

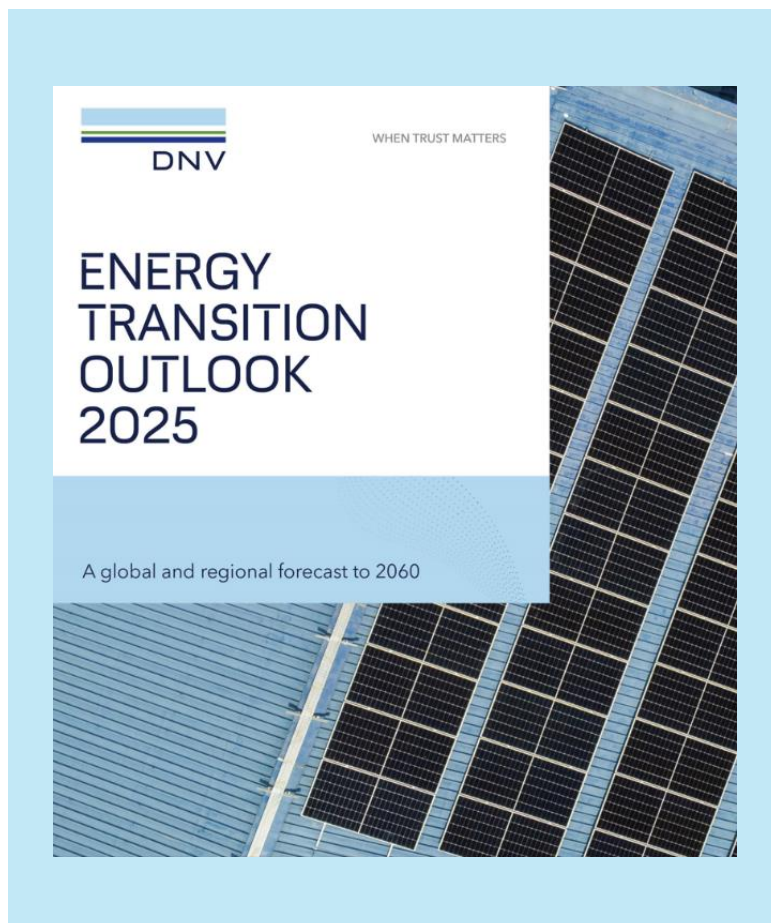
Global energy transition: progress, disruption and risks of derailment

Westminster Energy Forum

Hari Vamadevan, Senior Vice President and Regional Director for UK & Ireland

23 September 2026

Energy Transition Outlook - our forecast for the global energy system



Our **best estimate**, not the future we want a **single forecast**, not scenarios



Global energy system

10 regions linked by technology, economy & energy resources



Technology uptake is mainly cost driven – reflecting global trends and learning curves



2026 global ETO launched on 6 October 2026 in Singapore

[Link to live stream below](#)

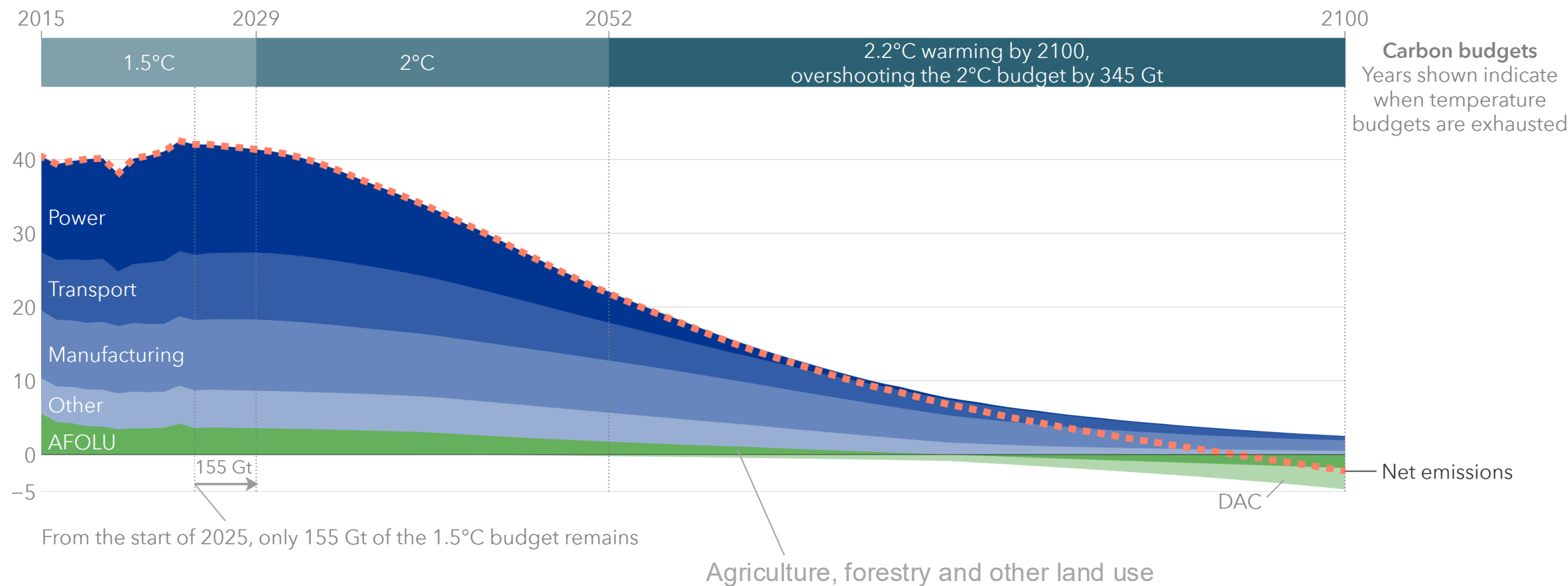


[Register here for global launch of 2026 ETO](#)

Our forecast indicates 2.2 °C global warming by 2100

World CO₂ emissions (GtCO₂) and associated carbon budgets

DNV Energy Transition Outlook 2025



But there are positive global trends

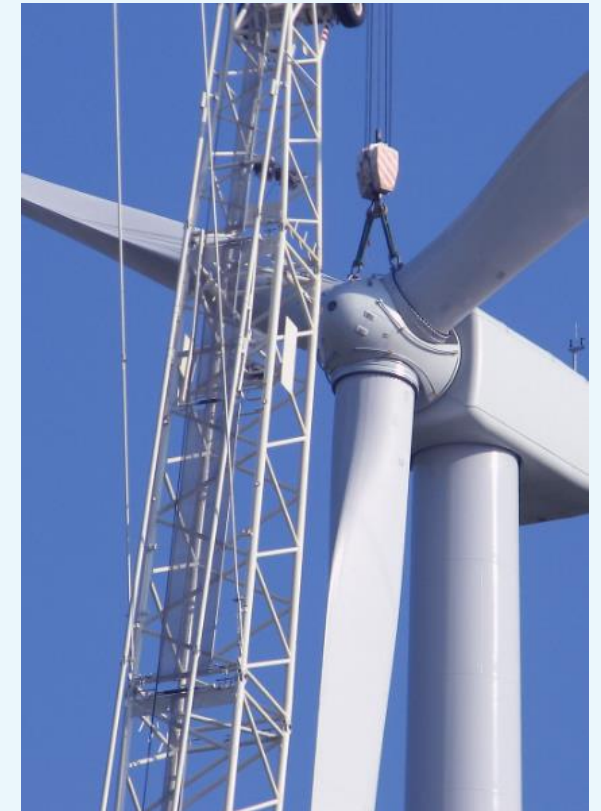
Fossil fuels and emissions
in decline



The energy transition is
affordable

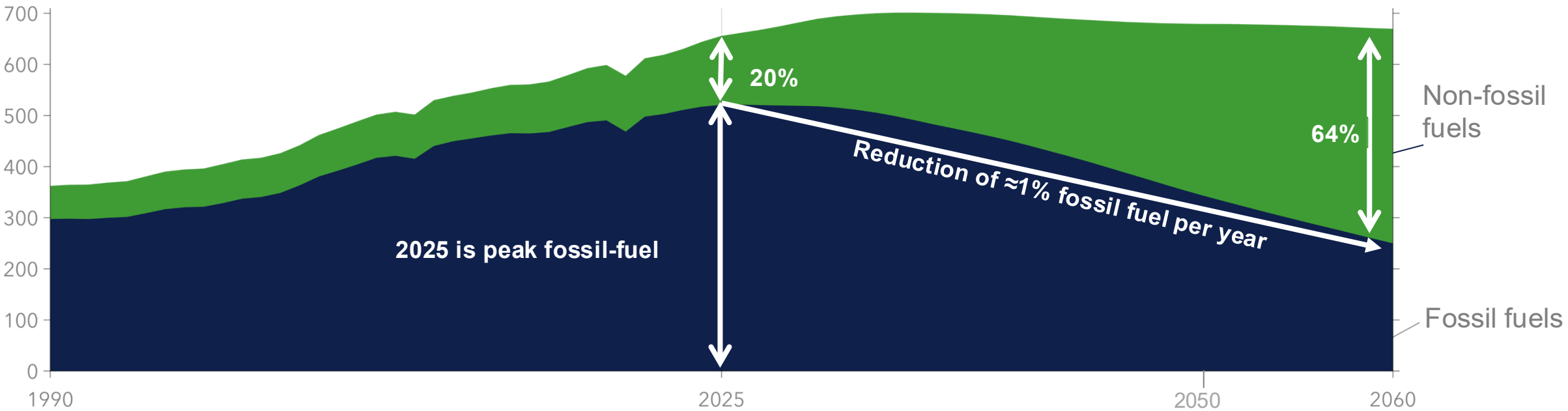


Energy security reinforces
resilience



Non-fossil energy starts taking over from fossil fuels

Primary energy demand (EJ/yr)
DNV Energy Transition Outlook 2025



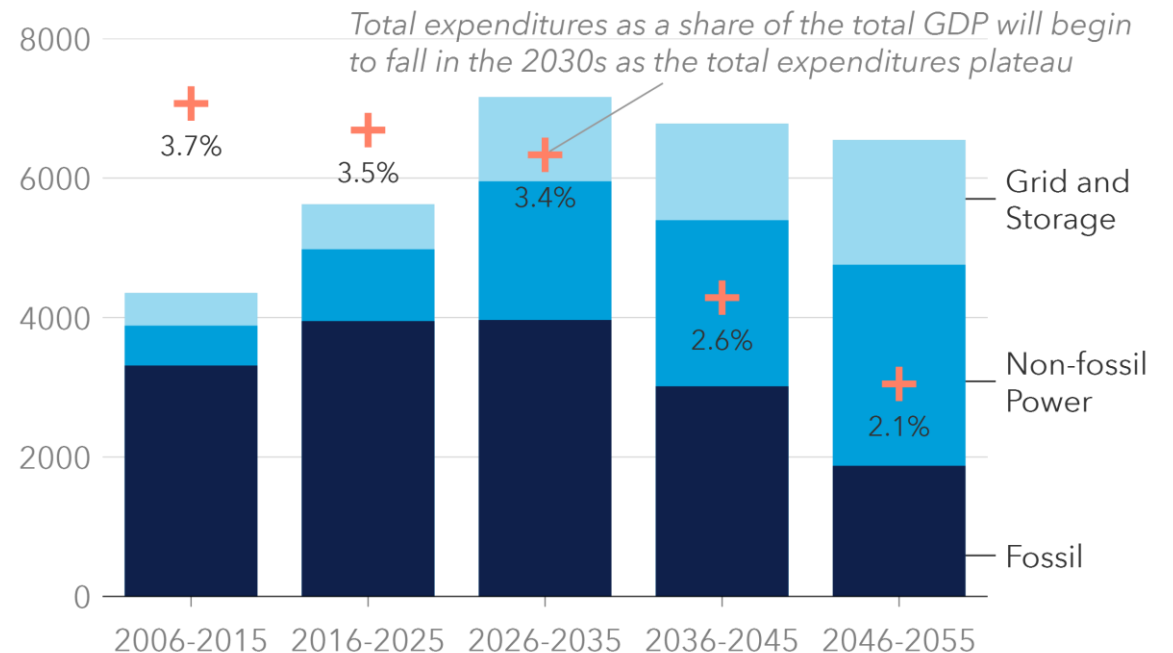
Historical data source: IEA WEB (2025)

Affordability - total energy expenditure peaks in 2030s

- Total energy expenditure will plateau and decouple from growing GDP
- The historical growth is sum of fossil energy and increasing investment in low-carbon power and grid
- In the 2030s, fossil fuel investment will start to decrease, and non-fossil investment grows significantly

World energy expenditures (Billion USD/yr)

DNV Energy Transition Outlook 2025

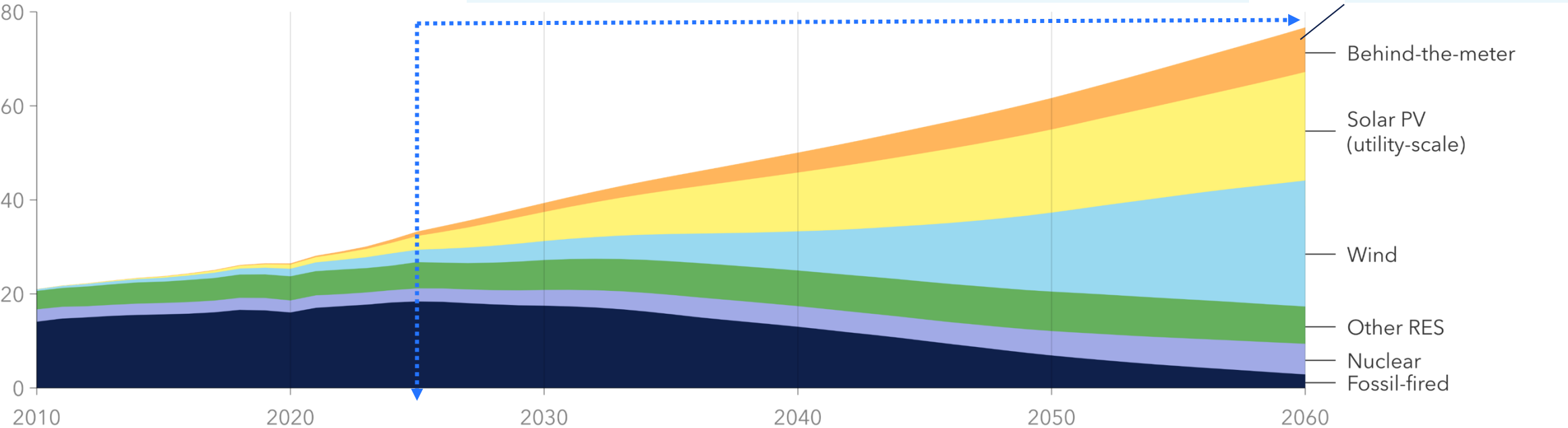


Fossil includes upstream, midstream, and power generation.

Electricity production grows to reduce emissions and increase energy security

Electricity generation by power station type (PWh/yr)

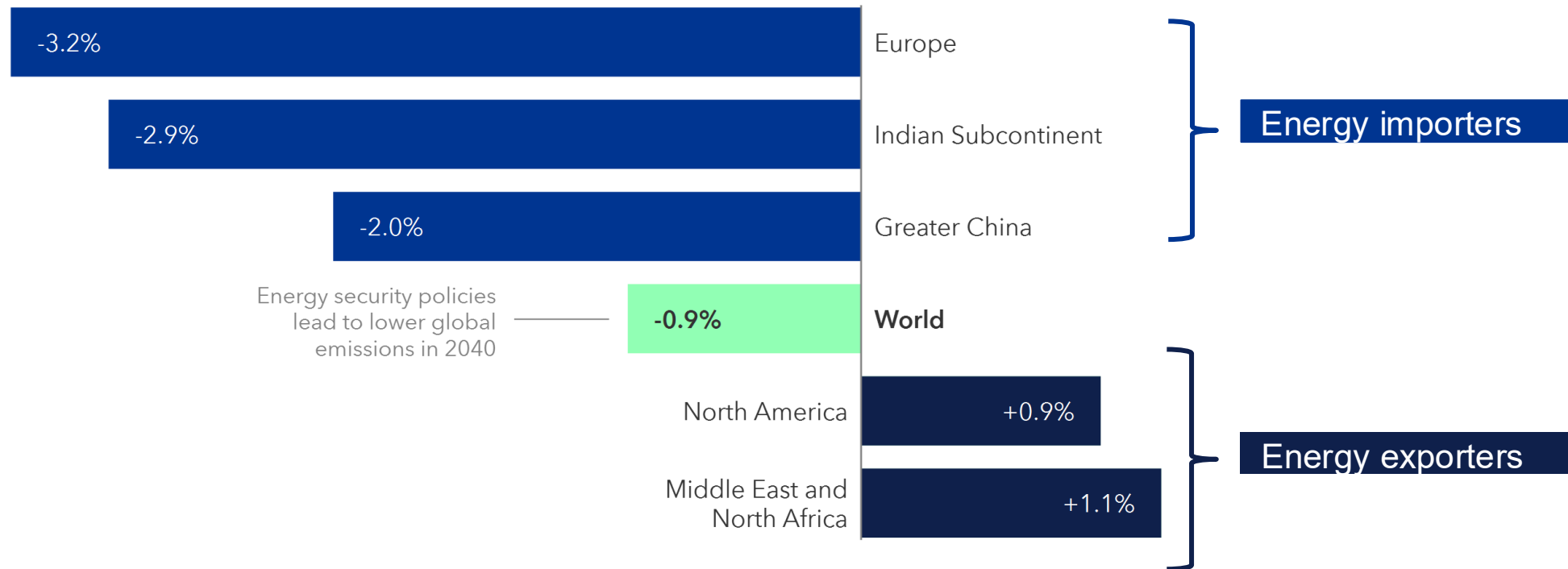
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The net effect of energy security actions globally is lower emissions

Effect of energy security policies on energy-related CO₂ emissions in year 2040, in selected regions

DNV Energy Transition Outlook 2025



System shocks for which companies, regions and countries need to be prepared



Cyber and digital



Physical sabotage



Climate change and
adaptation



Geopolitics



Supply chain
dependencies



AI/digitalization
complexity and energy
transition risks

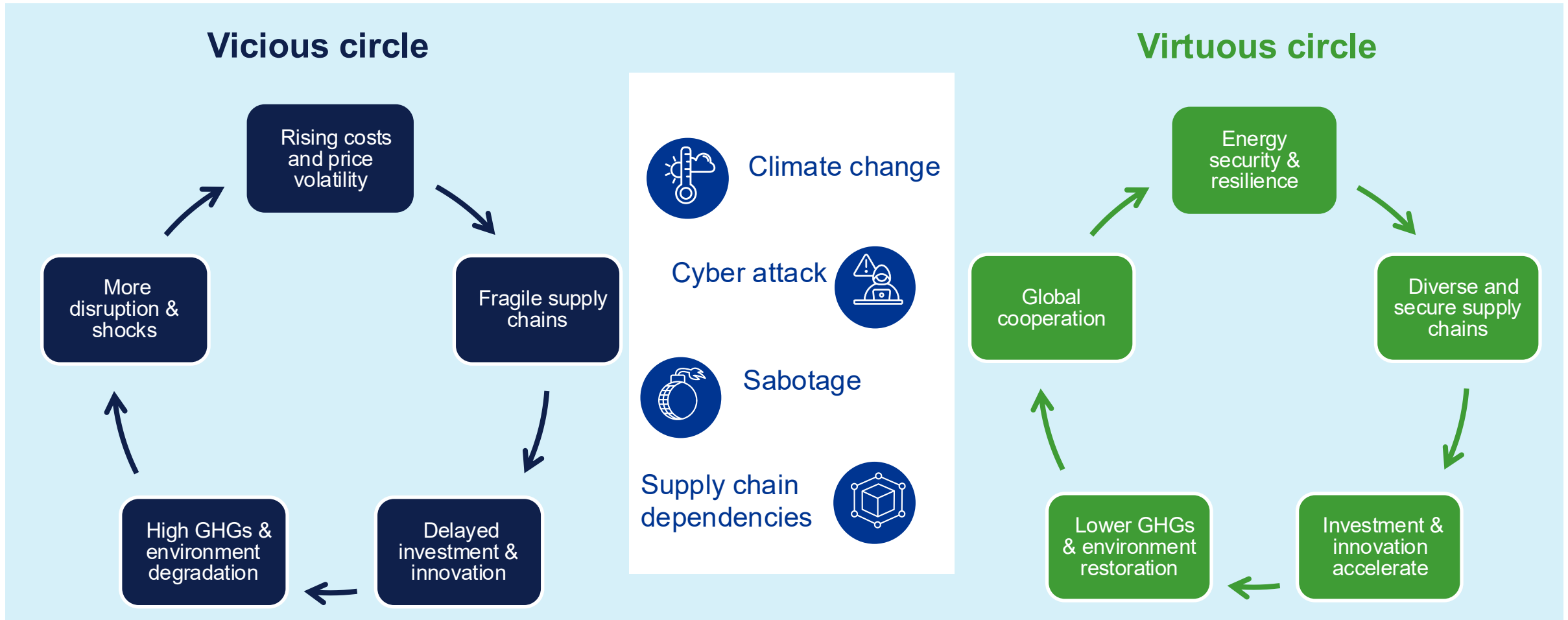


Natural resources



Hybrid or stacked
threats

Disruption and derailment – two possible outcomes



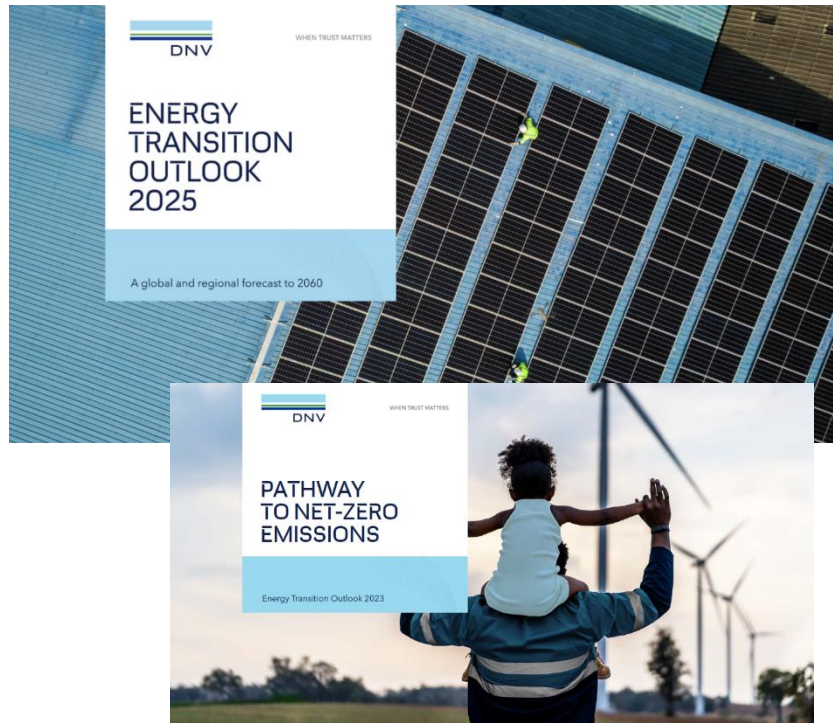
Security and resilience are reshaping the transition

- The transition is happening; it is not happening fast enough.
- Energy security and resilience are reshaping priorities; system shocks are becoming the new normal.
- Resilience will determine whether disruption becomes a brake on progress, or a catalyst for the energy transition.



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Questions