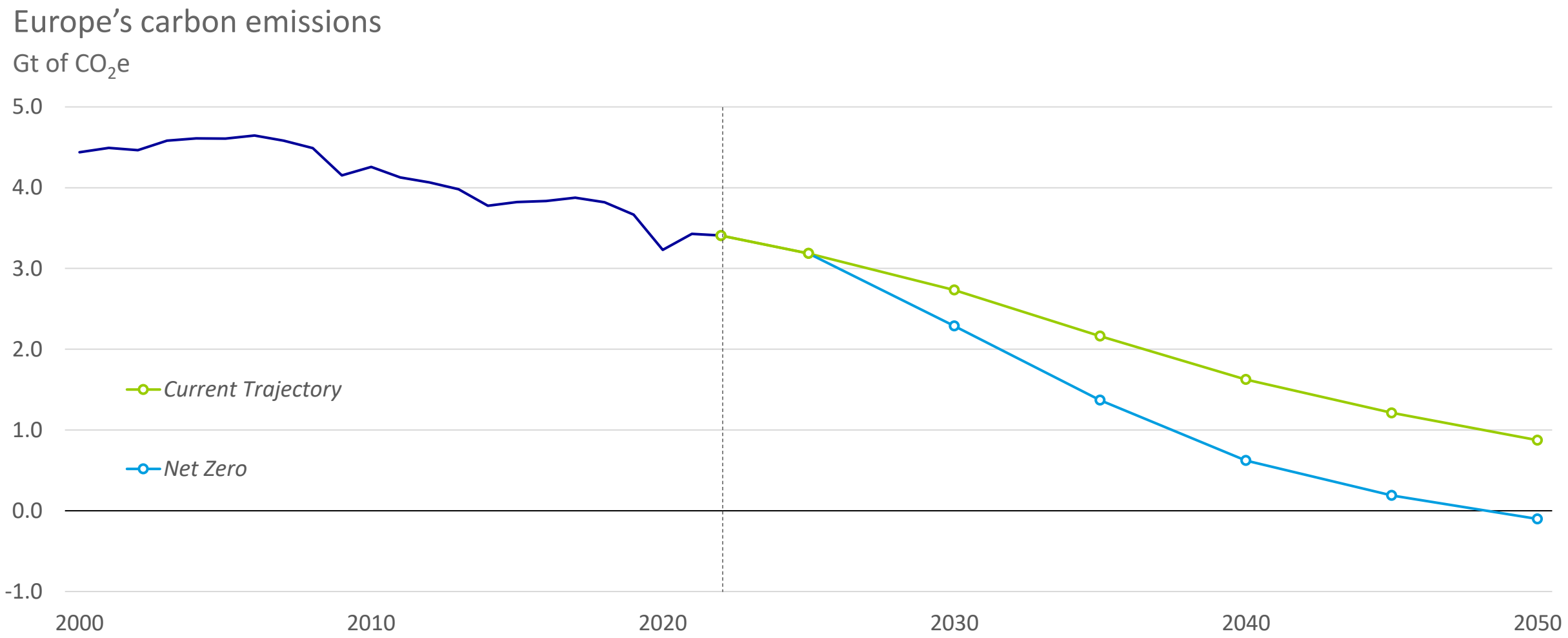
Two scenarios to explore the *Energy Outlook*



Two scenarios to explore the **European** *Energy Outlook*



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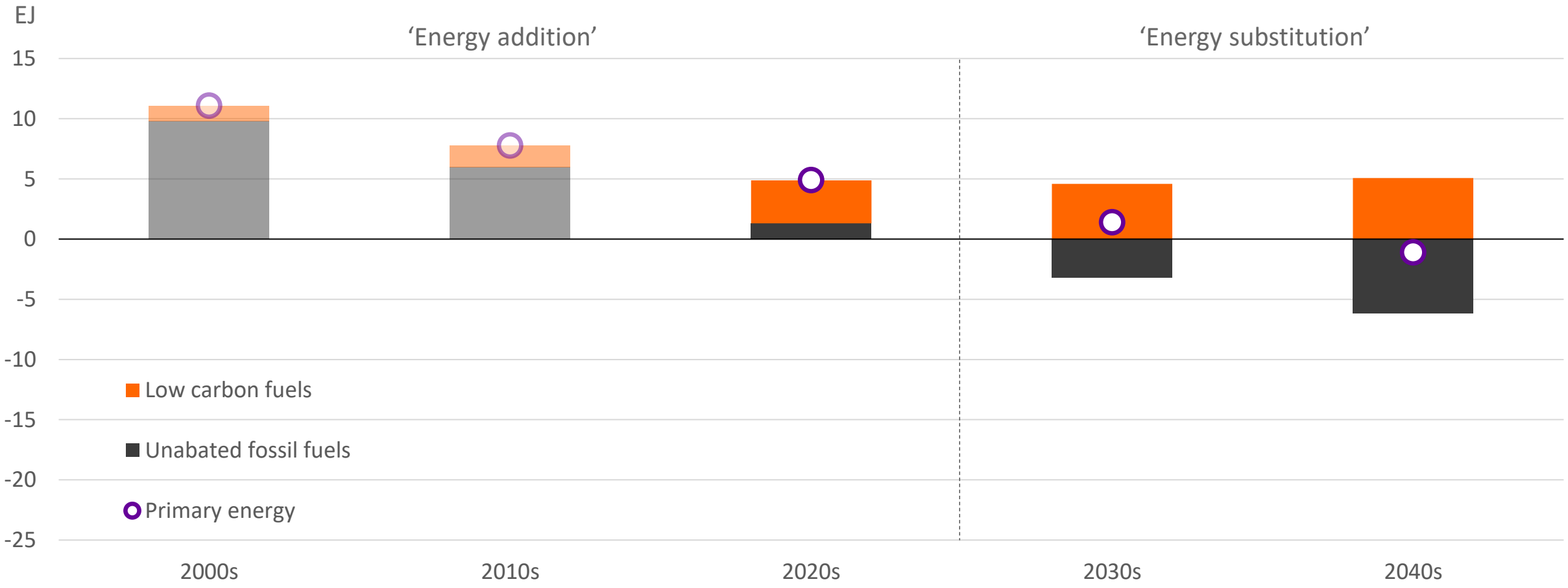
From ‘energy addition’ to ‘energy substitution’

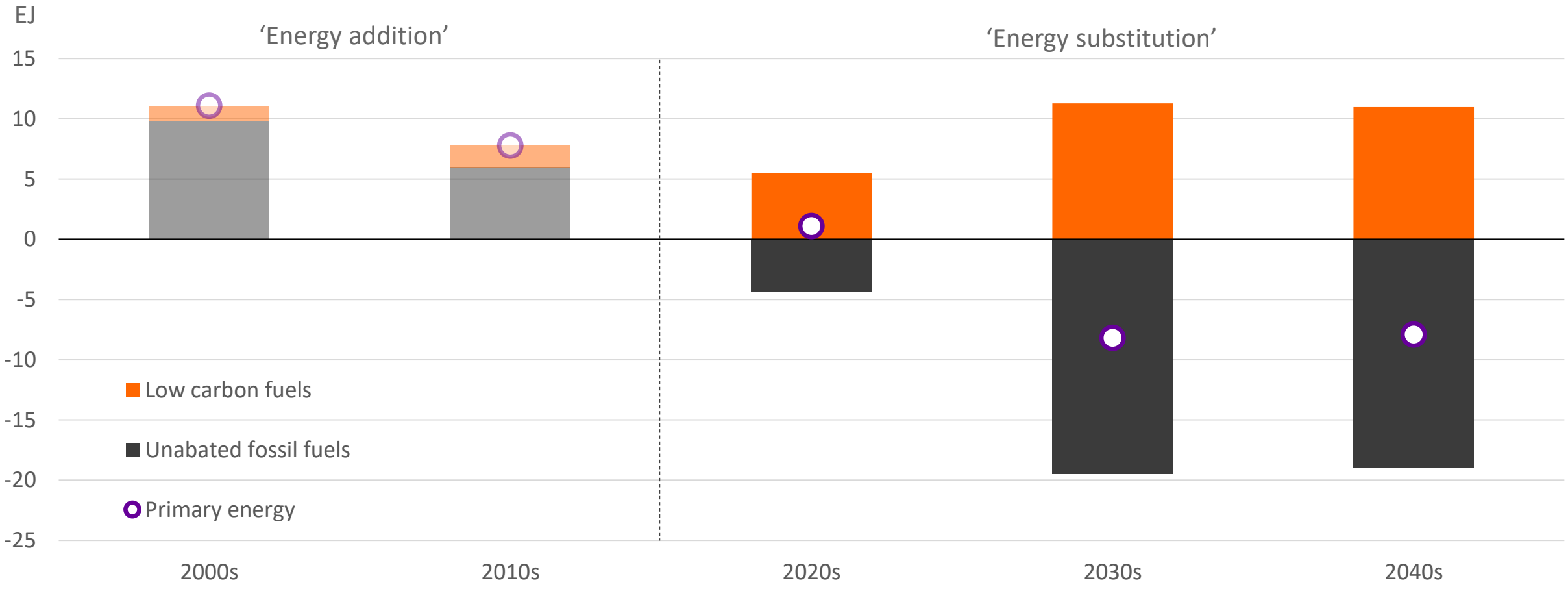
Global average annual change in primary energy in *Current Trajectory*



Calculation does not include 2020 due to impact of Covid-19

From ‘energy addition’ to ‘energy substitution’

Global average annual change in primary energy in *Net Zero*



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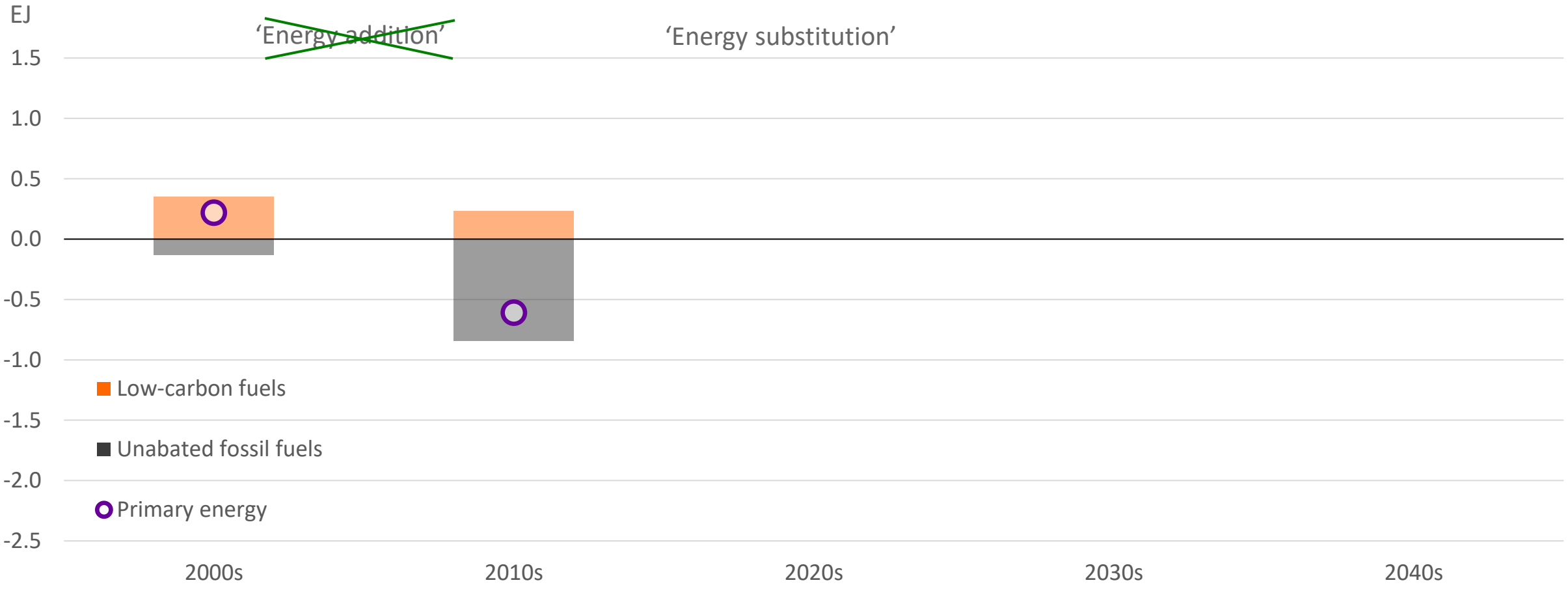
Whereas substitution already underway in Europe

Europe's average annual change in primary energy



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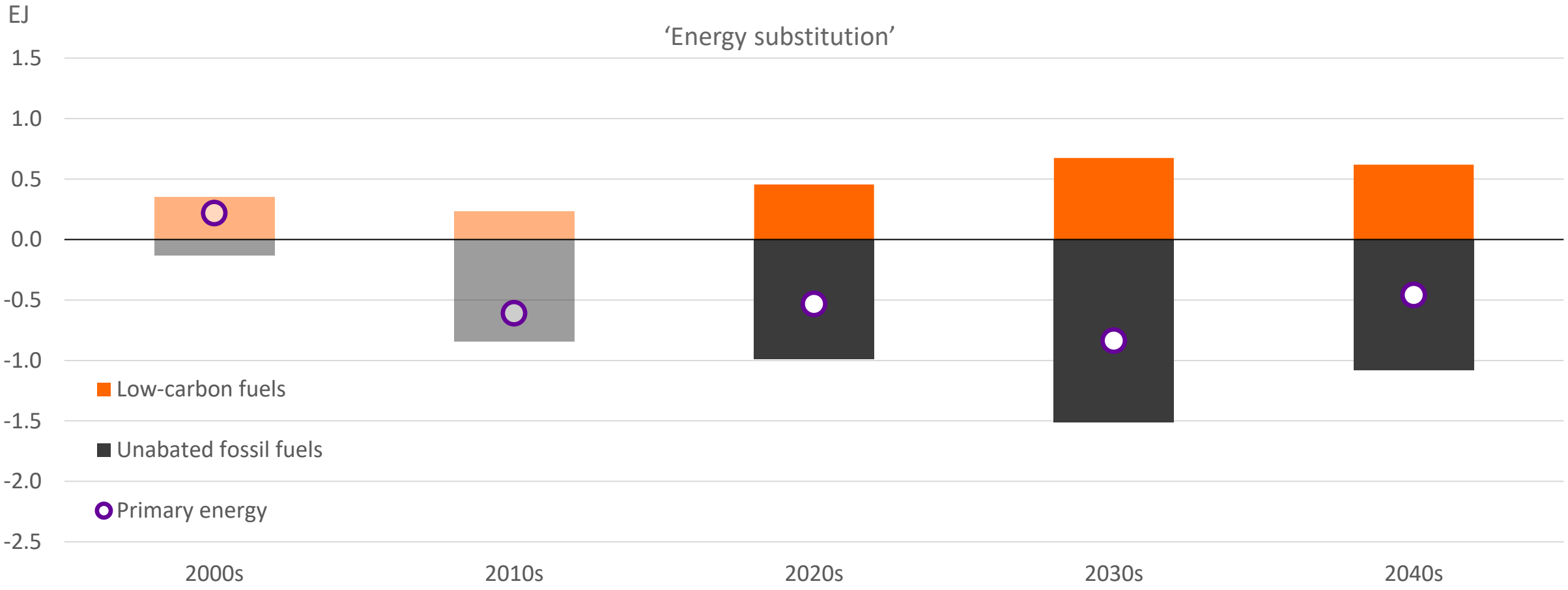
European energy substitution accelerating

Europe's average annual change in primary energy in *Current Trajectory*



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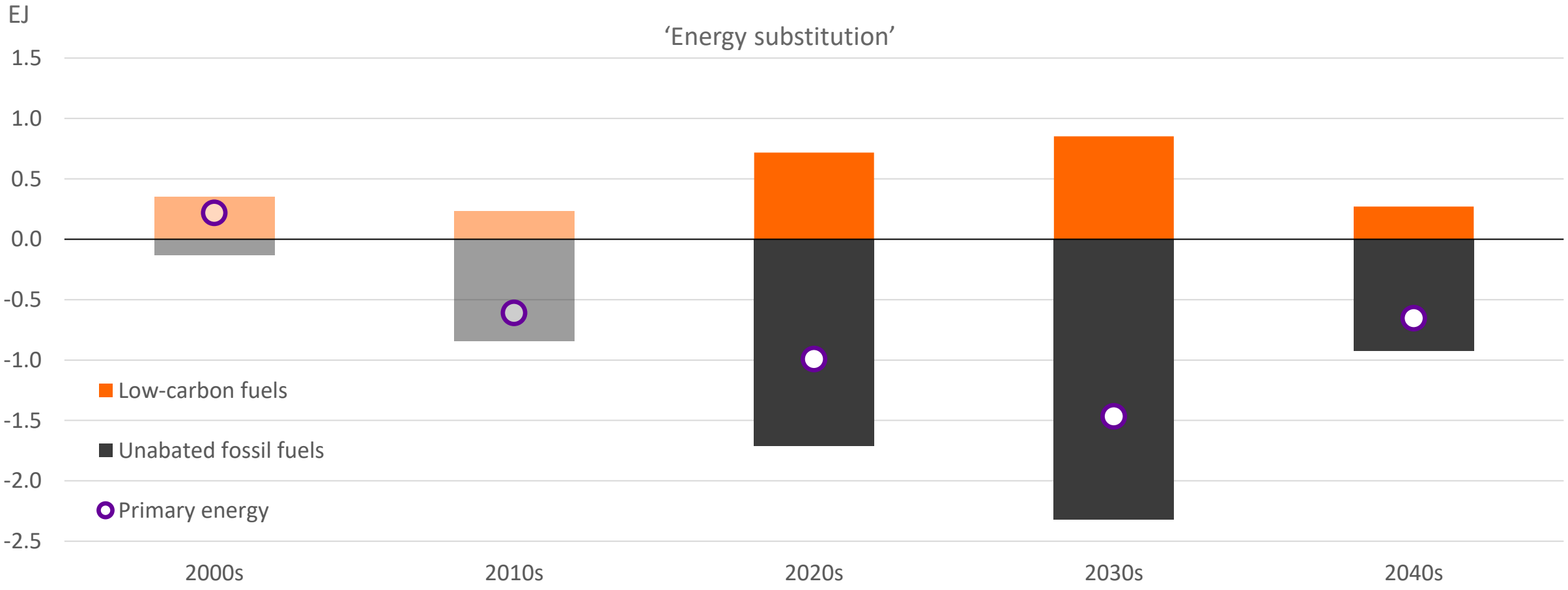
European energy substitution even faster in *Net Zero*

Europe's average annual change in primary energy in *Net Zero*



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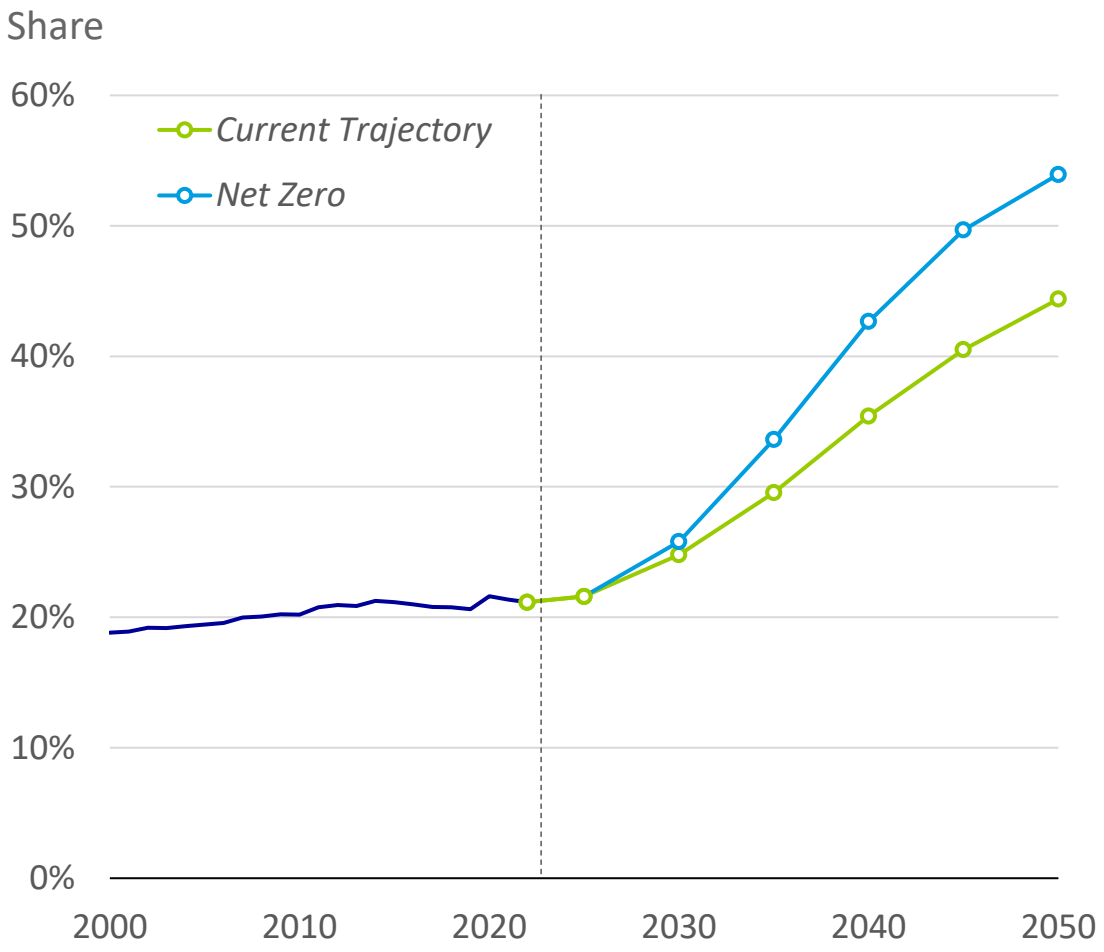
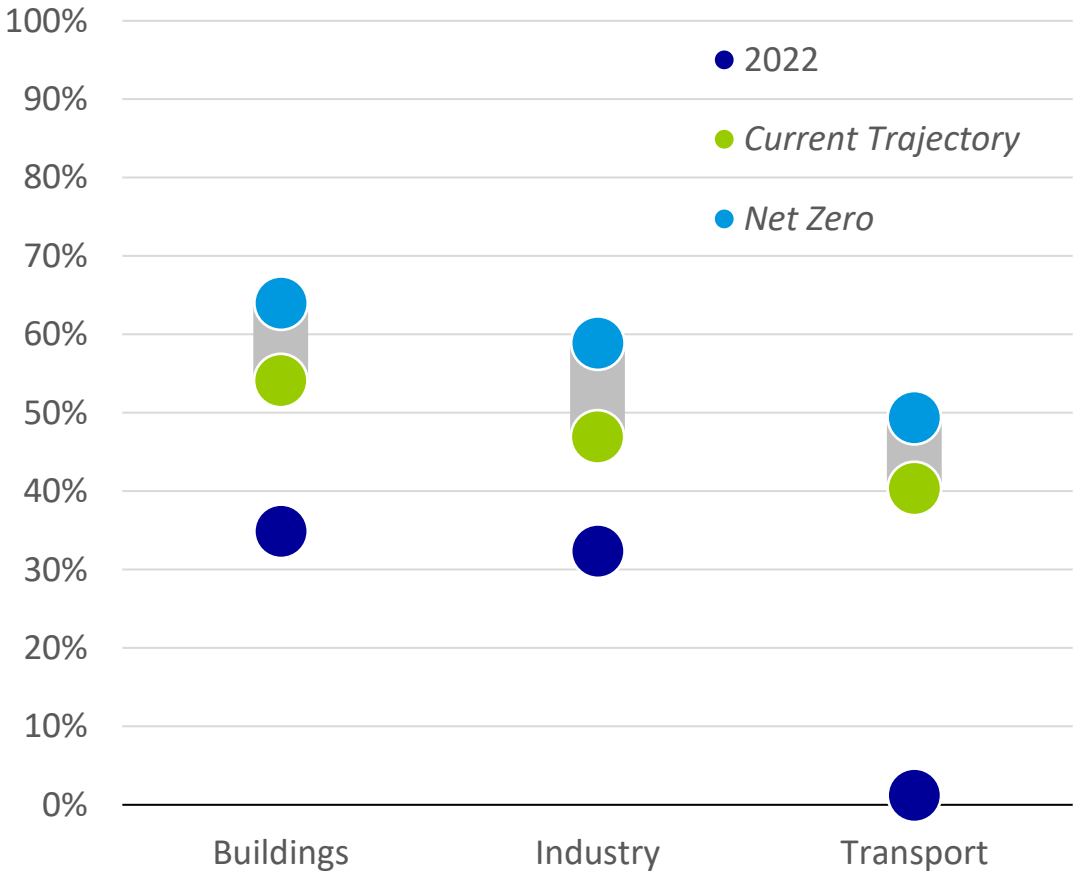
Europe’s energy system about to electrify very rapidly

Electricity as share of final energy demand



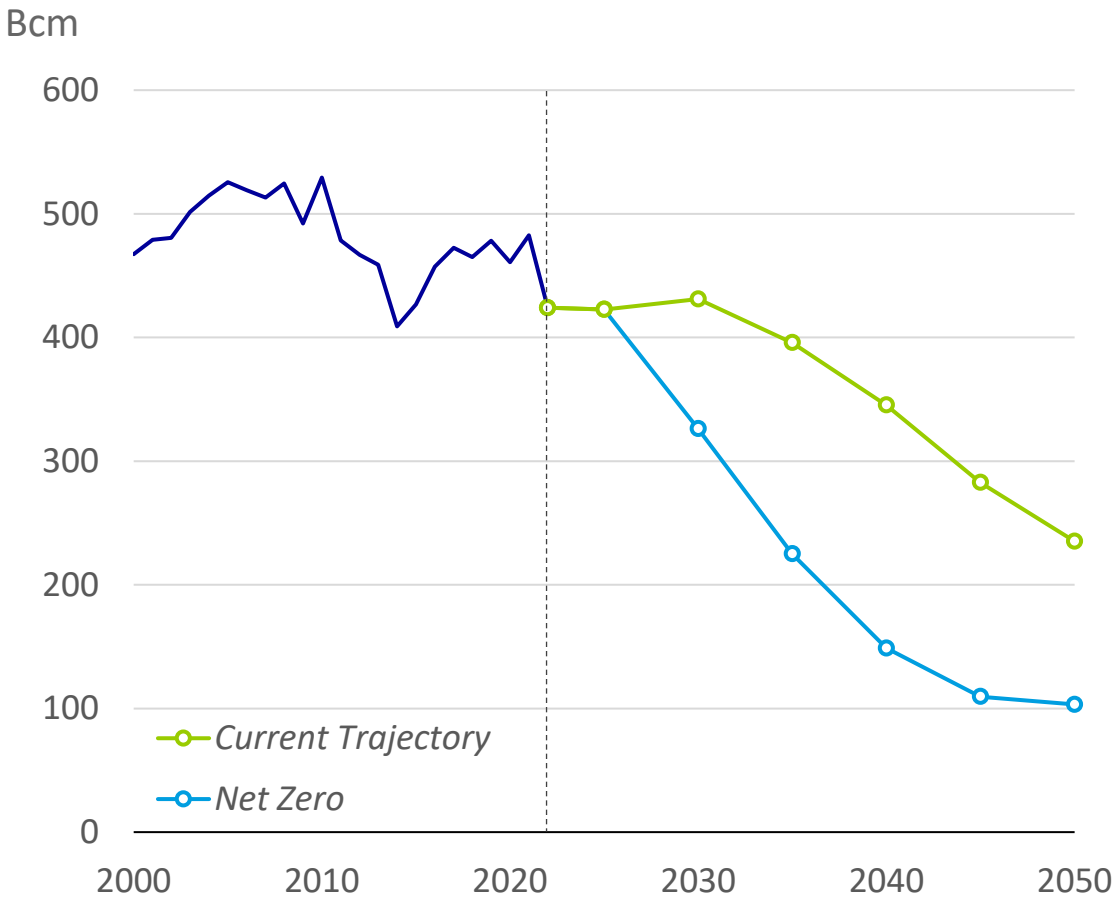
Range of electrification across end-use sectors in 2050

Share of total final consumption

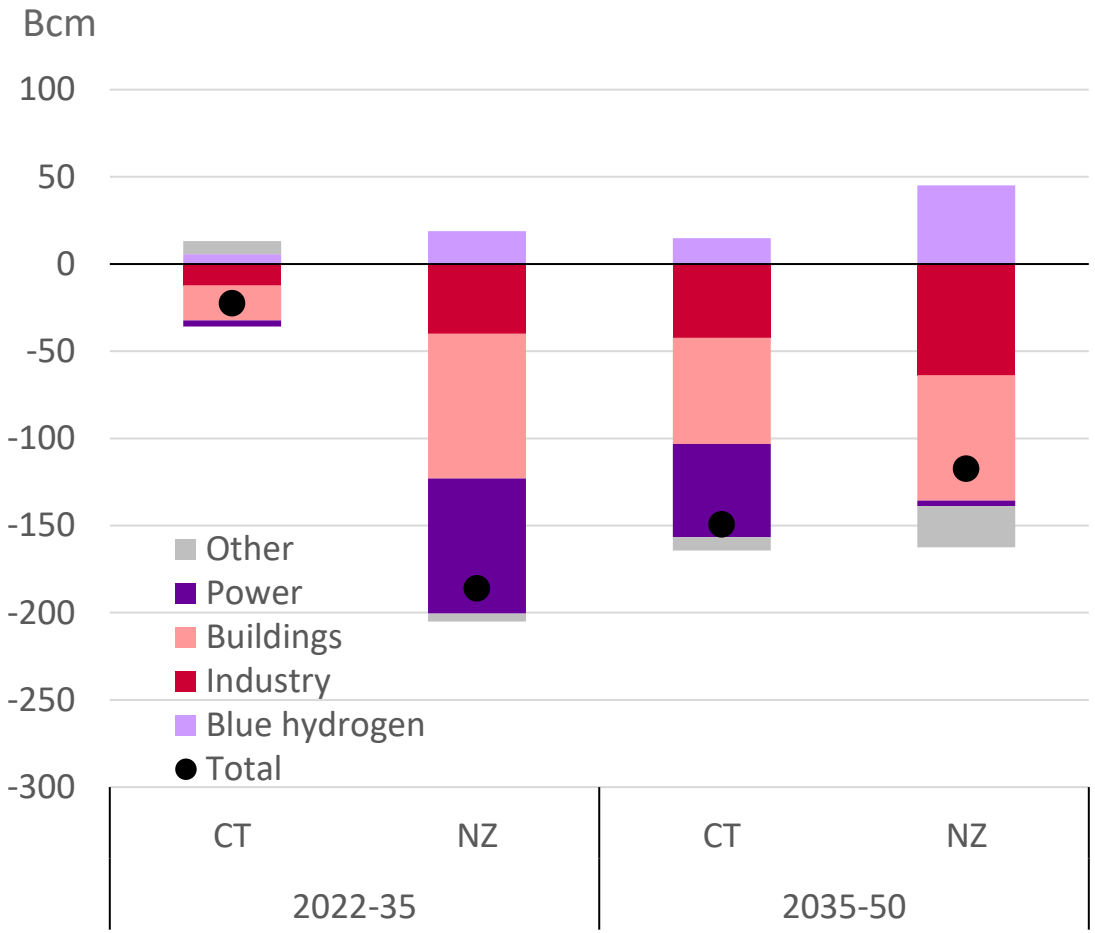


European natural gas demand falls, sooner or later

Natural gas demand



Change in natural gas demand by sector



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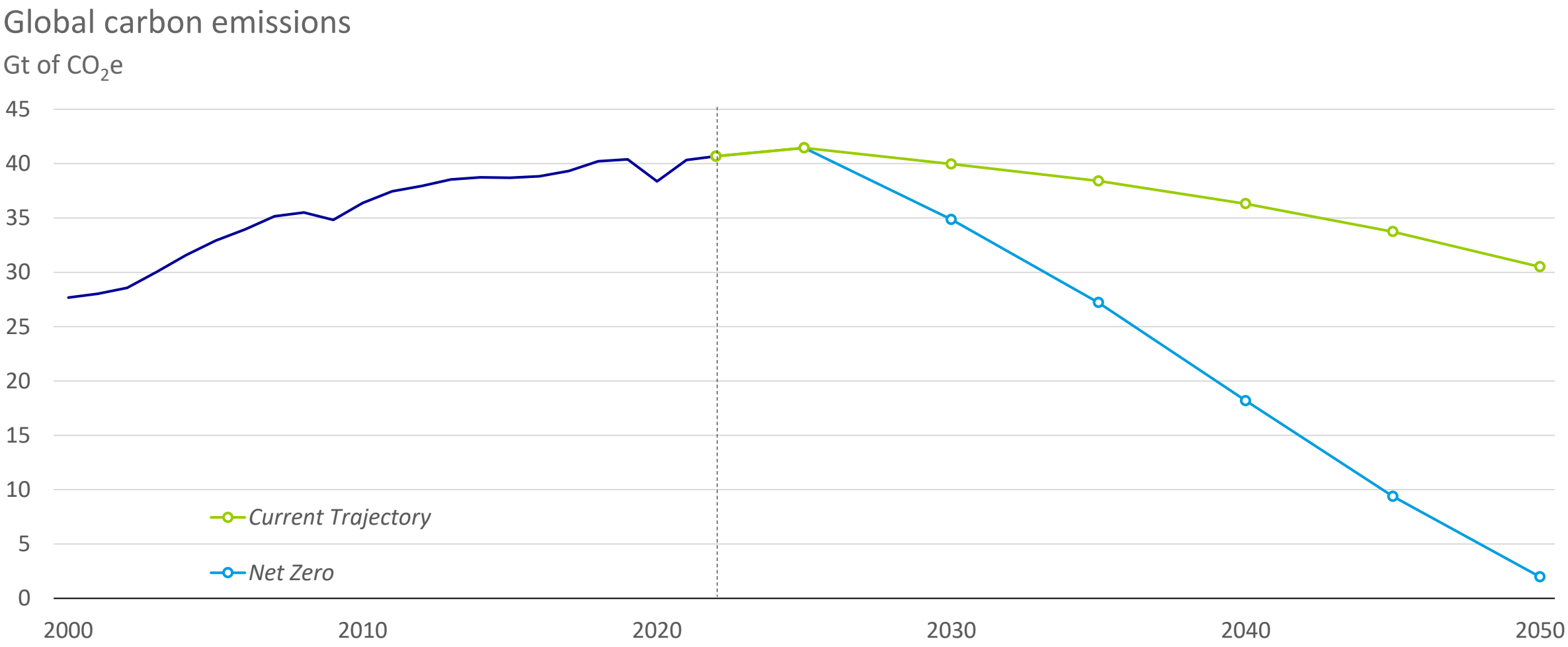
Accelerating the global energy transition



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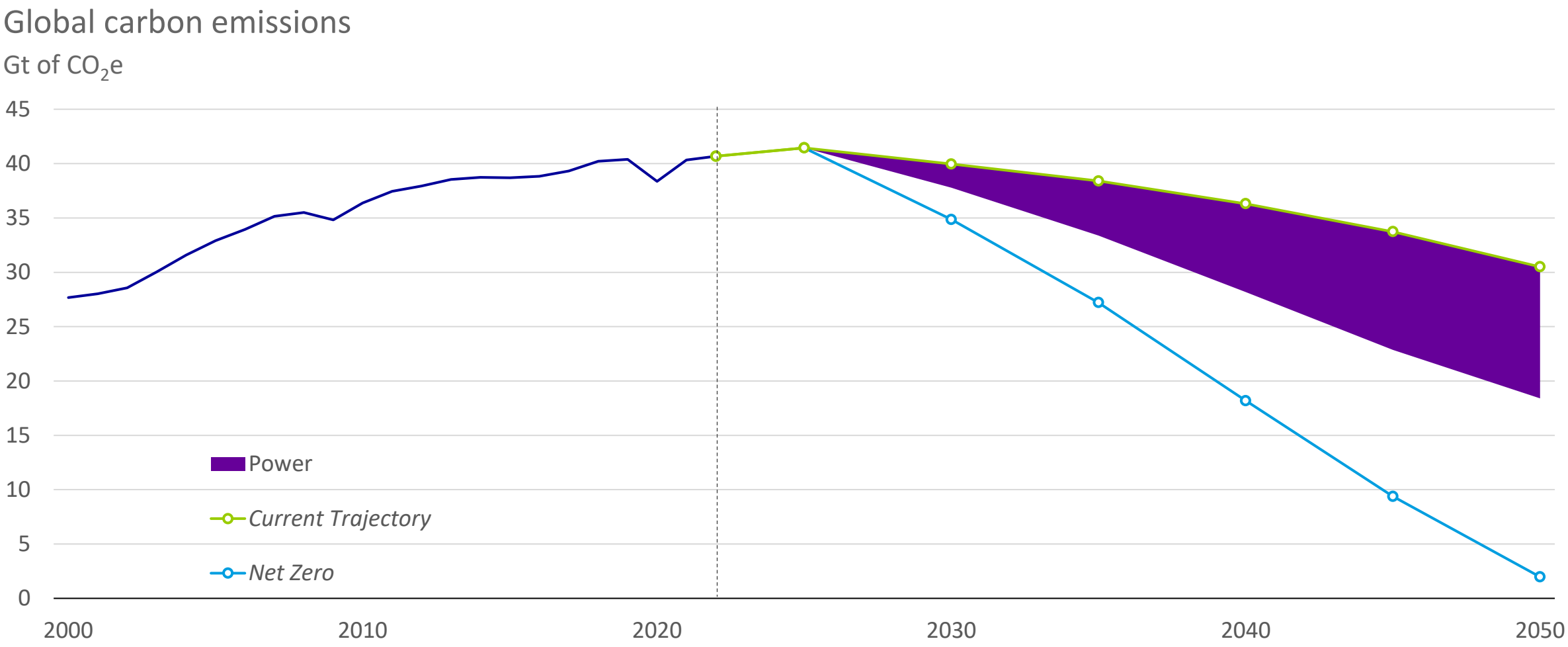

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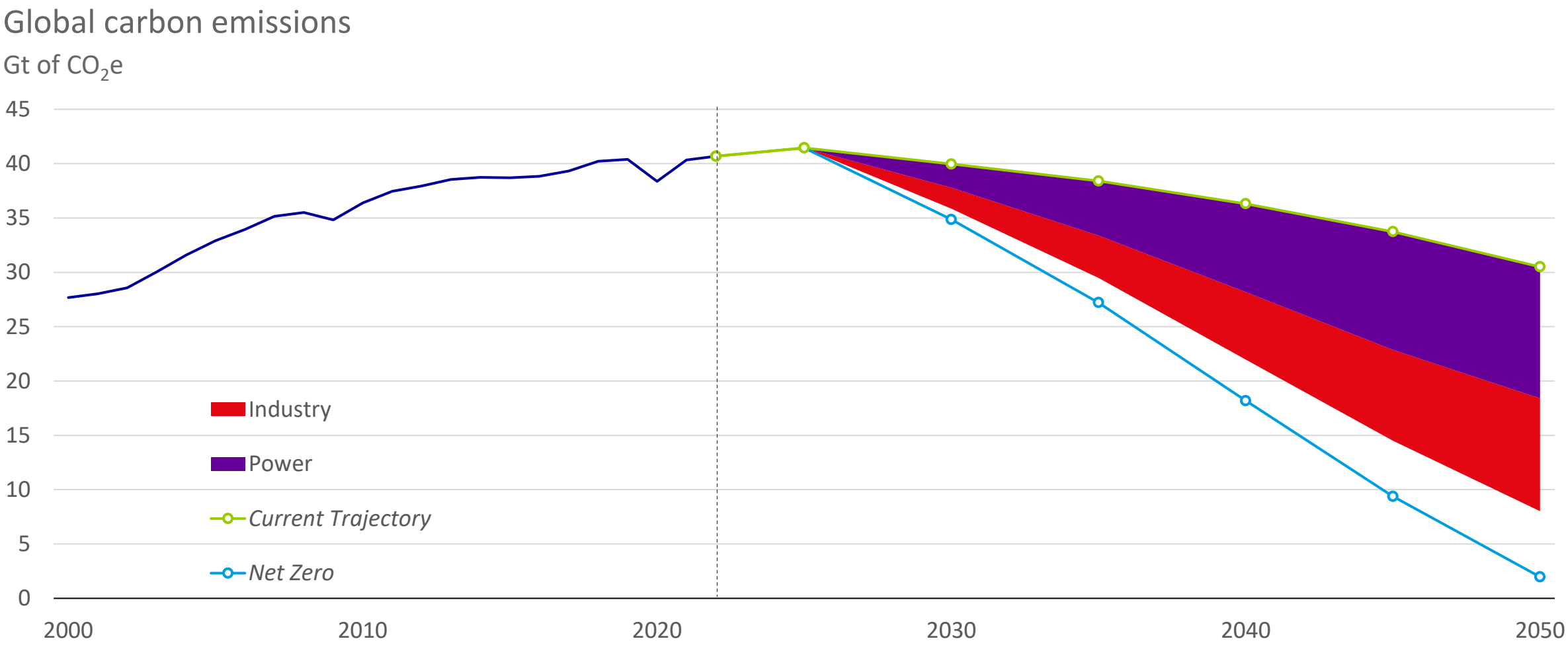

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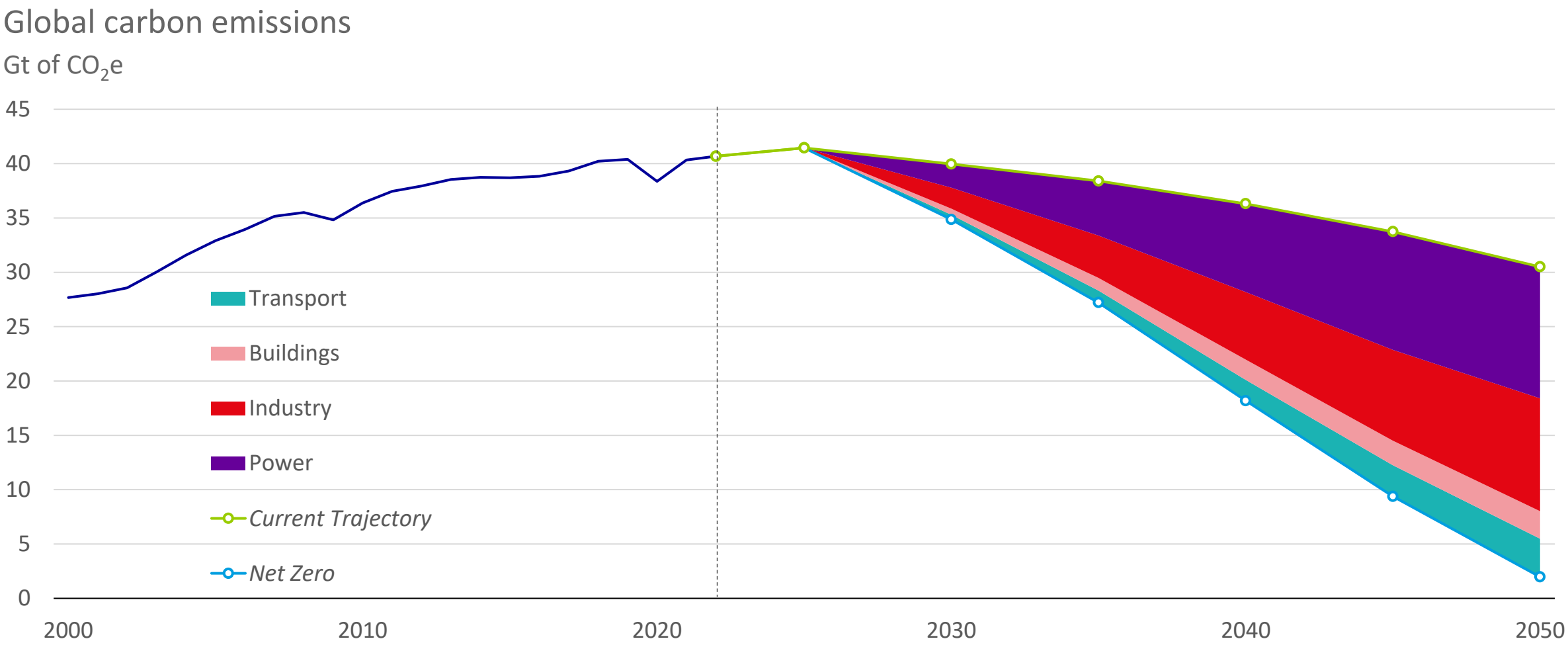
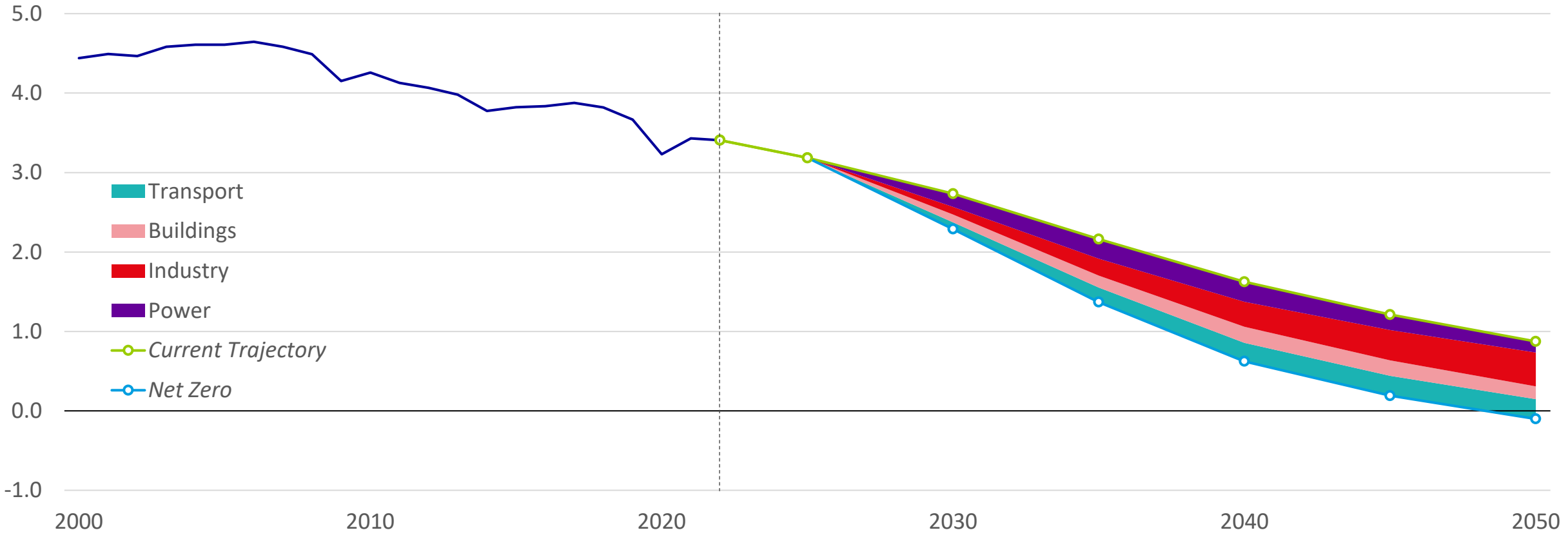


Accelerating the European energy transition

Europe's carbon emissions

Gt of CO_2e



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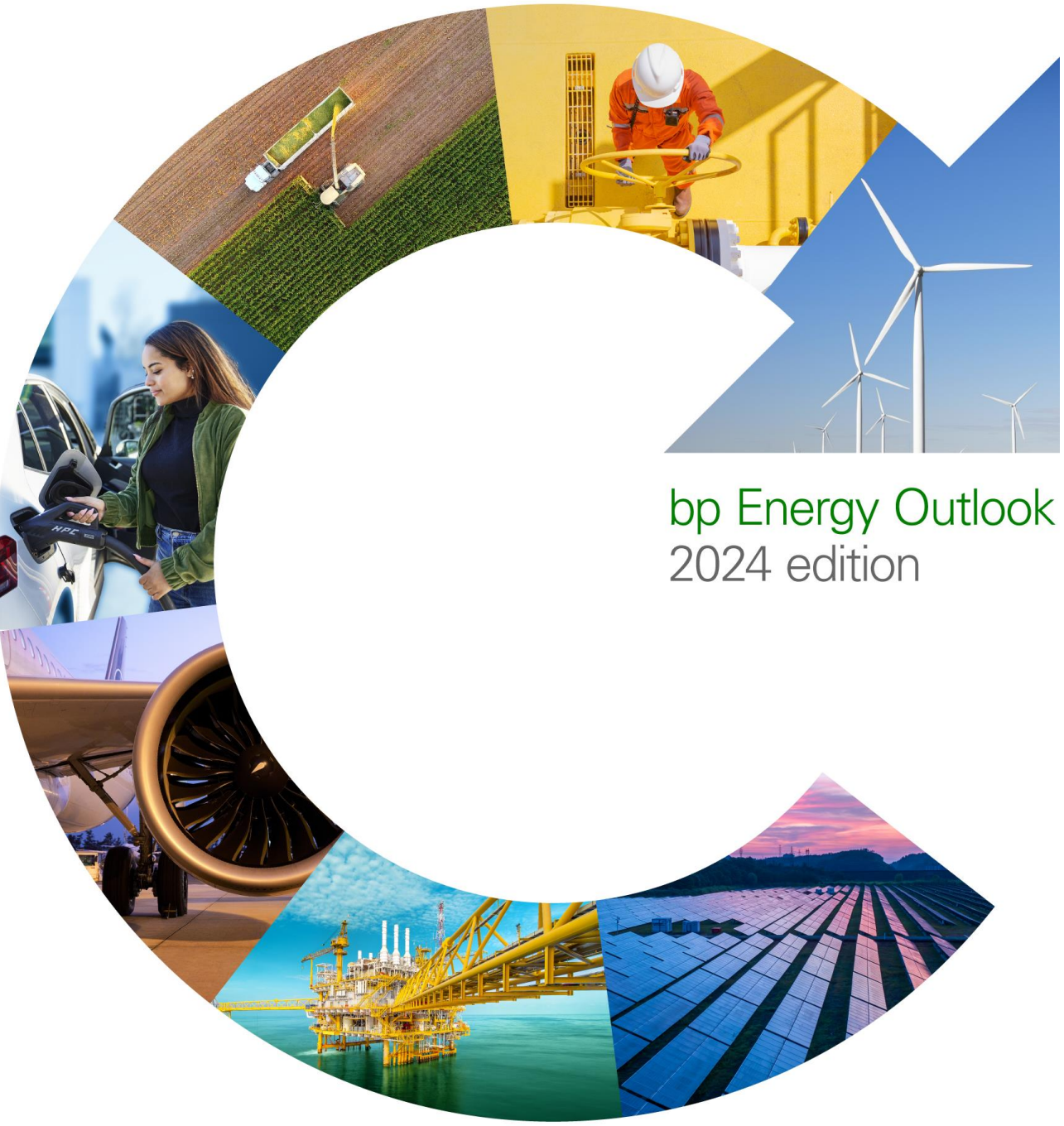
- To move from *CT* to *NZ*, Europe's single biggest task is decarbonising **industry**



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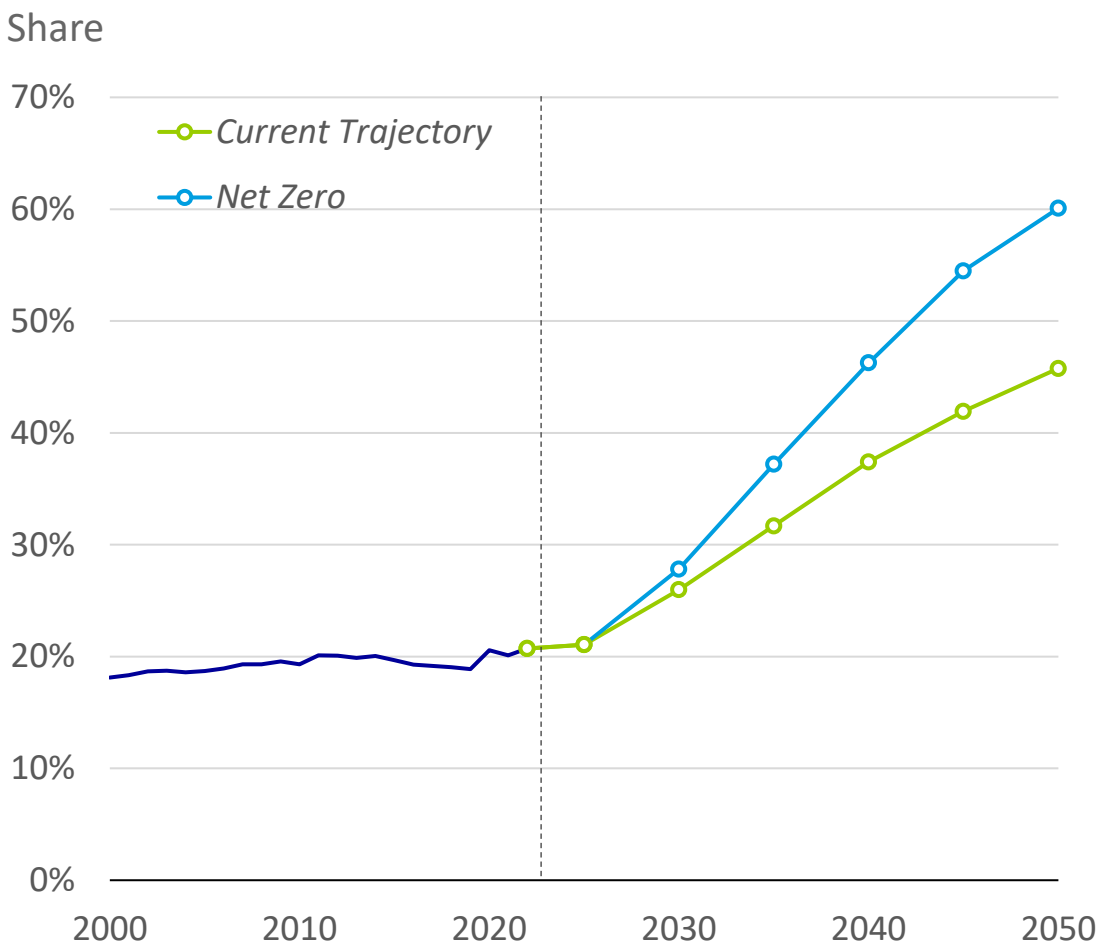

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