



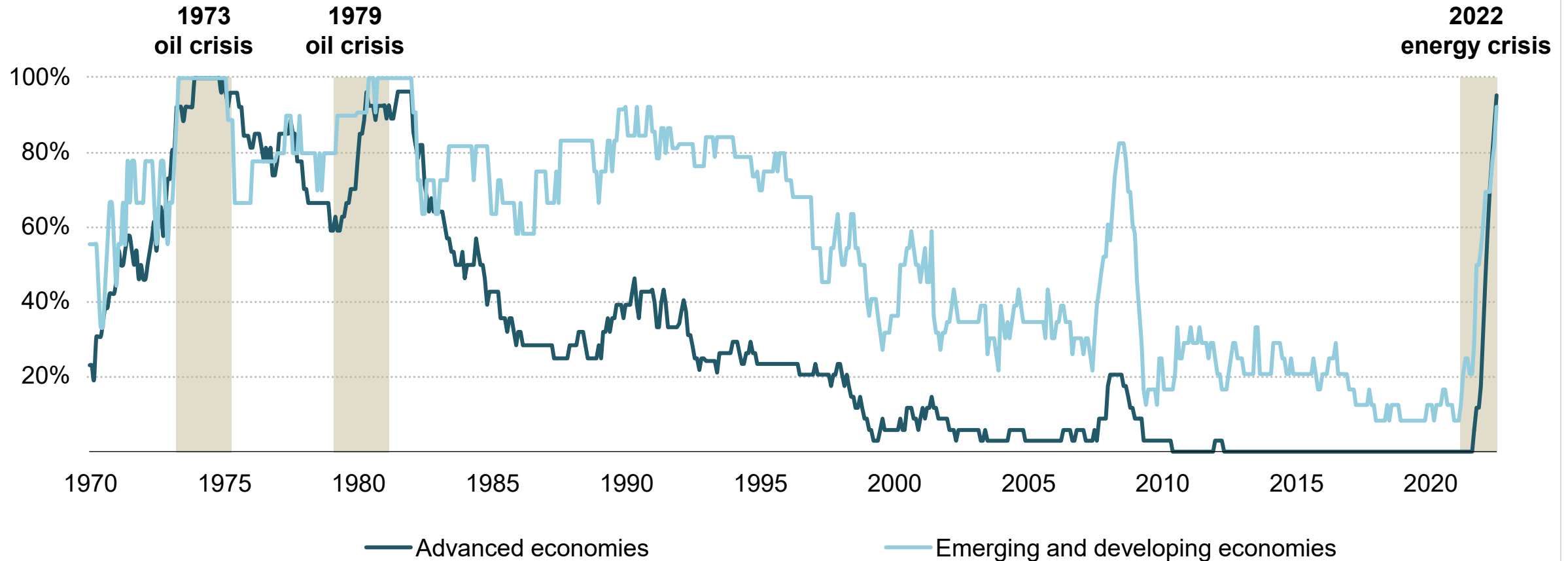
# World Energy Outlook 2022

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Banca d'Italia, 6 December 2022

# An energy shock of unprecedented breadth and complexity

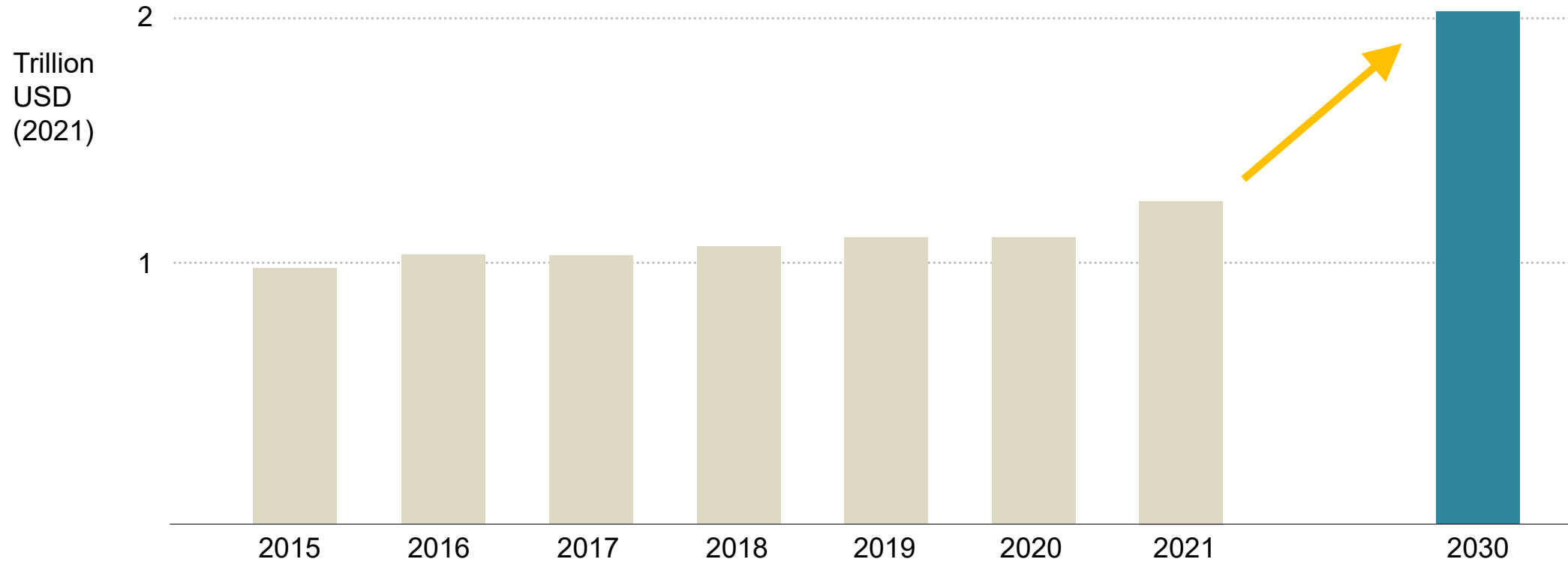
Percentage of countries with annual inflation greater than 6%



**Exacerbating already tight energy markets, the Russian invasion of Ukraine has tipped the world into a global energy crisis of unprecedented breadth and complexity, affecting all countries and the vulnerable in particular**

# Government responses are fast-tracking the clean energy economy

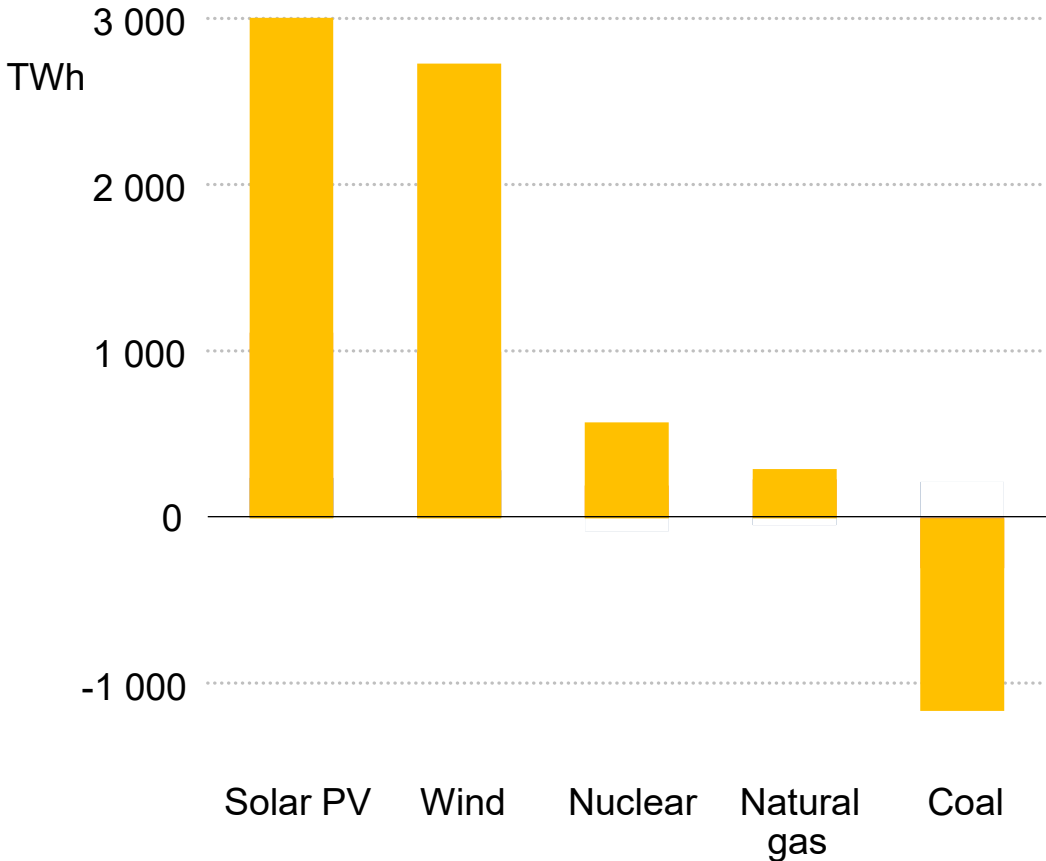
Clean energy investment in the Stated Policies Scenario



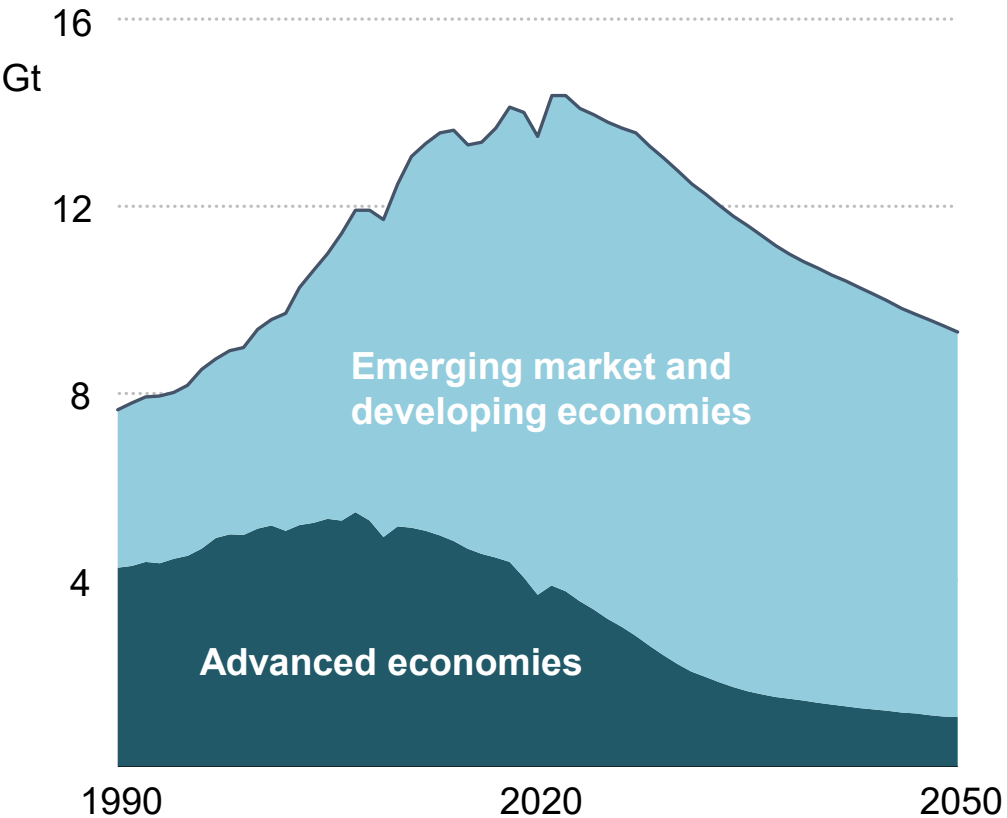
**The US Inflation Reduction Act, the EU's Fit for 55 package, Japan's GX, China's new clean energy targets and India's solar revolution propel clean energy investment to new highs, but \$4 trillion is needed by 2030 to be on track for 1.5 °C**

# Electricity is turning the corner

Change in generation in the STEPS, 2021-2030



Power sector CO<sub>2</sub> emissions

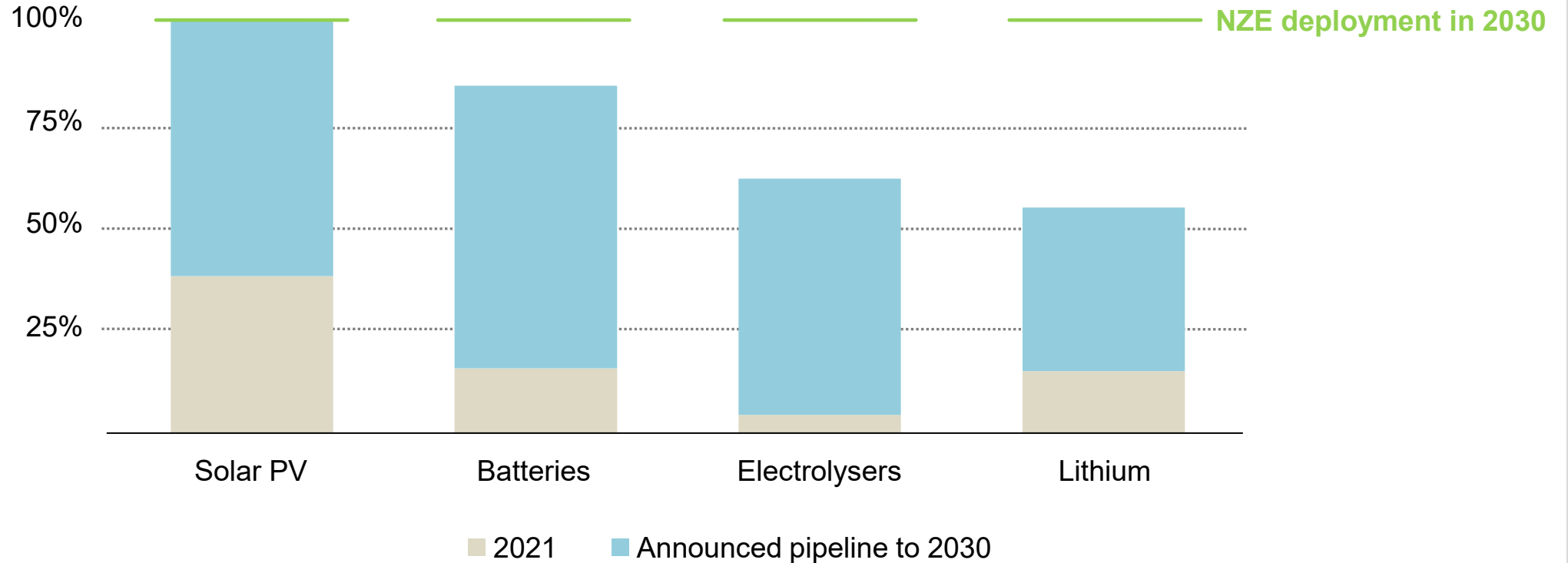


**As markets rebalance, the upside for coal is temporary as renewable generation rises by 90% to 2030; the peak in power sector emissions needs to be followed by a much steeper decline to be consistent with global climate goals**

# Clean energy manufacturers prepare the ground for faster transitions

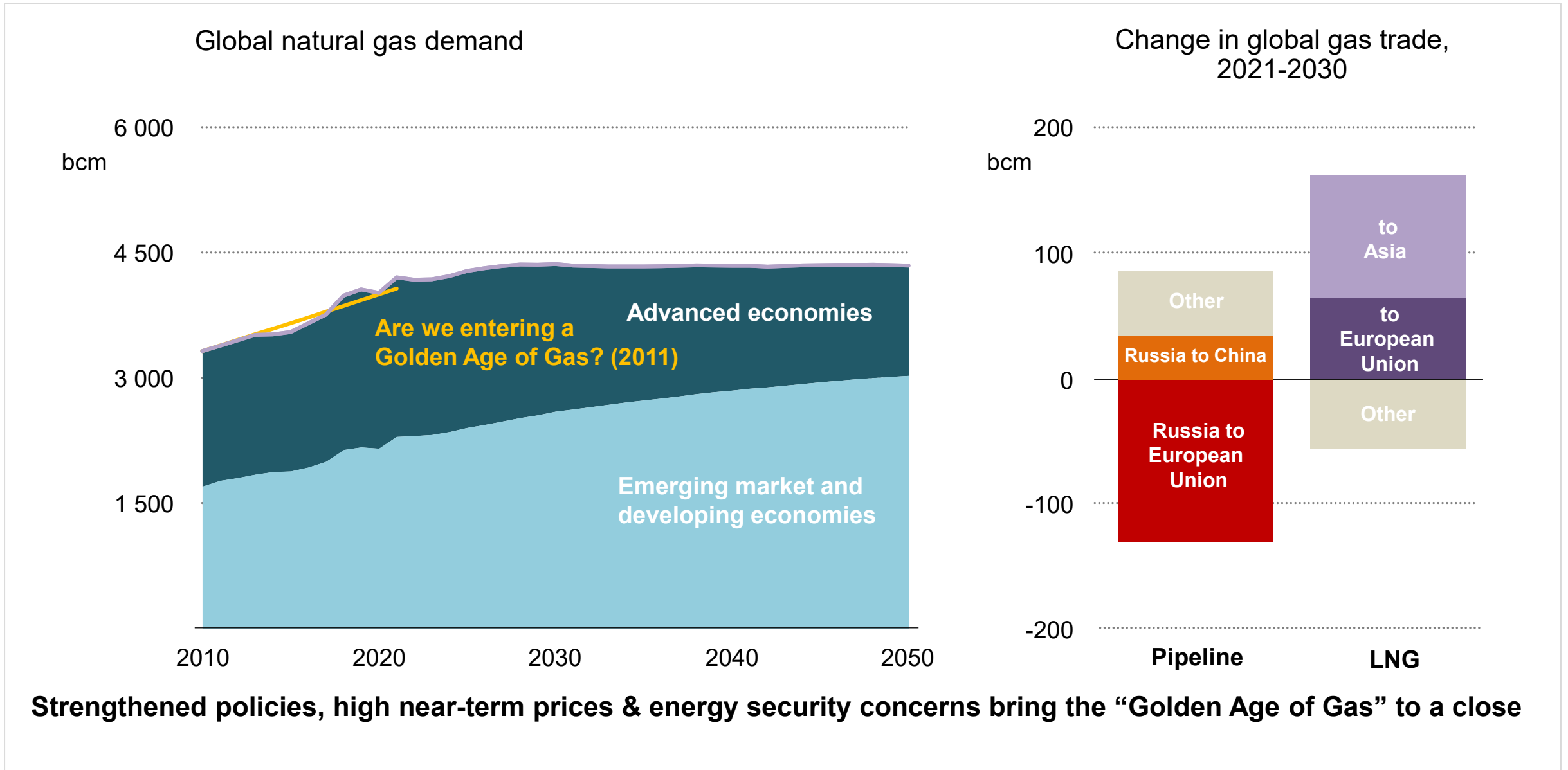


Announced manufacturing capacity pipeline compared with NZE Scenario deployment in 2030



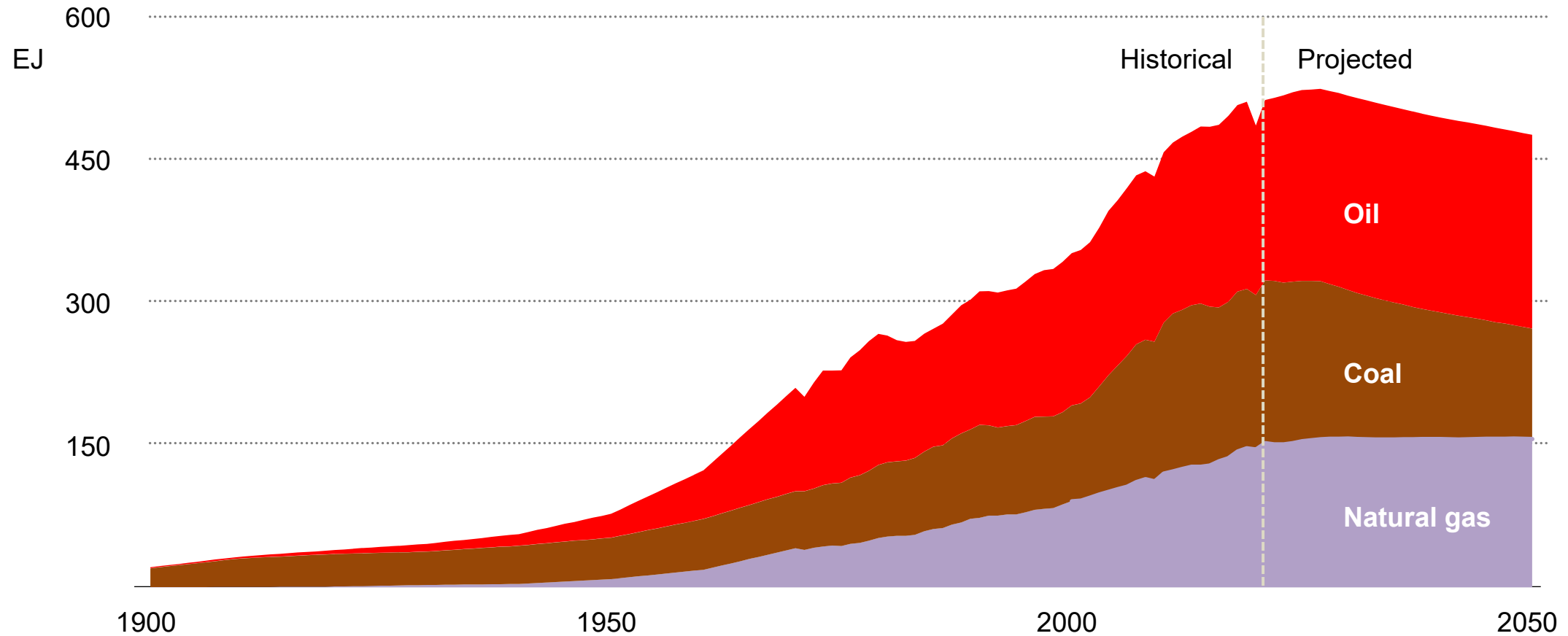
**Announced plans to scale up clean energy manufacturing capacity help to accelerate cost reductions and would, in some cases, approach the levels needed to put the world on track with a 1.5 °C pathway**

# The era of natural gas demand growth is coming to an end



# Peak fossil fuel demand is coming this decade

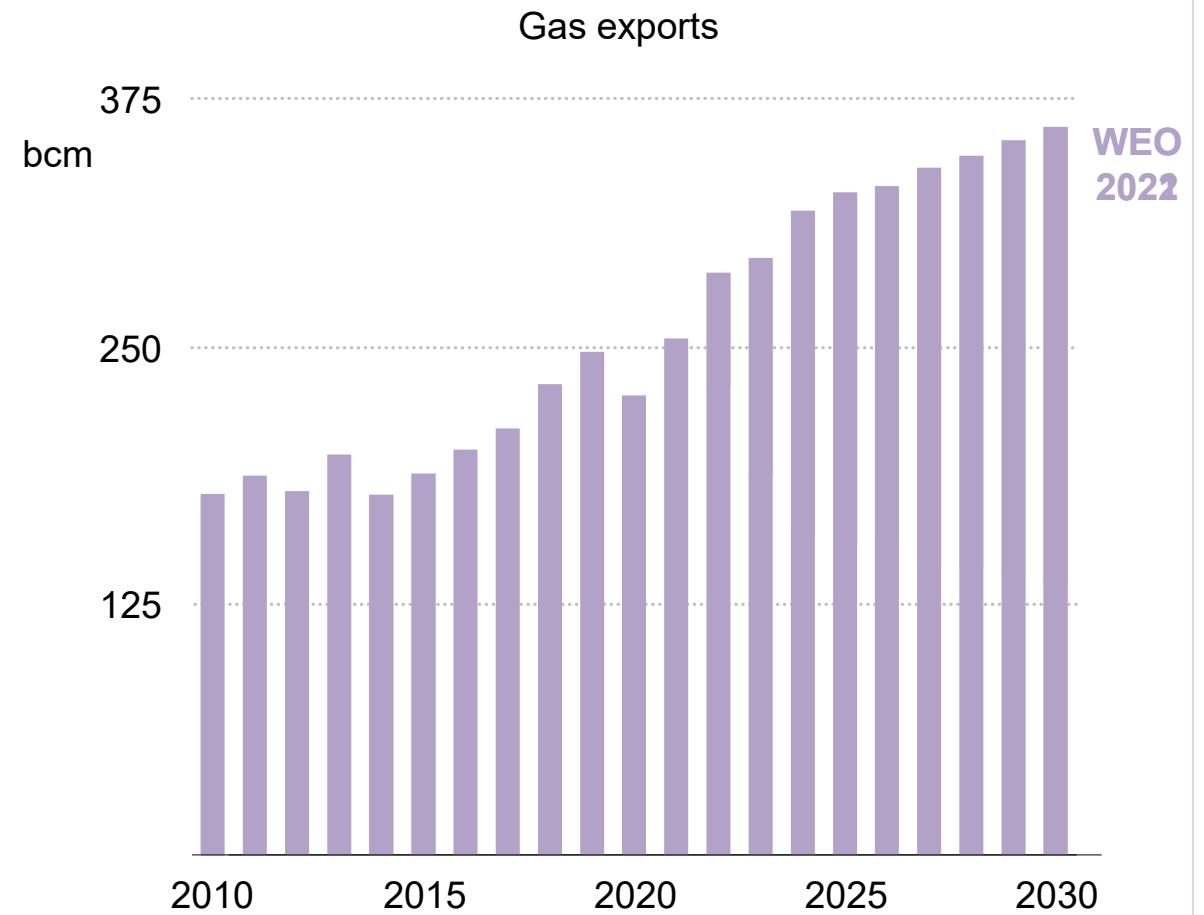
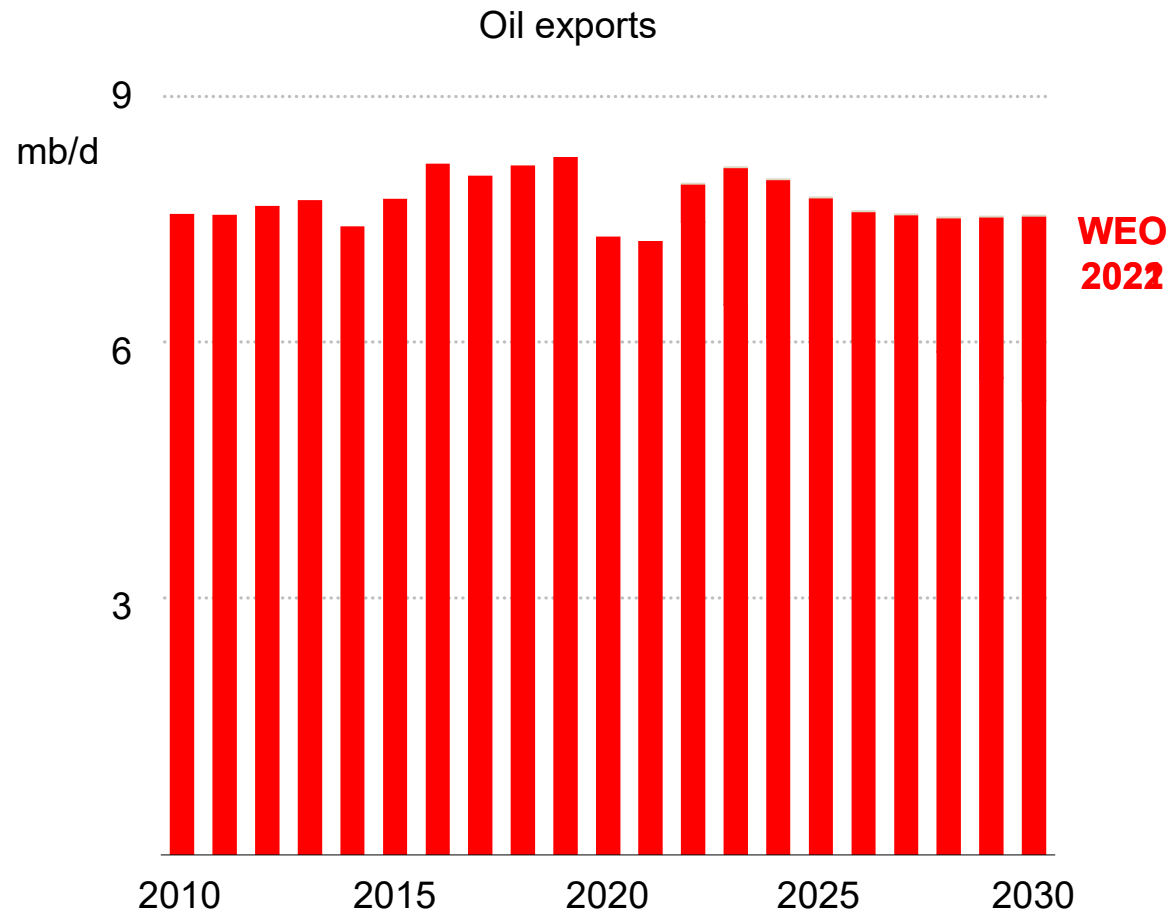
Fossil fuel demand in the Stated Policies Scenario, 1900-2050



**Today's policy settings are now sufficiently strong that they produce a distinct peak in fossil fuel use before 2030**

# Russia faces a much-diminished role in international energy

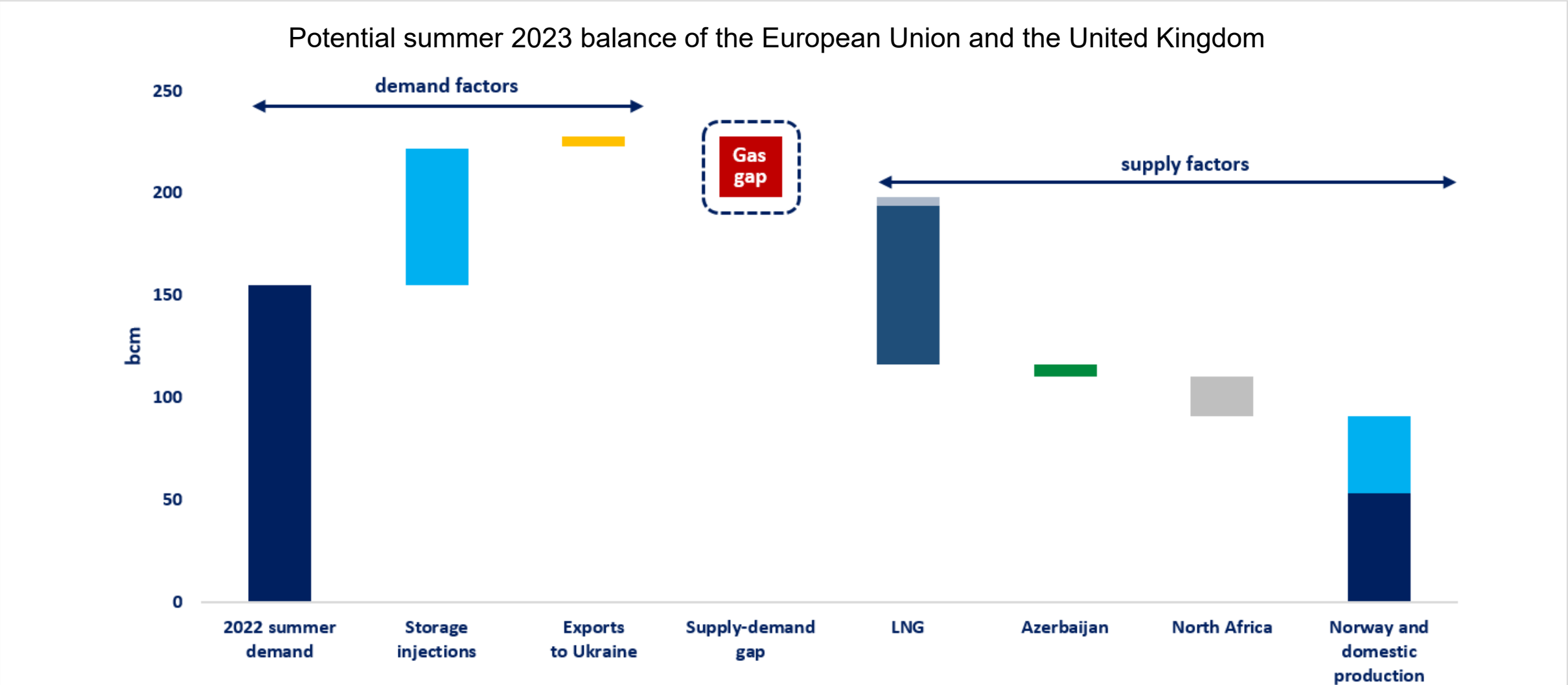
Russian oil and gas exports in the Stated Policies Scenario



**Russia's share of global oil and gas trade halves by 2030, with exports from the United States, Middle East, South America and East Africa – and enhanced efforts to reduce demand – filling the gap**

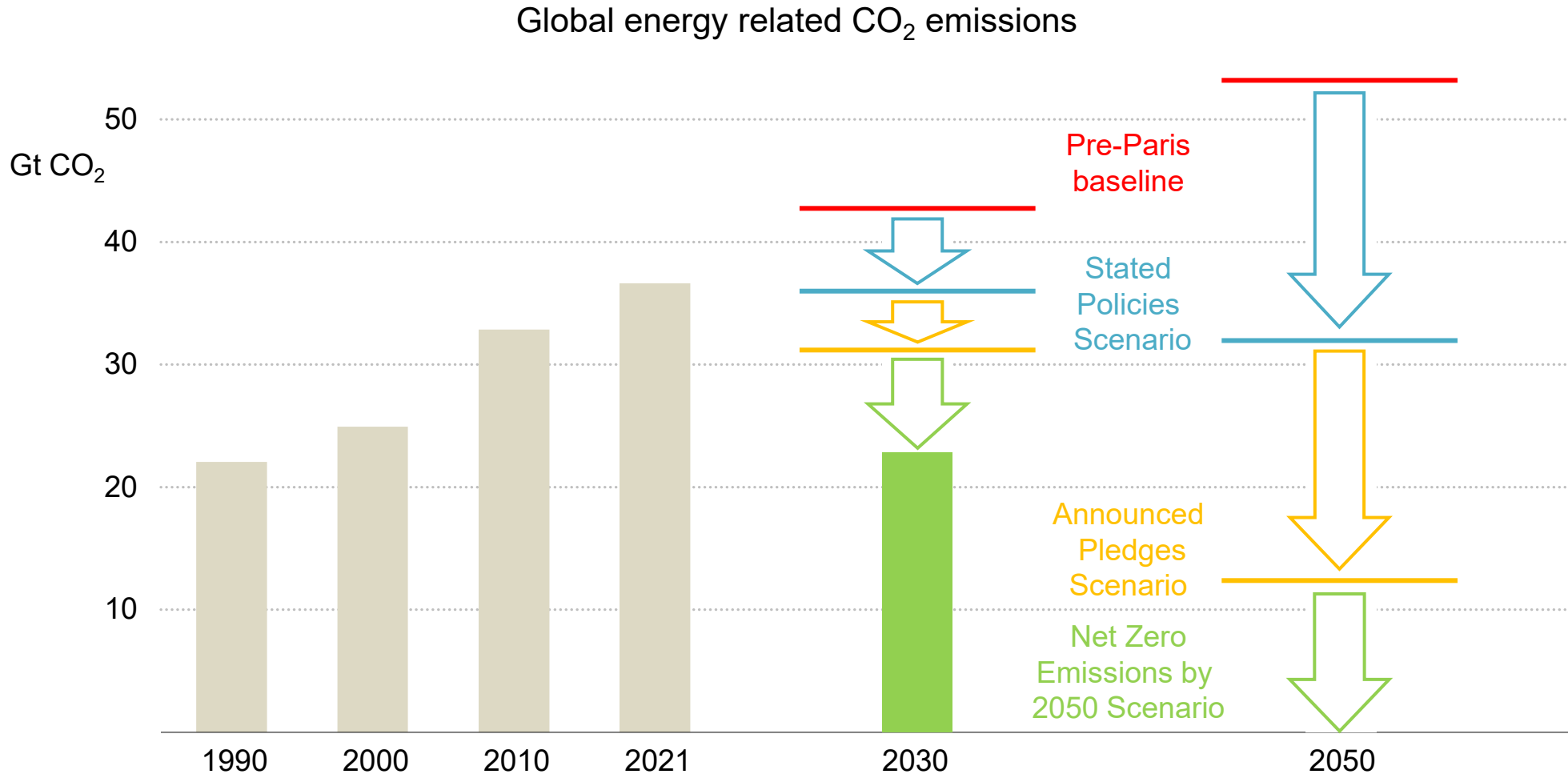


# Europe could see a supply-demand gap of 30 bcm in summer 2023



Assuming a full stop of Russian piped gas supplies to the EU, combined with a strong recovery in China's LNG imports and injection needs at 68 bcm, the European gas balance could be 30 bcm short.

# Keeping the door to 1.5 °C open



**Policy and technology progress since 2015 has shaved 1 °C off projected warming, a step in the right direction; but much more needs to be done in order to avoid severe climate disruptions**