

bp Energy Outlook
2022 edition



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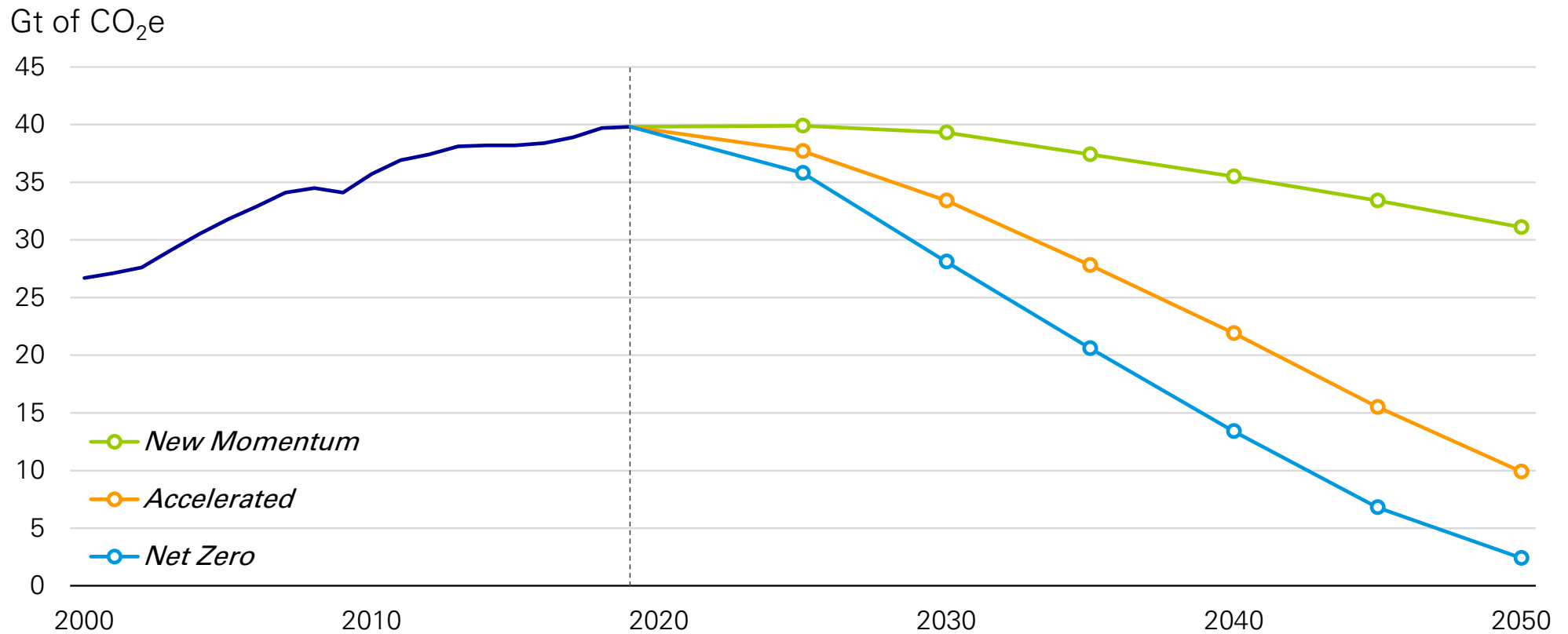
Five questions

1. What is the role of the Energy Outlook?
2. What are the critical elements needed for a successful energy transition?
3. What is the outlook for oil and natural gas demand?
4. Low-carbon hydrogen: what is it and why is it important?
5. How important is CCUS for the energy transition?



What is the role of the Energy Outlook?

Carbon emissions

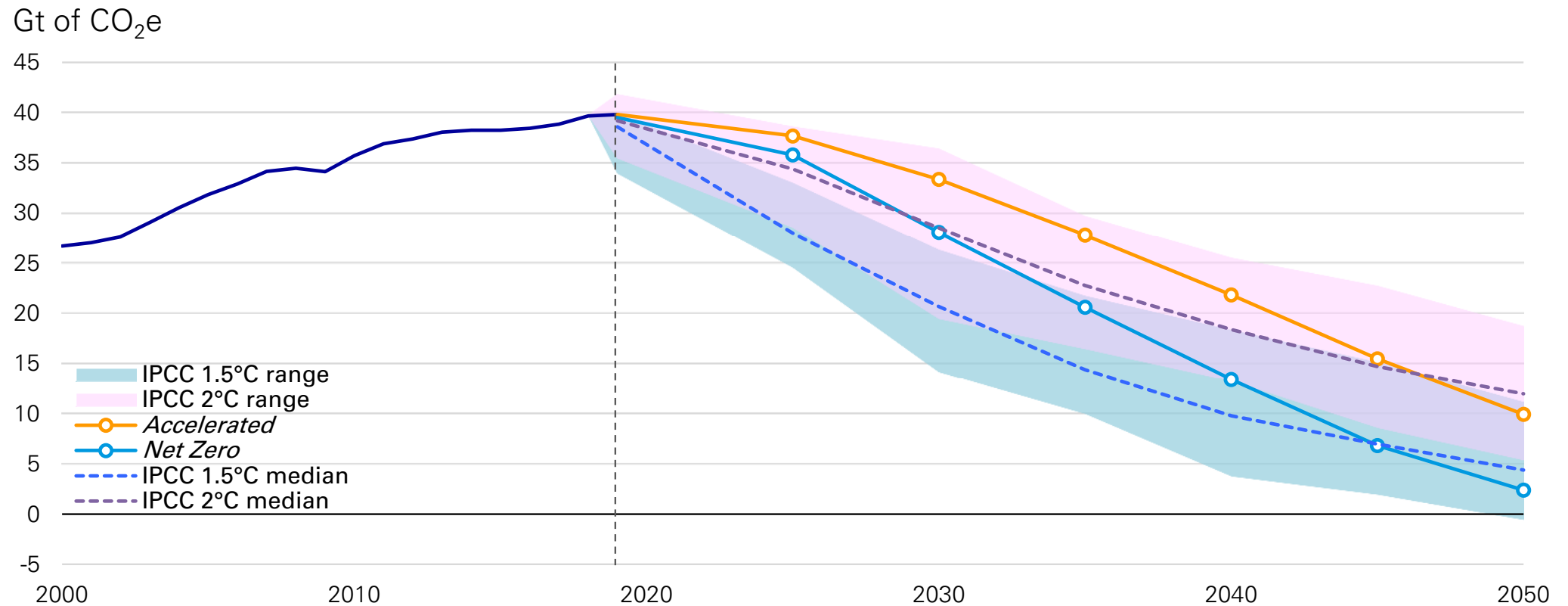


Carbon emissions include CO₂ emissions from energy use, industrial processes, natural gas flaring, and methane emissions from energy production



What is the role of the Energy Outlook?

Carbon emissions

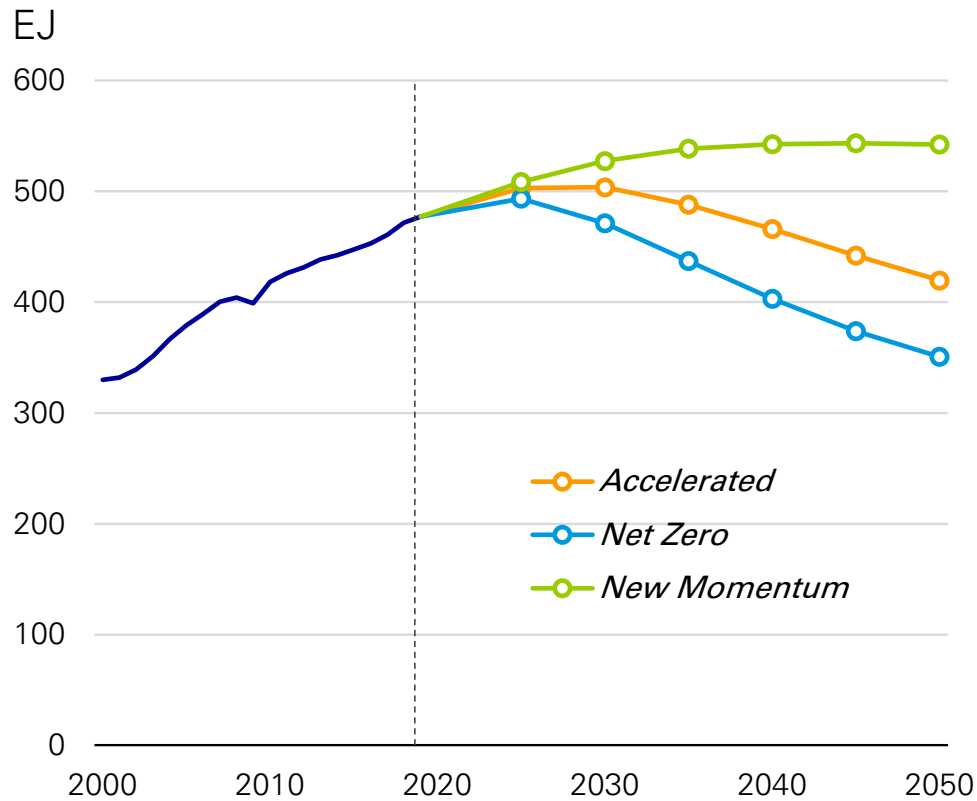


Carbon emissions include CO₂ emissions from energy use, industrial processes, natural gas flaring, and methane emissions from energy production
Ranges show 10th and 90th percentiles of the IPCC scenarios

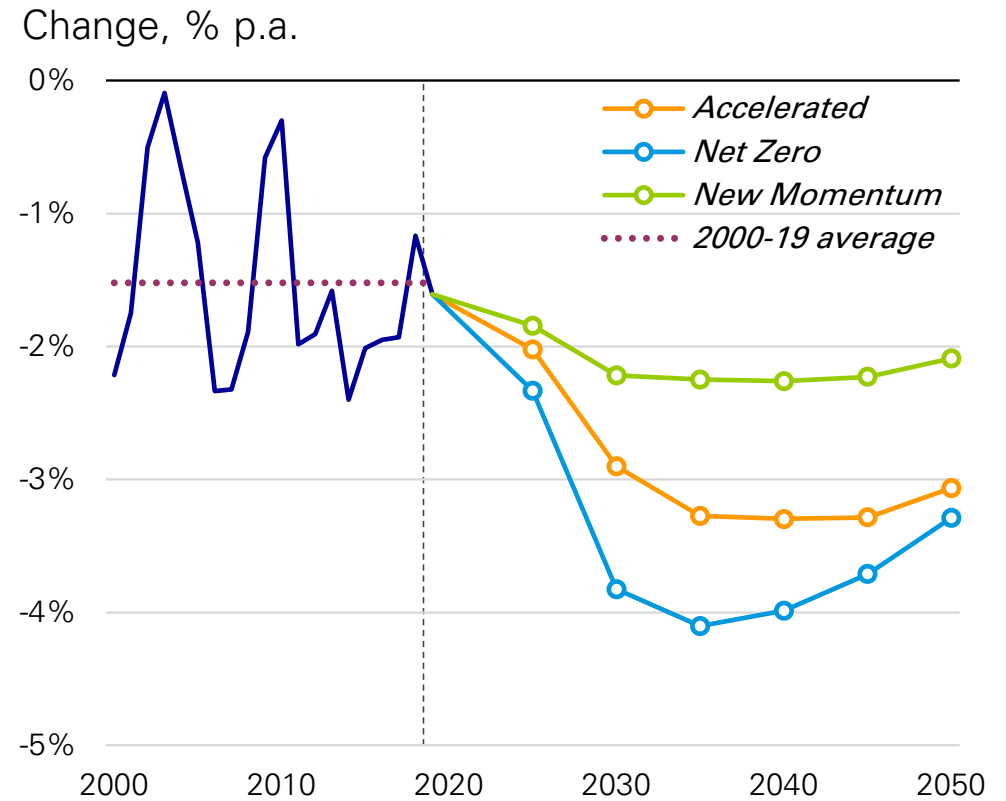


What are the critical elements needed for a successful energy transition?

Total final consumption



Changes in energy intensity*

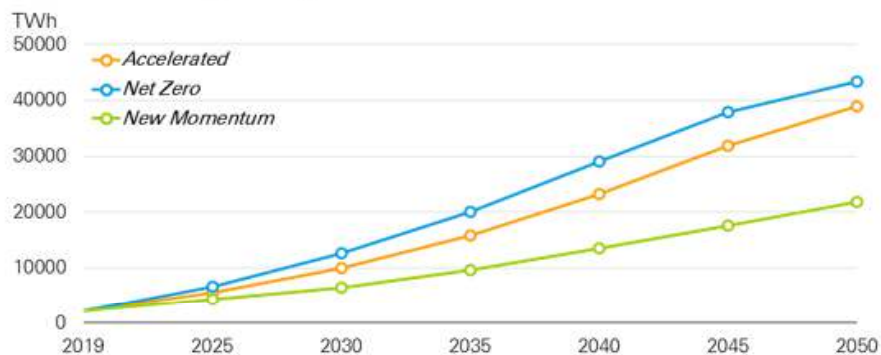


*defined as ratio of total final consumption to GDP (on PPP basis)

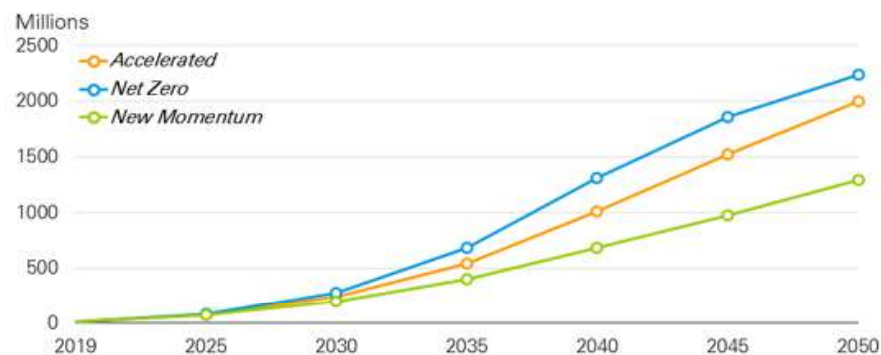
What are the critical elements needed for a successful energy transition?



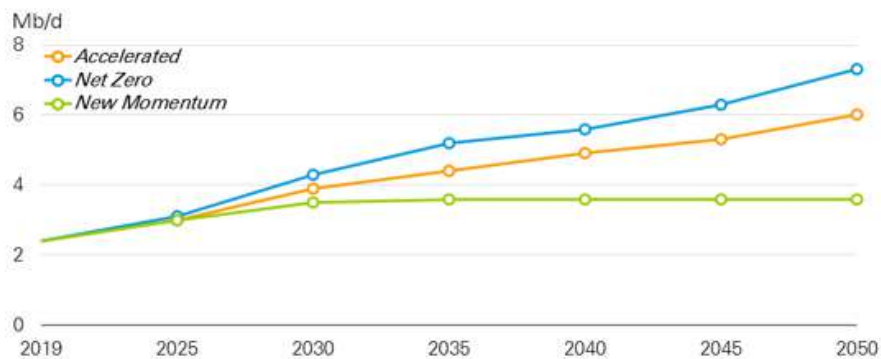
Wind and solar power generation



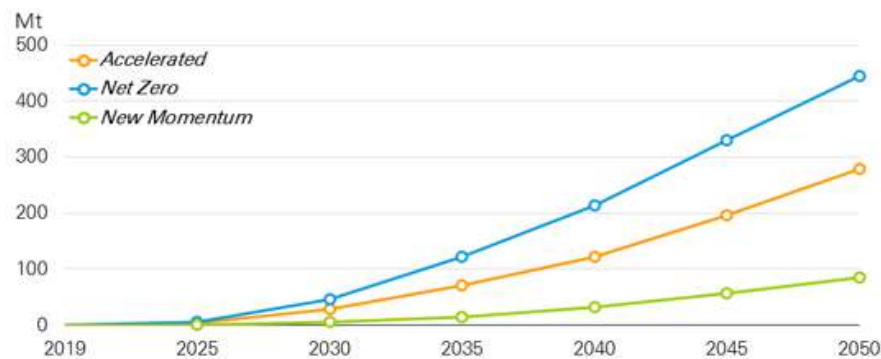
Electric vehicles



Biofuels



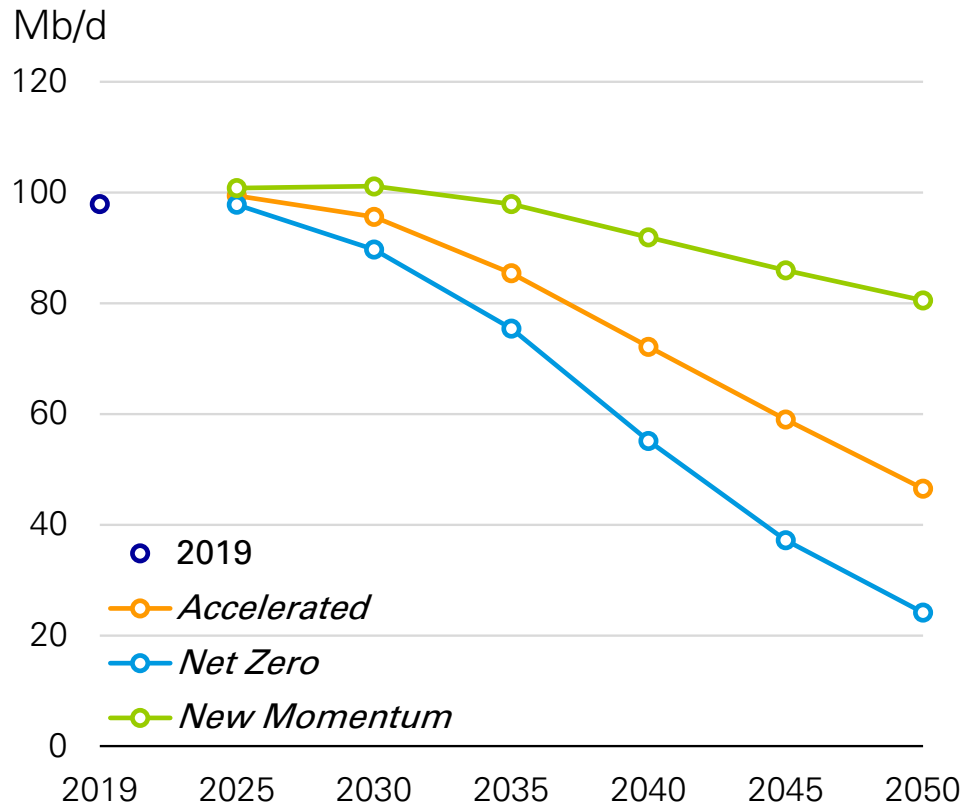
Low-carbon hydrogen



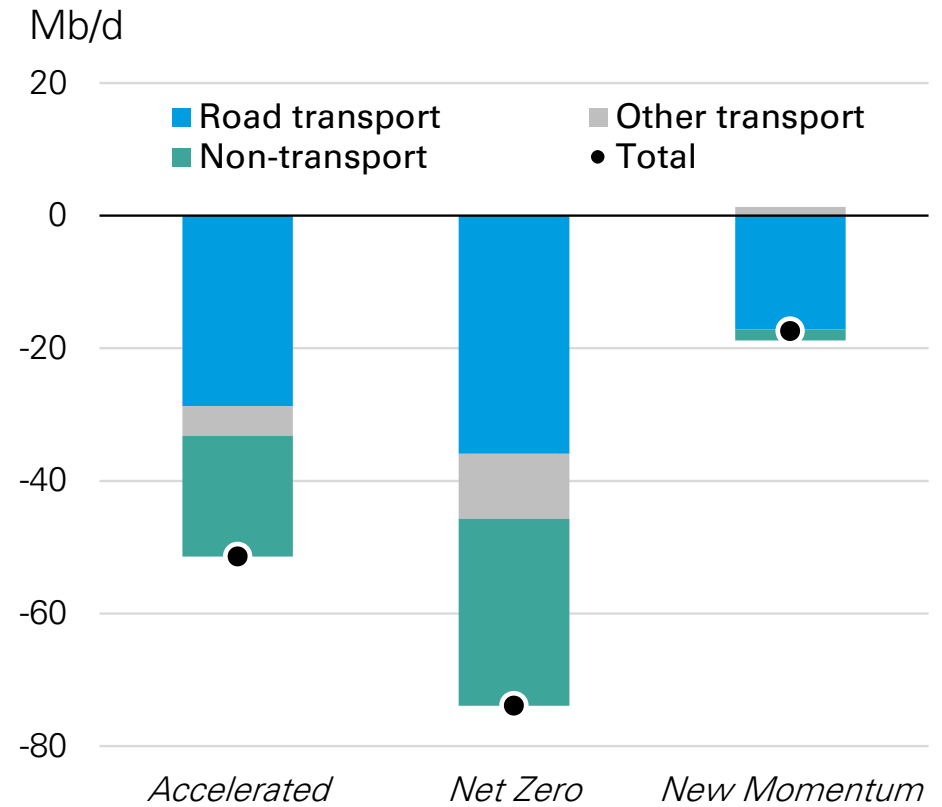


What is the outlook for oil and natural gas demand?

Oil demand



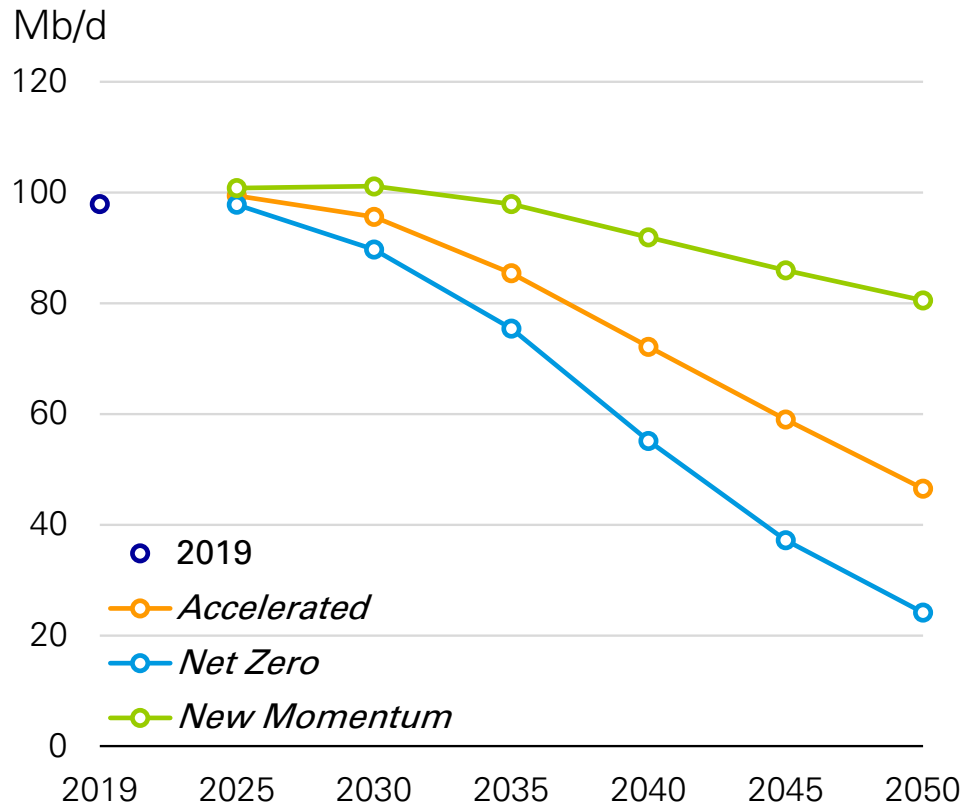
Change in oil demand (2019 – 2050)



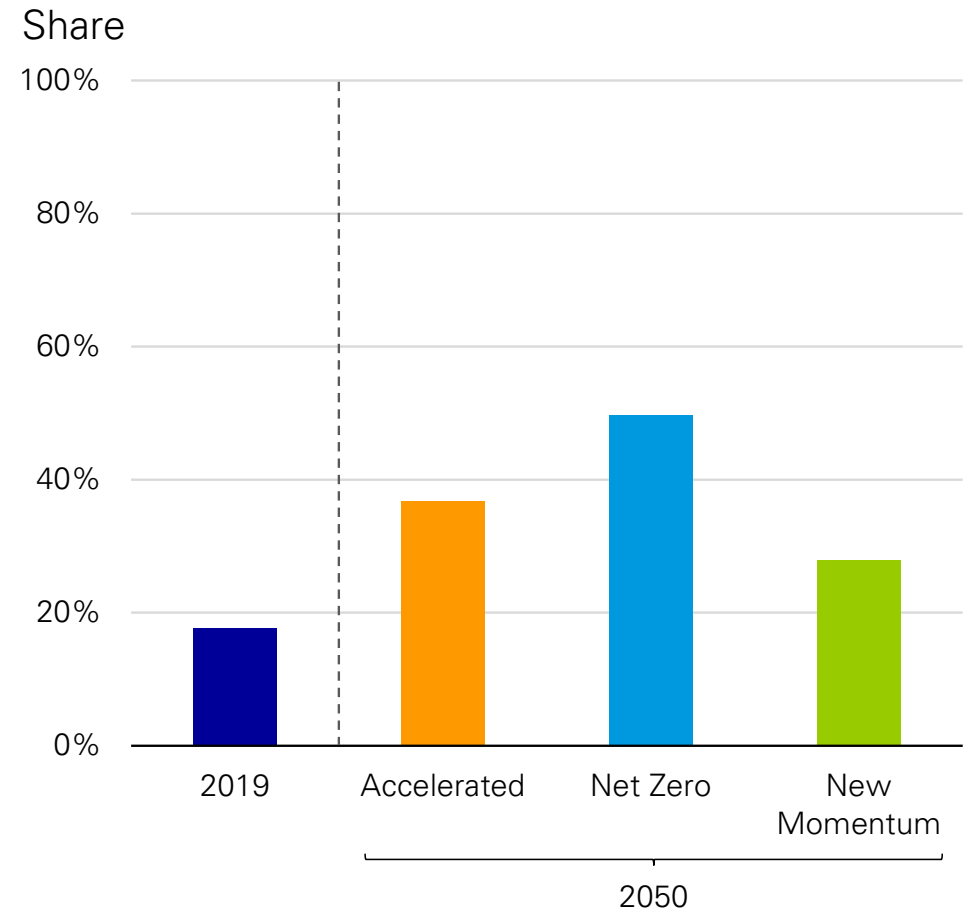


What is the outlook for oil and natural gas demand?

Oil demand



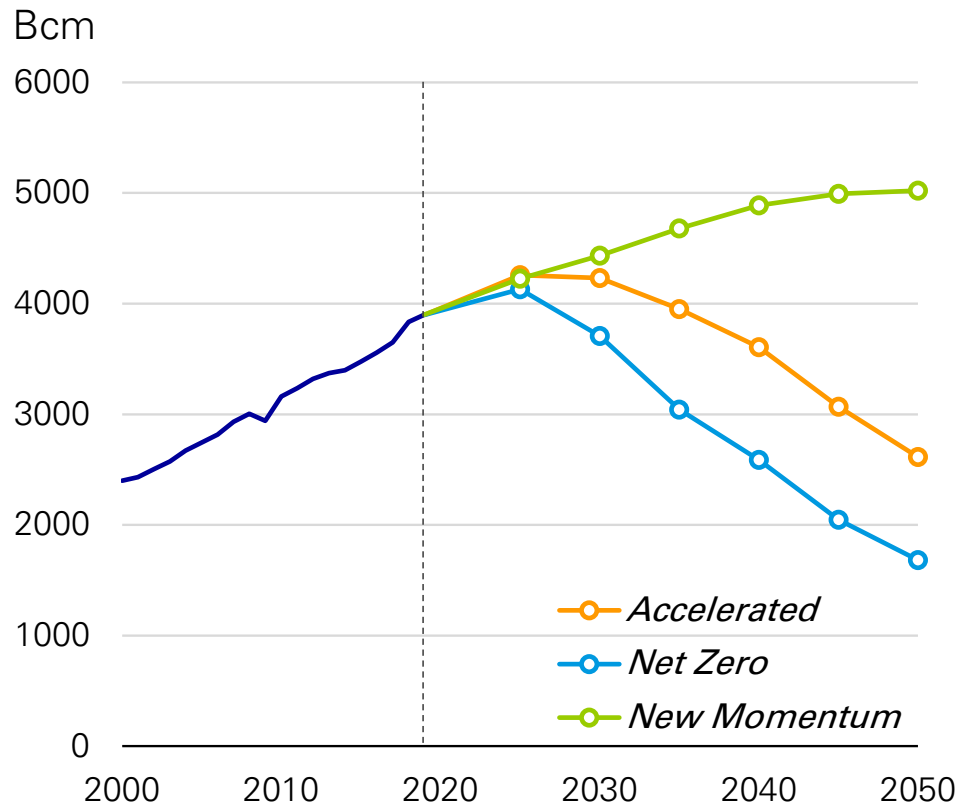
Oil feedstocks as a share of oil demand



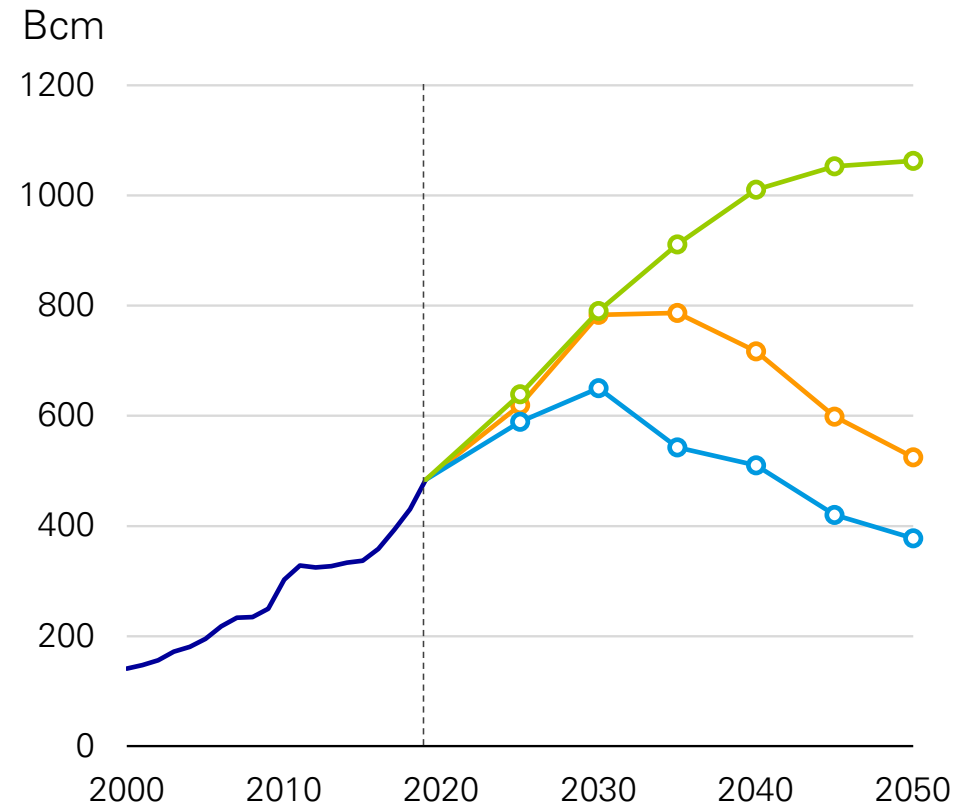


What is the outlook for oil and natural gas demand?

Natural gas demand



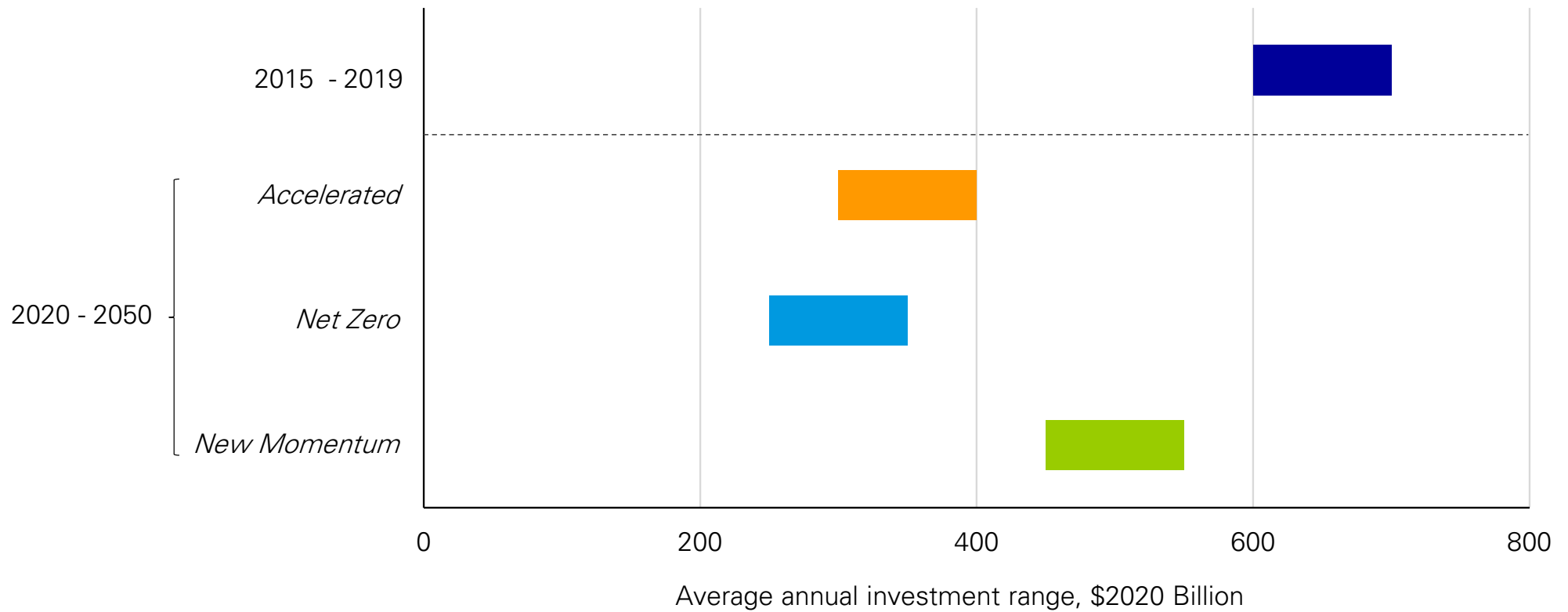
LNG trade





What is the outlook for oil and natural gas demand?

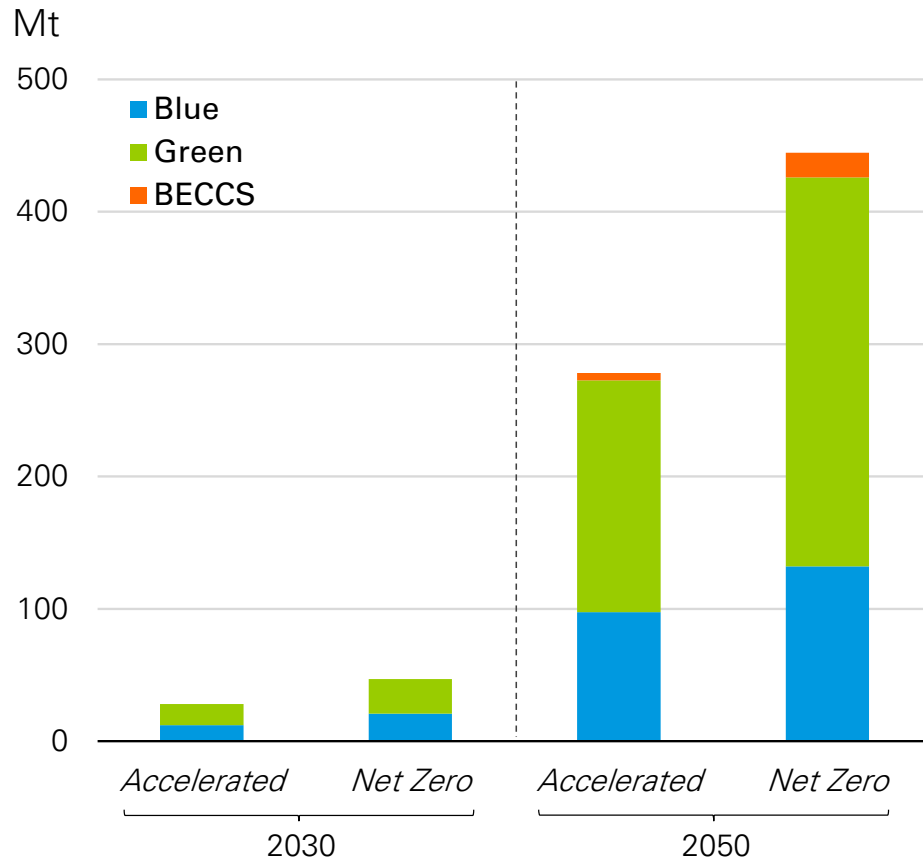
Oil and gas: average annual investment



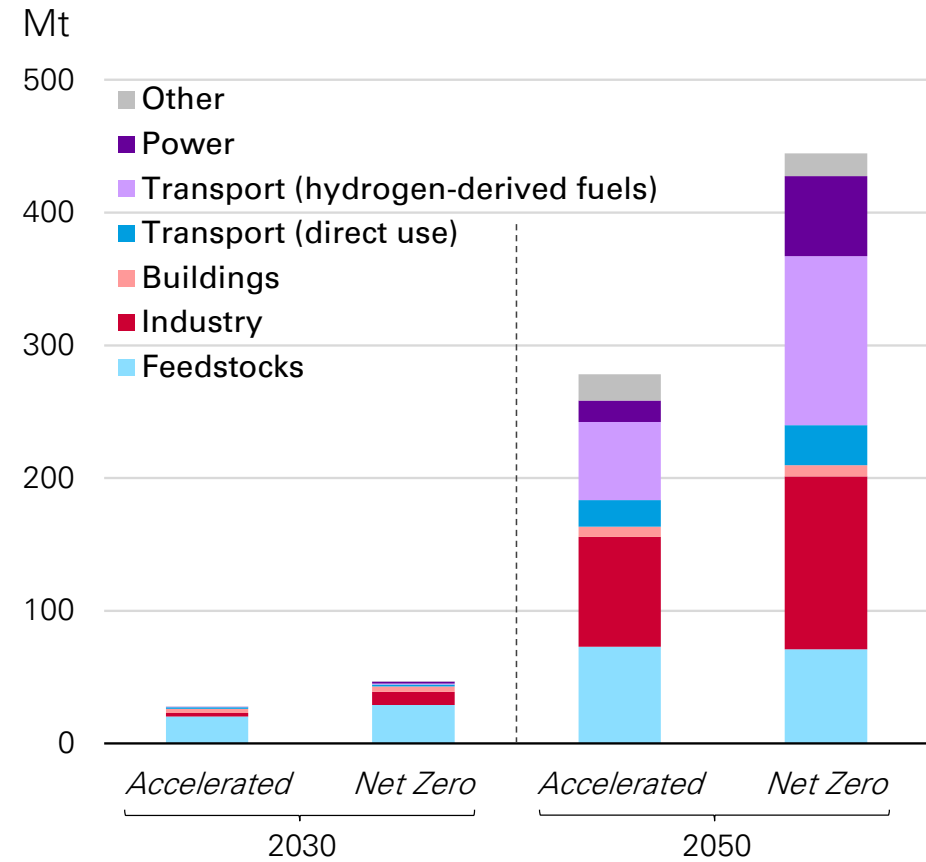


Low-carbon hydrogen: what is it and why is it important?

Low-carbon hydrogen supply



Low-carbon hydrogen demand

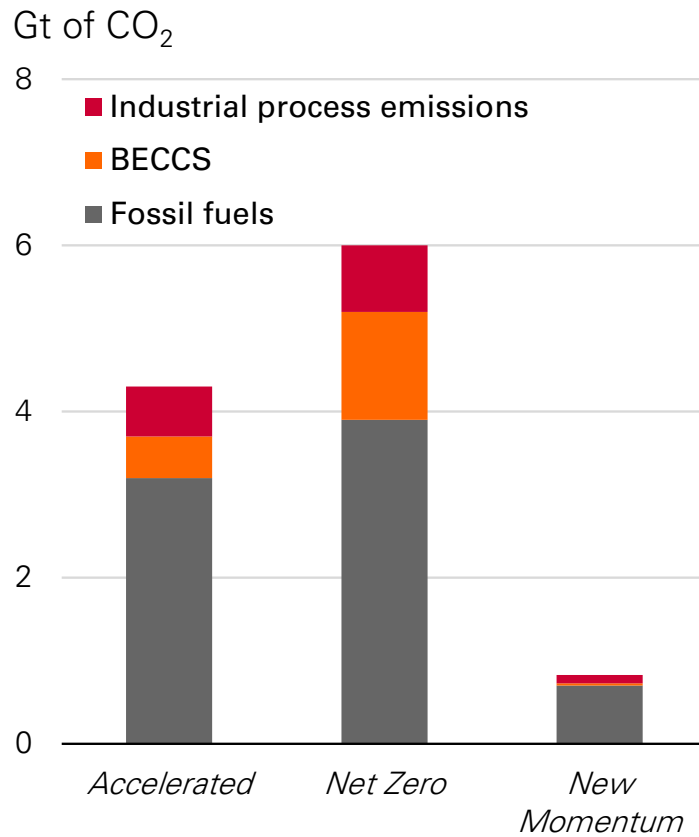


BECCS hydrogen from biomass gasification with carbon capture and storage

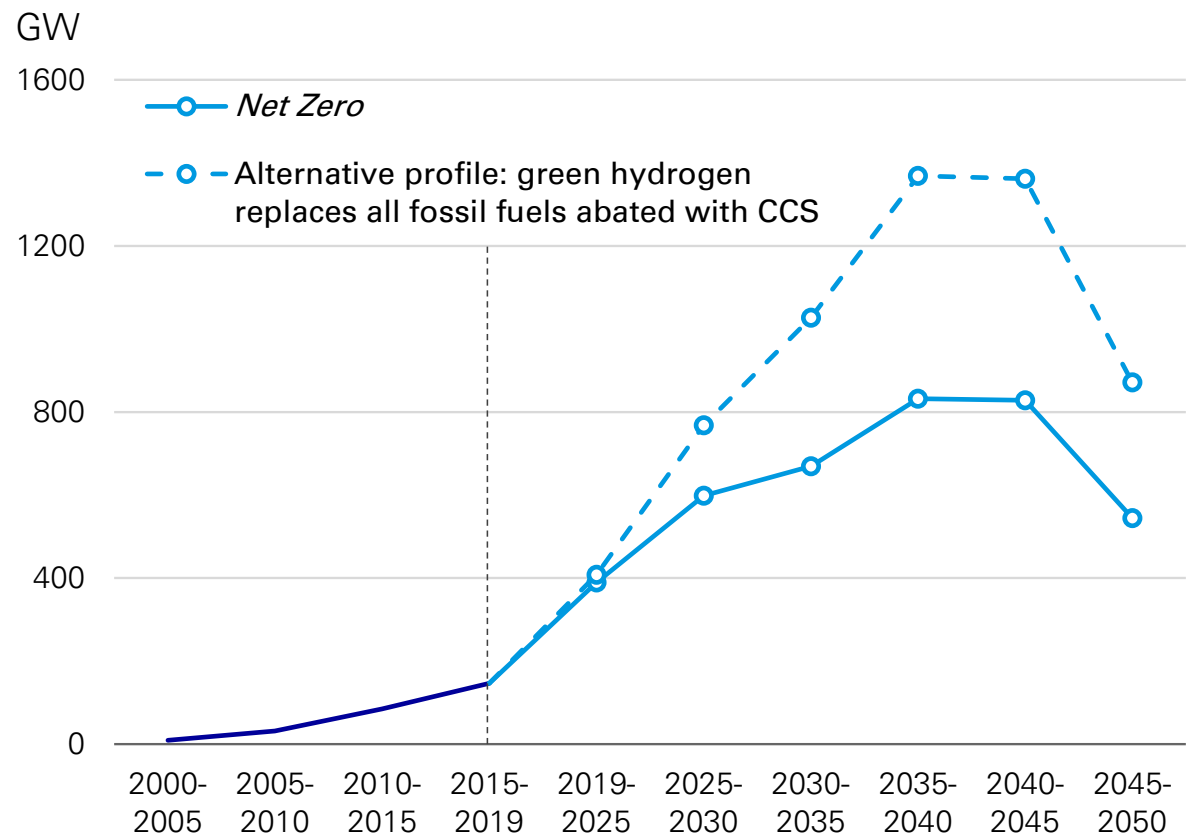


How important is CCUS for the energy transition?

CCUS in 2050 by emission source



Average annual increase in wind and solar capacity





Summary of key messages

- Wind and solar power expand rapidly, supported by increasing electrification
- A range of energy sources and technologies required to support deep decarbonization
- Oil and natural gas play critical role for next decades but make up falling share of energy mix
- Scenarios can't predict future but can help understand range of uncertainty