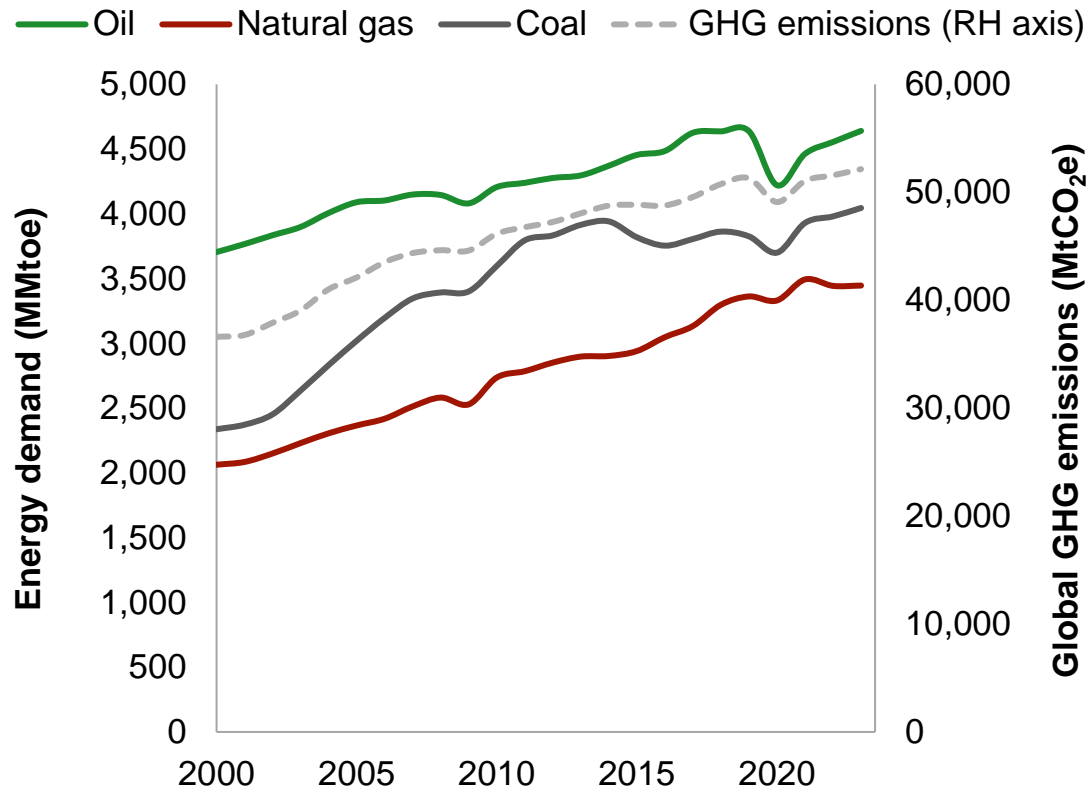


Energy Transition in an uncertain, more fractured world

Source: S&P Global 2024

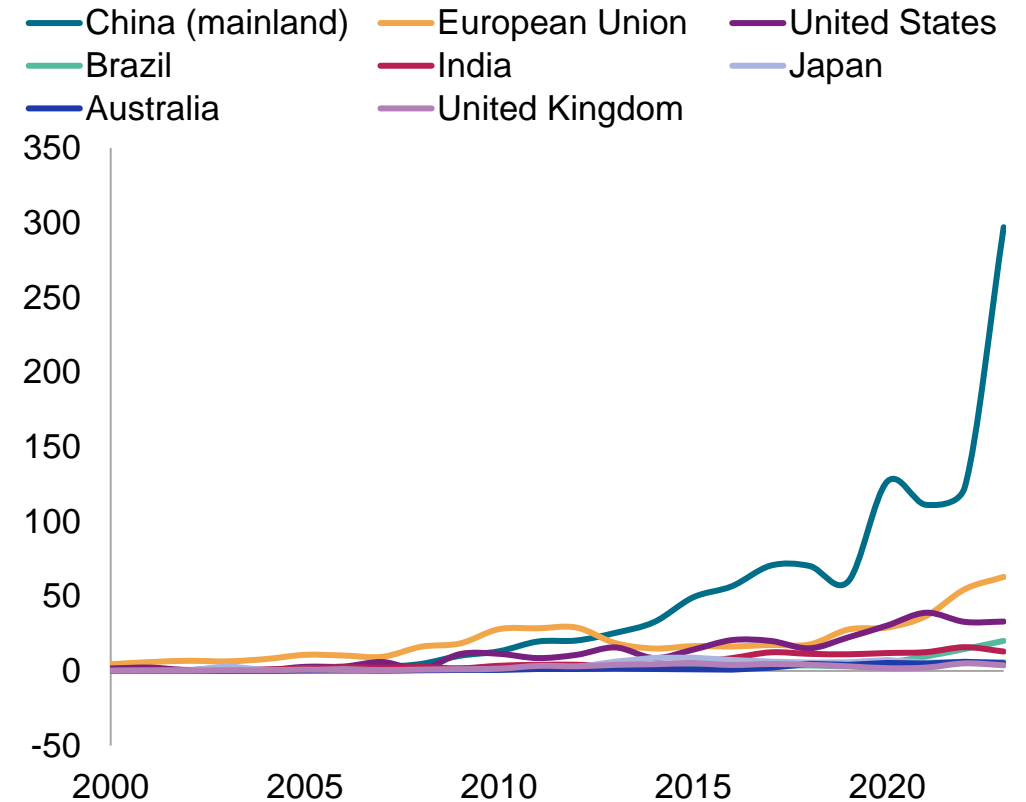
In 2025, any claim of a definitive long-term view of the energy future should be met with scepticism and close scrutiny...

Global coal, oil and natural gas demand vs. global GHG emissions, 2000 - 2023



Source: S&P Global Commodity Insights

Non-hydro renewable capacity additions by key market, 2000 - 2023 (GW)

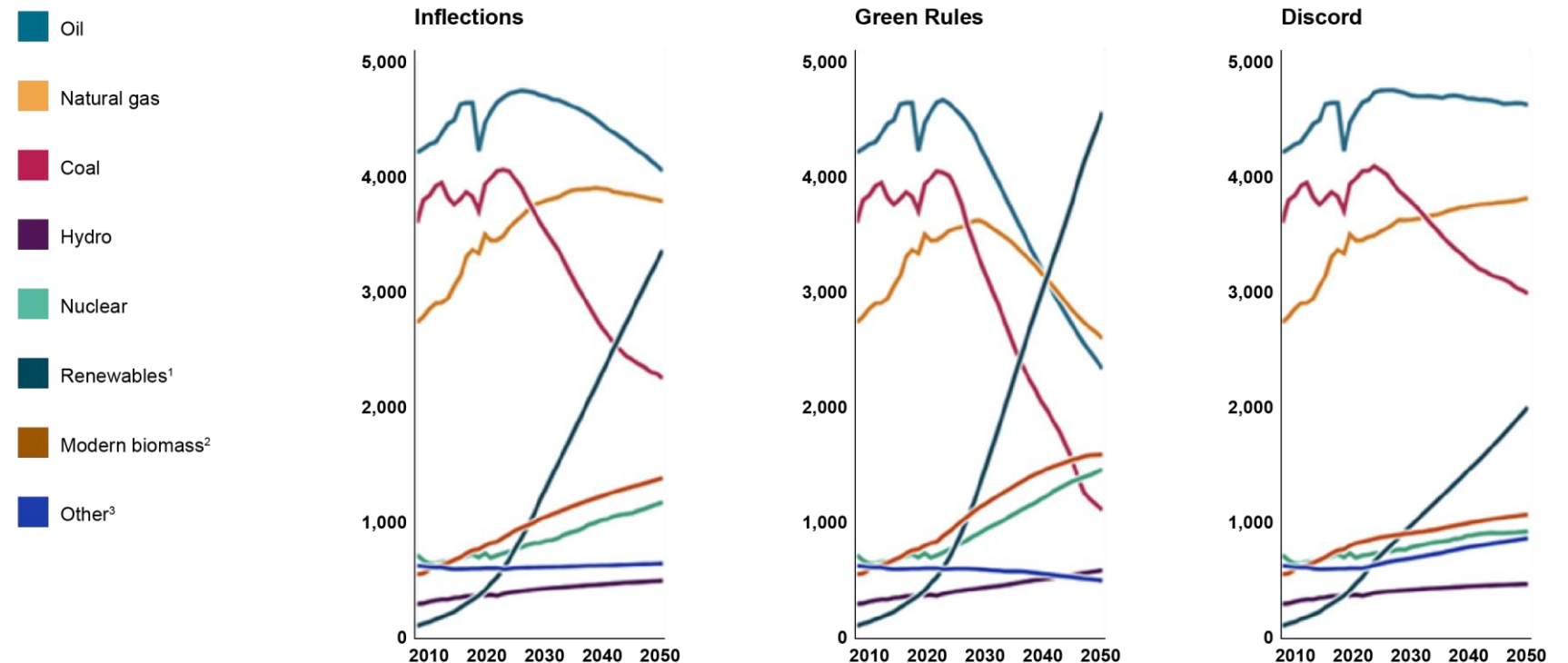


...but the Energy Transition is definitively underway

Through the 2020s, the energy transition will be defined by a struggle between policy and market forces.

Global energy markets are on the cusp of change, with significant structural reordering expected over the coming decades.




Total global primary energy demand by fuel (MMtoe)



Source: S&P Global 2025

Our long-term outlooks show a wide divergence in energy and climate outcomes

S&P Global Commodity Insights Energy and Climate Scenarios and net-zero cases: Key metrics

		Global GDP (CAGR 2023–50)	2050 TPED (change vs 2023)	2050 Fossil fuel % of TPED	GHG emissions (change vs. 2023)	Global temperature (change by 2100)
Inflections (base case)		2.5%	+13%	59%	-24%	2.4°C
Green Rules		2.6%	-3%	41%	-56%	1.8°C
Discord		2.0%	+10%	68%	-9%	3.1°C
Net-zero cases						
Accelerated CCS (ACCS)		2.5%	-12%	32%	-100%	1.5°C
Multitech Mitigation (MTM)		2.5%	-17%	22%	-99%	1.5°C

Data compiled July 2024.

CAGR = compound annual growth rate; TPED = total primary energy demand.

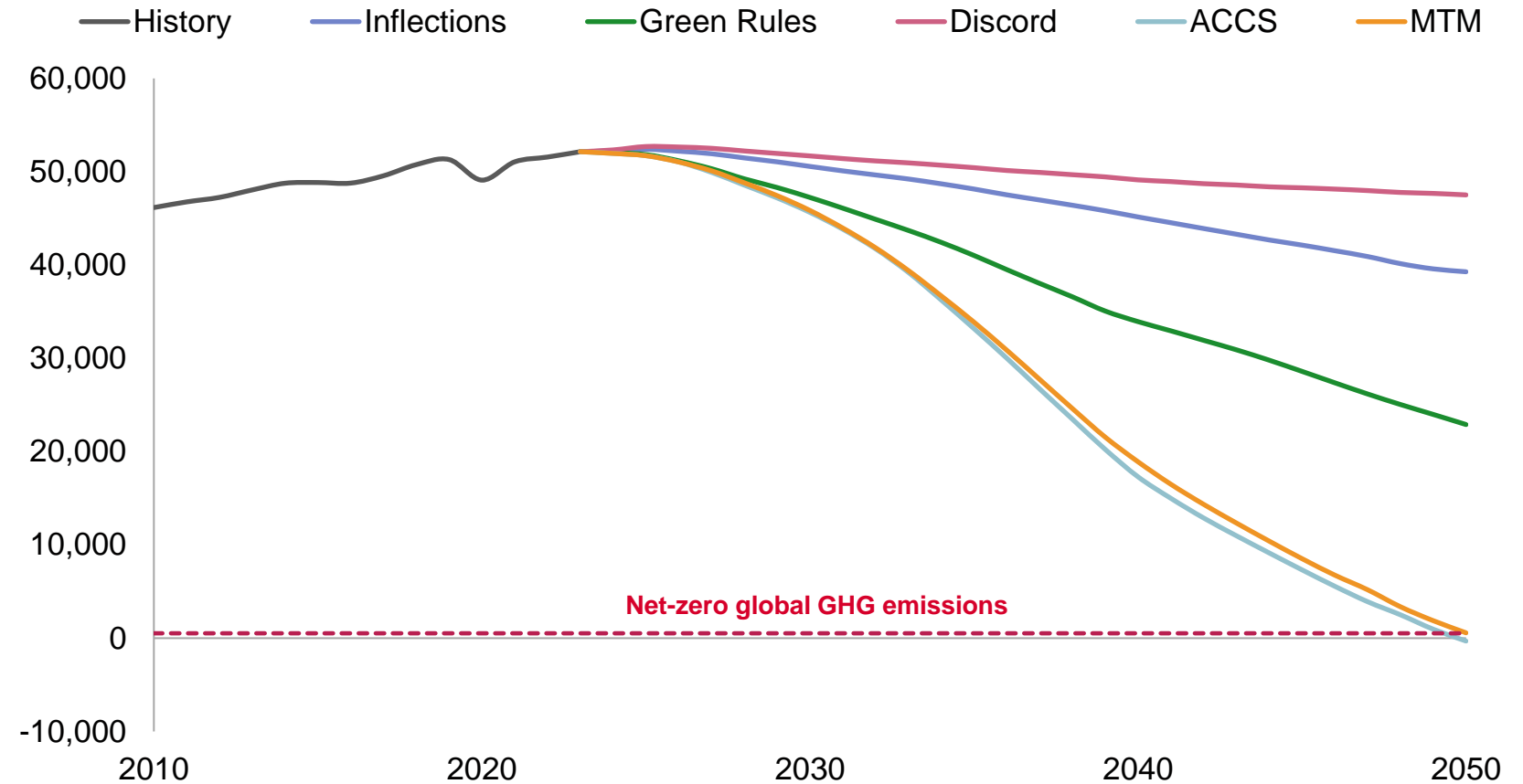
Commodity Insights considers a country or region to have effectively reached “net-zero” emissions once GHG emissions have fallen to less than 1% of their 2023 level and remain at that level over the course of a year.

Source: S&P Global Commodity Insights.

Global GHG Emissions

Global GHG emissions are close to peak and will decline long term under all scenarios; however, net-zero by 2050 is increasingly challenging and is not expected.

Global GHG emissions, 2010–50 (MMtCO₂e)



Data compiled January 2025

Commodity Insights considers a country or region to have effectively reached net-zero emissions once GHG emissions have fallen to less than 1% of their 2024 level and remain at that level over the course of a year.

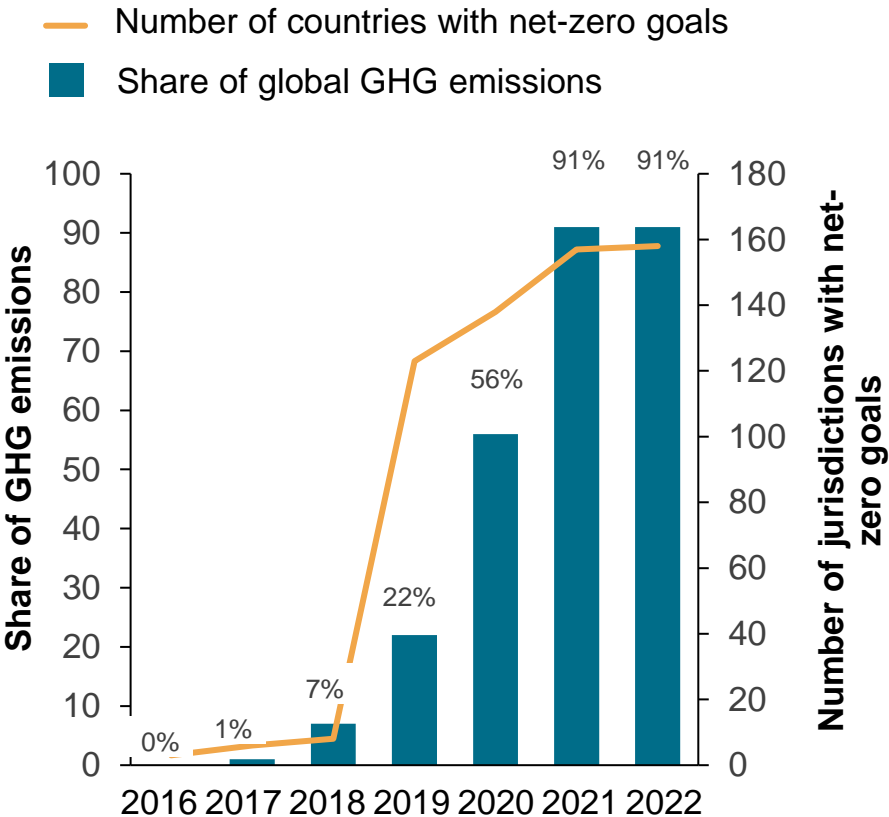
Source: S&P Global Commodity Insights.

Global Net-zero Announcements and Share of GHG Emissions

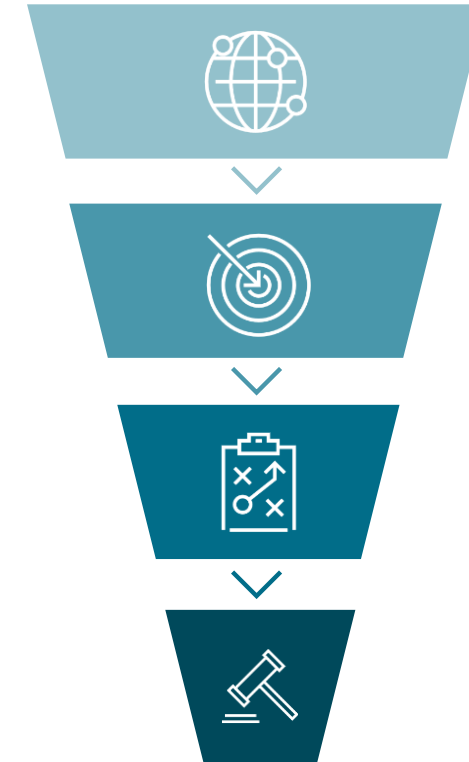
Net-zero pledges account for over 90% of global GHG emissions; pledges vary significantly for coverage and regulatory form.

Will they drive outcomes?

Global net-zero announcements and share of GHG emissions



Status of net-zero announcements



Parties to Paris Agreement

- 193 jurisdictions

Net-zero goals

- 158 jurisdictions
- 91% of emissions

Long-term plans

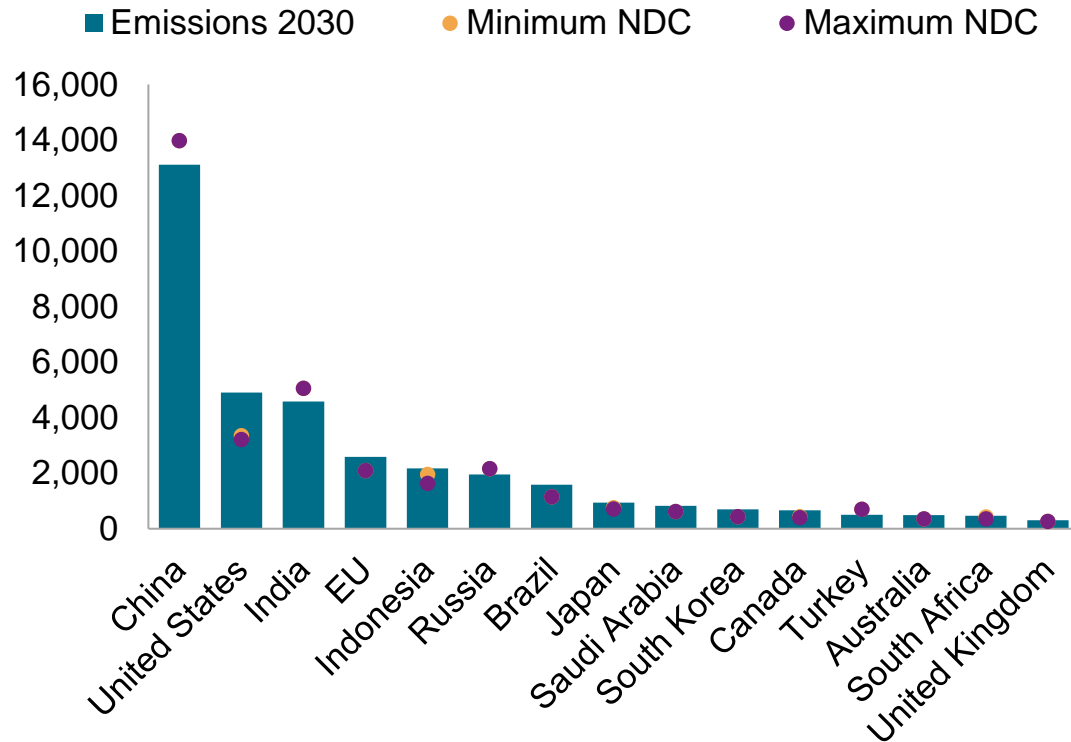
- 56 jurisdictions
- 74% of emissions

Legally binding

- 28 jurisdictions
- 16% of emissions

Of the world's largest emitters, only China and India are expected to meet Paris Agreement goals. No country is expected to meet its net-zero ambitions

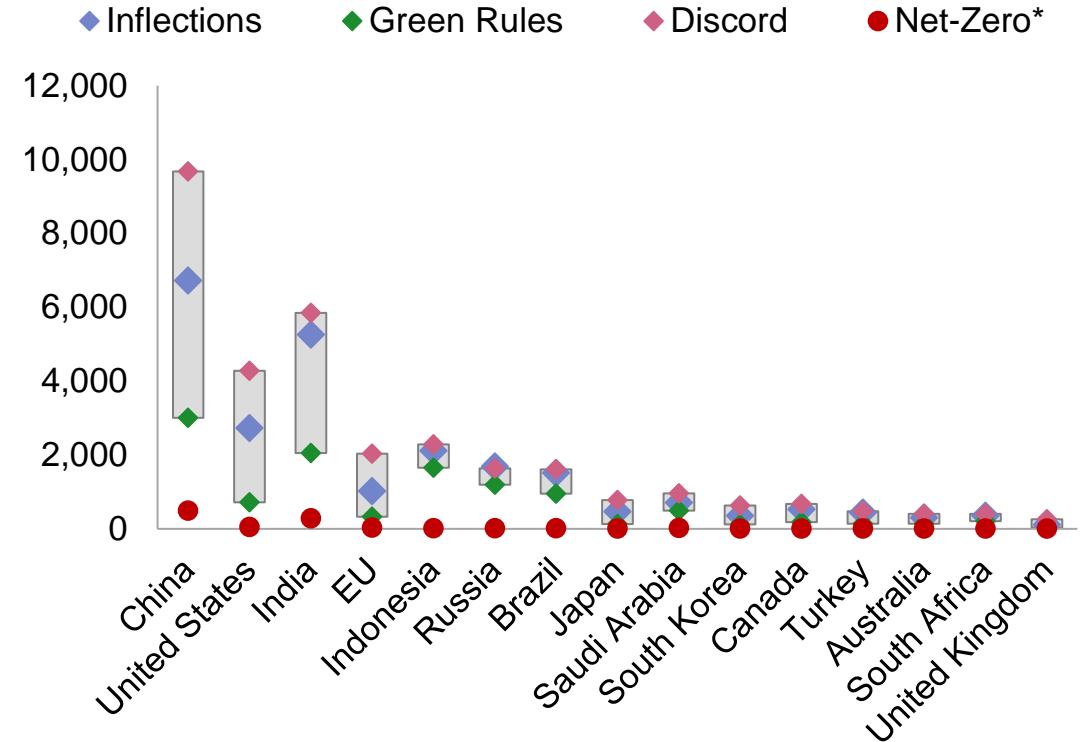
Key markets' GHG emissions in 2030 (Inflections) vs. Paris Agreement NDCs (MtCO₂e)



Note: NDC = Nationally Determined Contribution. Maximum NDCs are contingent on provision of climate finance from developed to emerging economies.

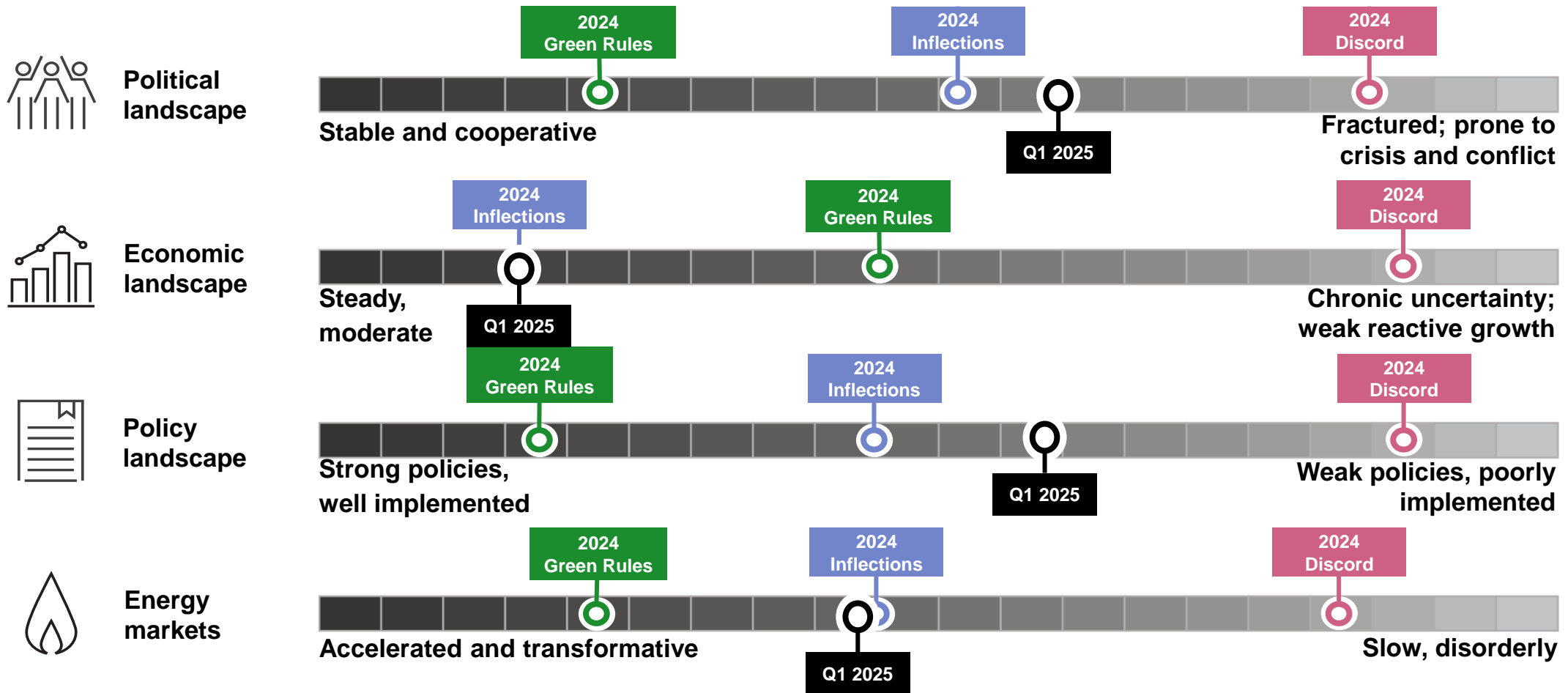
Source: S&P Global Commodity Insights

Key markets' GHG emissions in 2050 by scenario (MtCO₂e)



*Commodity Insights considers a country or region to have effectively reached "net-zero" emissions once GHG emissions have fallen to less than 1% of their 2023 level and remain at that level over the course of a year. 2050 net-zero markers for China, India and Saudi Arabia indicate 2050 emission levels consistent with reaching net-zero in 2060 (China and Saudi Arabia) or 2070 (India)

Signposts to the Energy Transition: What events could move the world from one pathway to another?



Source: S&P Global Commodity Insights.

FOR DISCUSSION

- ❖ How are the recent changes in the geopolitical landscape affecting your the pace of the energy transition?
- ❖ What are the key drivers that could scale up cleantech investment and accelerate decarbonisation?
- ❖ Will reassessments of climate targets at the country and corporate level reframe the investment thesis around the energy transition?
- ❖ Does policy drive decarbonisation or does technology?