



エネルギー転換に伴うセキュリティ課題

国際エネルギー機関 エネルギー市場・安全保障局長 貞森恵祐

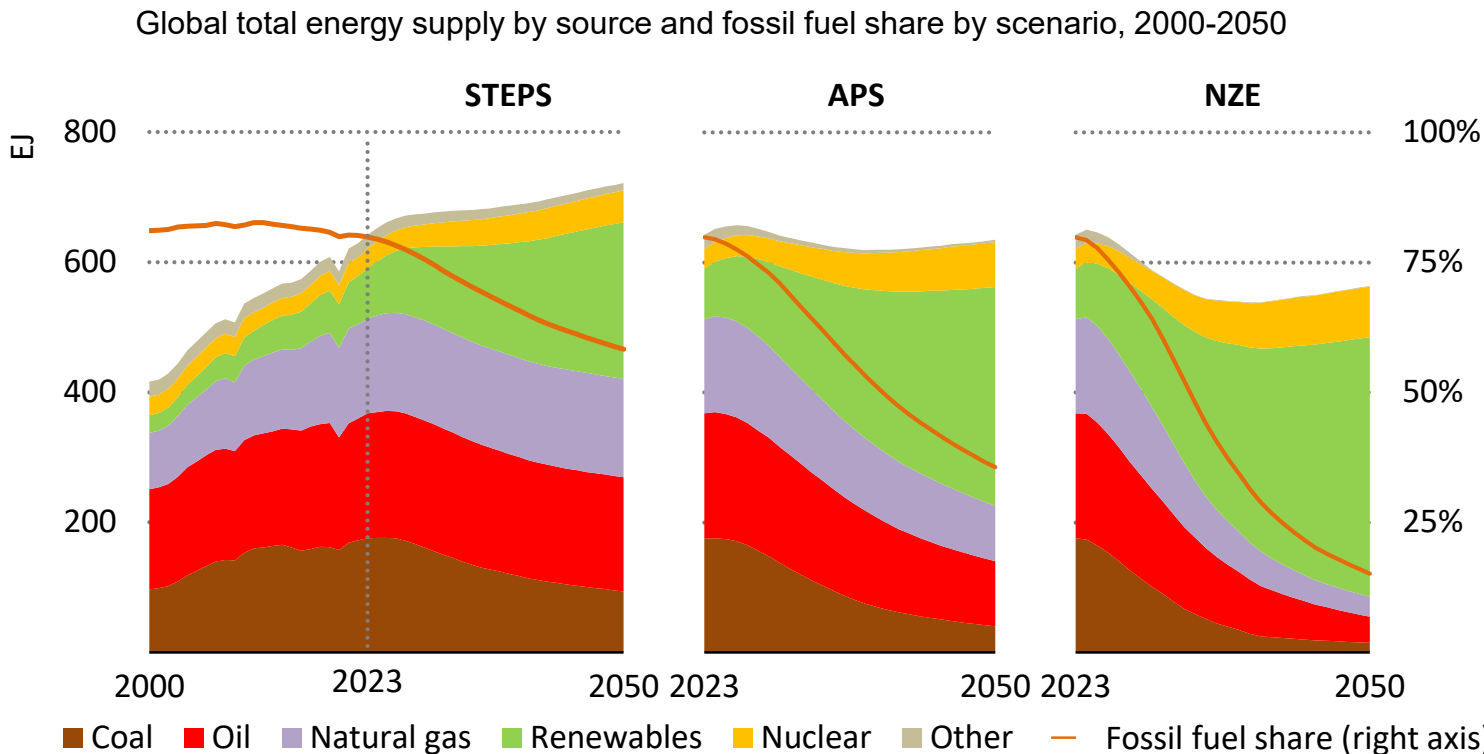
経済産業研究所BBLセミナー 2024年12月11日

A bit of history

- **Created in 1974 after the first oil shock to:**
 - help ensure reliable energy supplies
 - promote energy efficiency
 - and encourage technological research and innovation
- **Members of the IEA must:**
 - belong to the OECD
 - hold 90 days of oil imports as emergency stocks



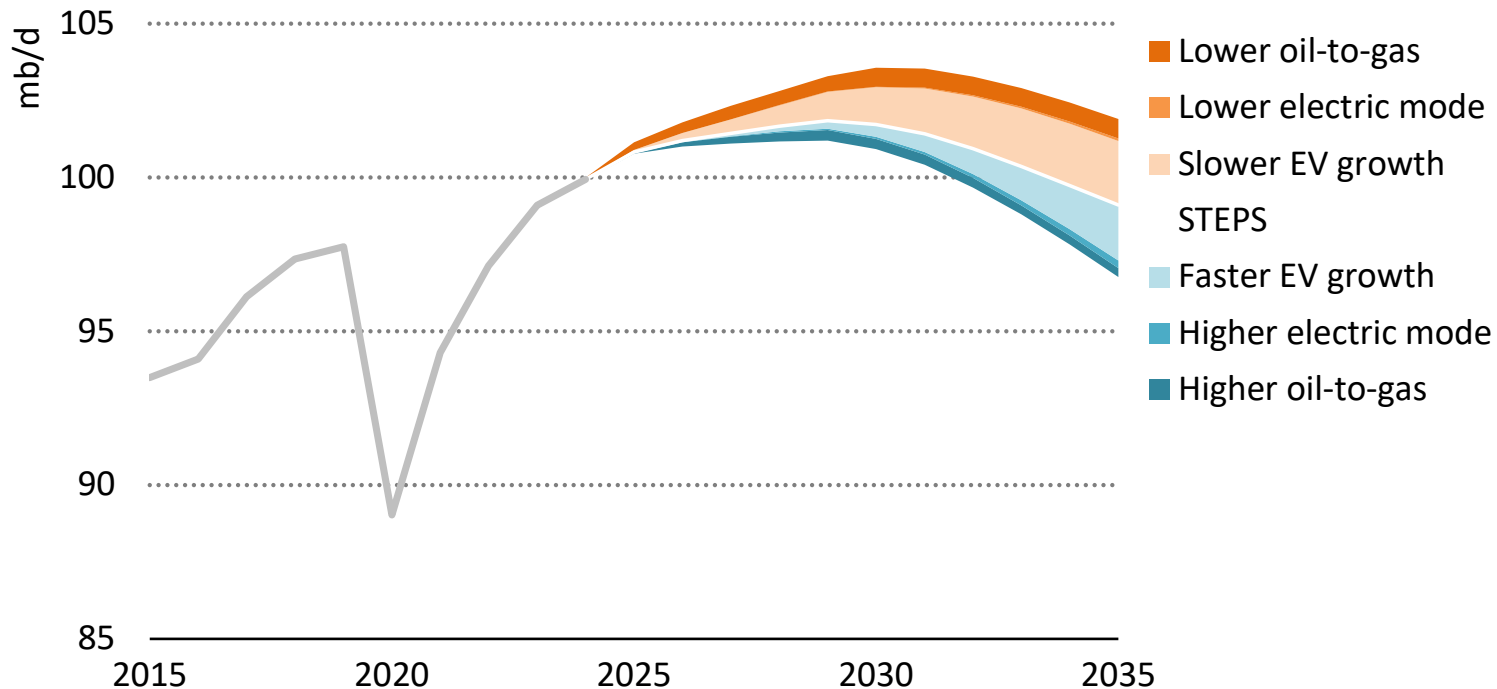
Future energy mix depends on policies



Each fossil fuel peaks by 2030 in all scenarios and then declines over time as low-emissions sources increase.

Oil demand's engine is switching to electricity

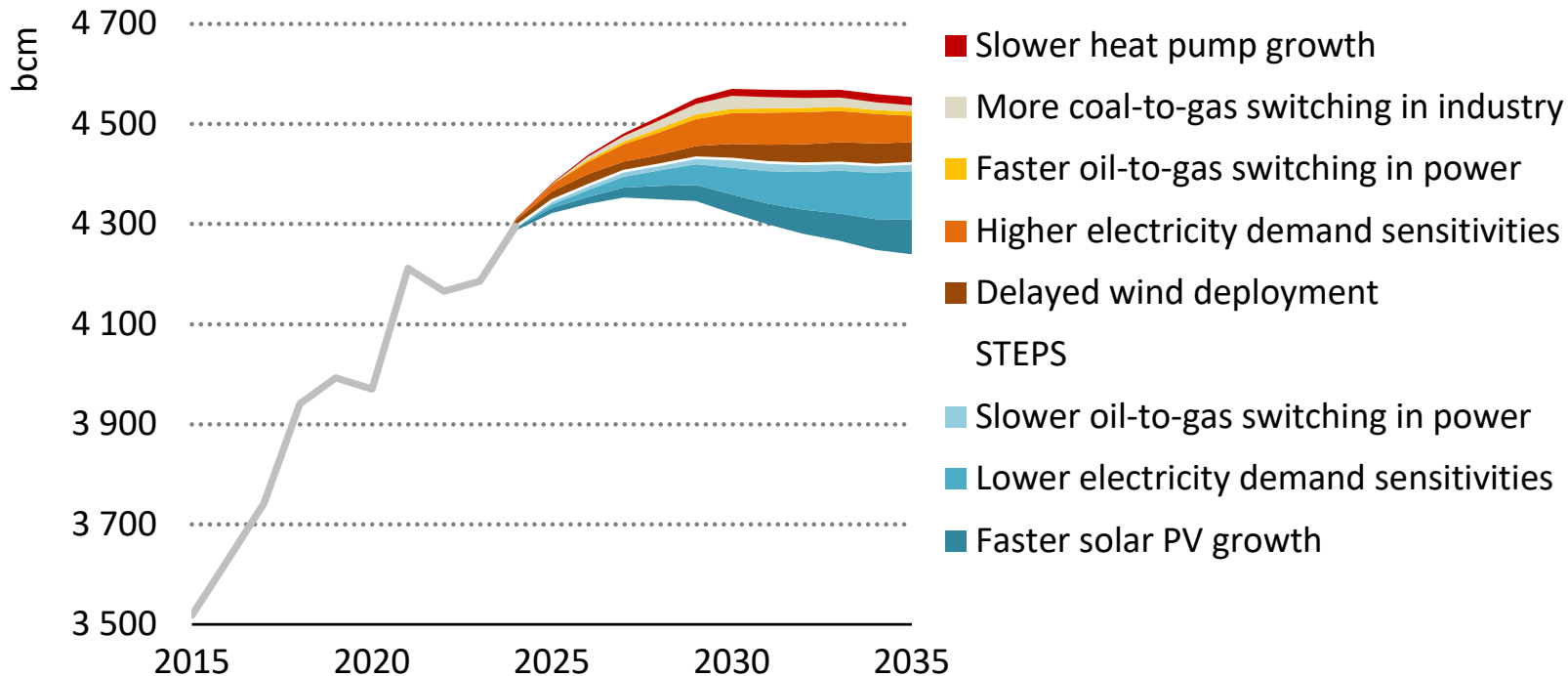
Global oil demand in the STEPS and key sensitivities, 2015-2035



Slower/Faster EV uptake and other factors could lead to changes in oil demand of up to 2.8 mb/d by 2035.

Speed of fuel switching affects natural gas demand

Global natural gas demand in the STEPS and key sensitivities, 2015-2035

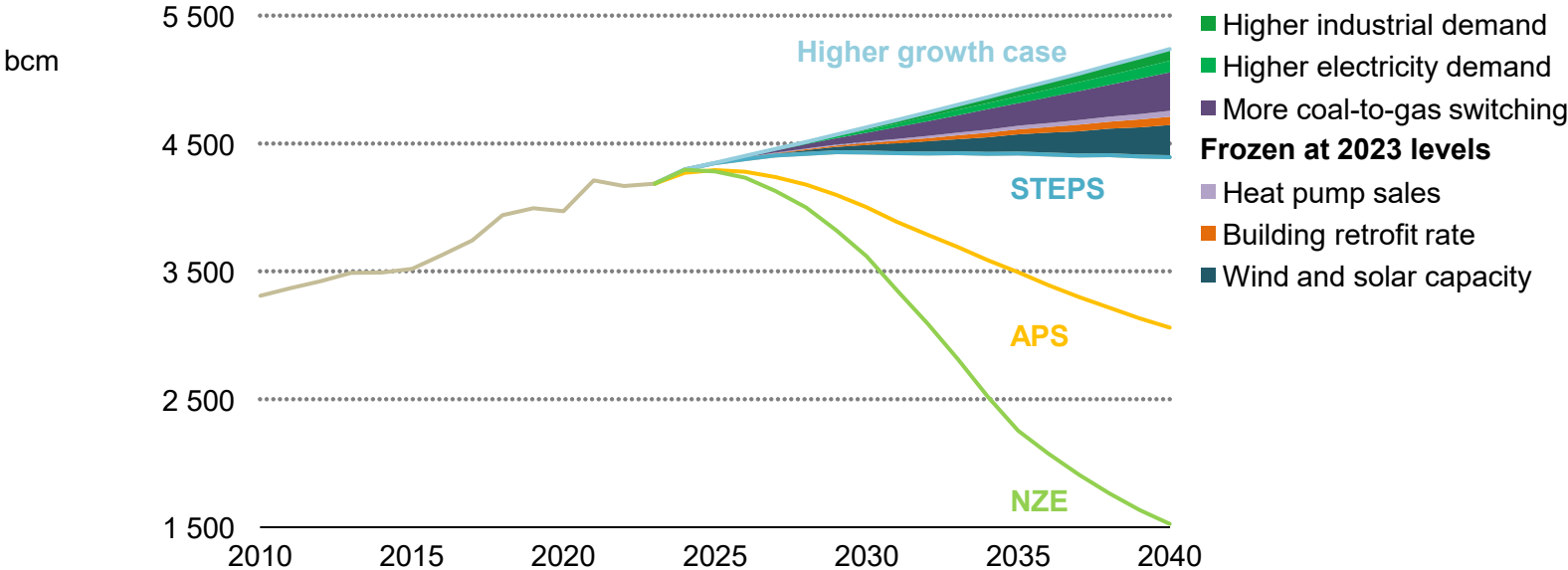


Surplus LNG absorbed by increased gas use could add 3% to gas demand by 2030

Natural gas use is sensitive to policy, technology and market forces

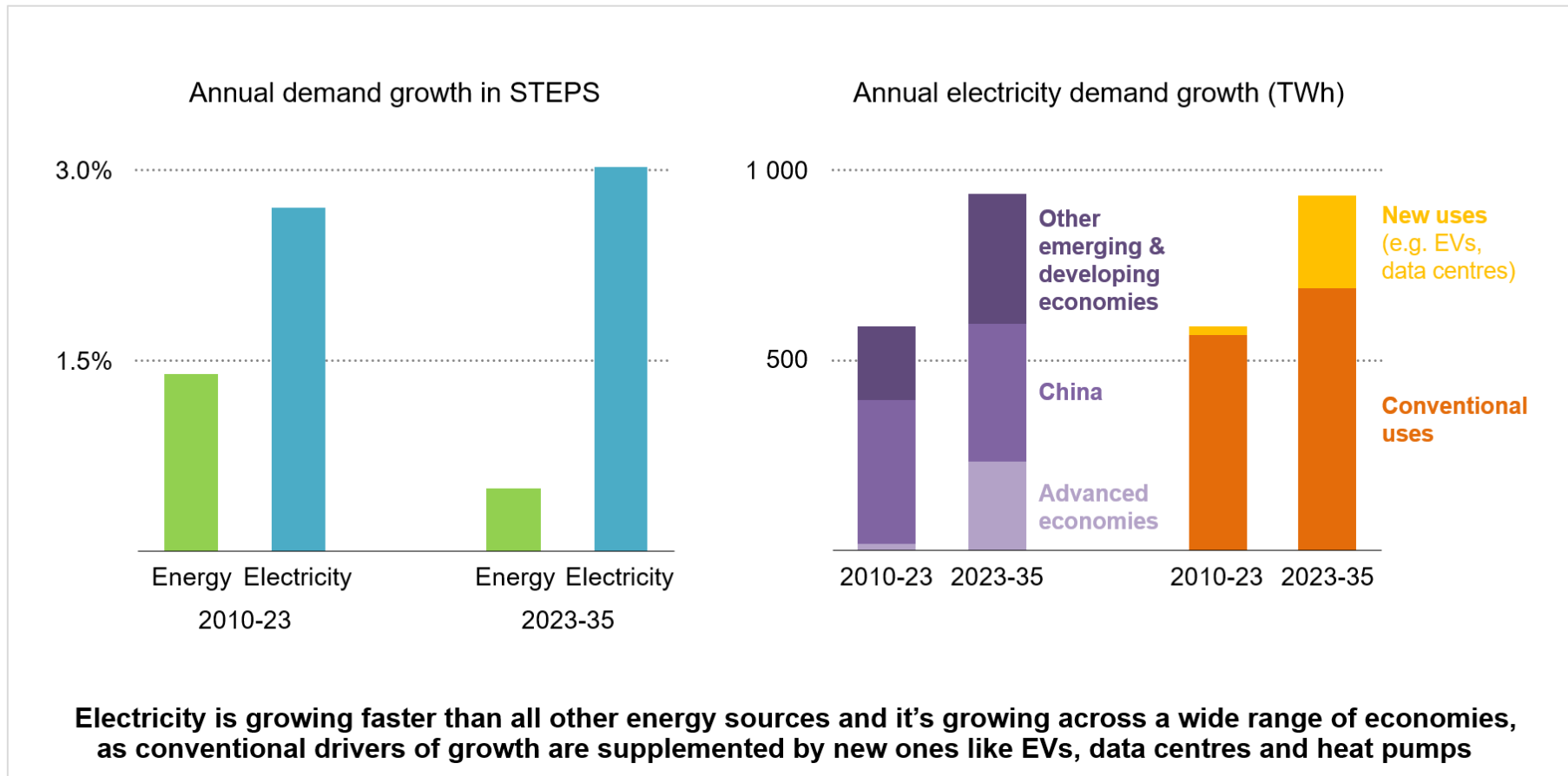


Global natural gas demand in WEO scenarios, and factors that could lead to continued growth above STEPS to 2040



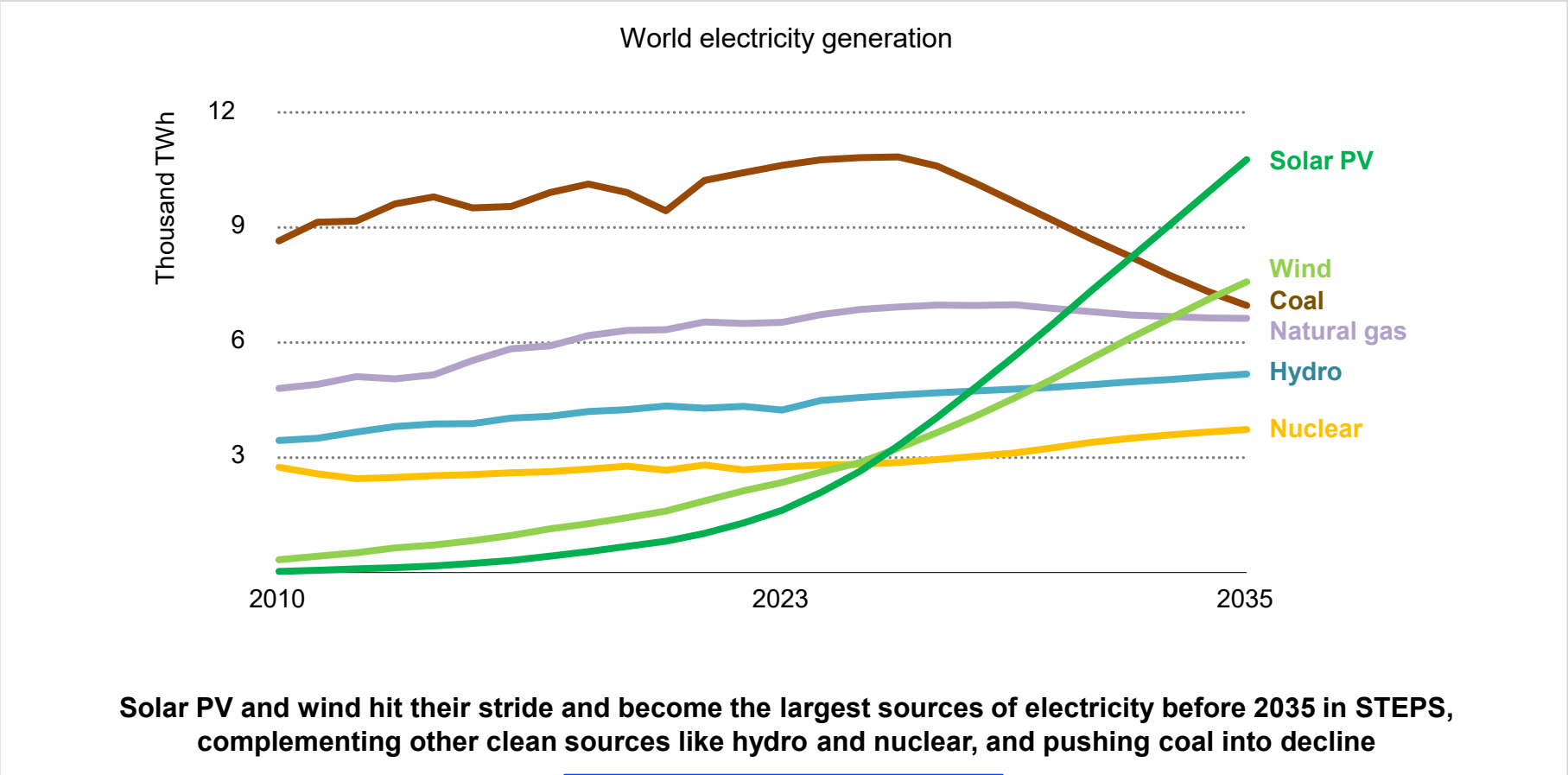
Natural gas faces an uncertain outlook, especially in emerging economies.

Moving at speed into the Age of Electricity



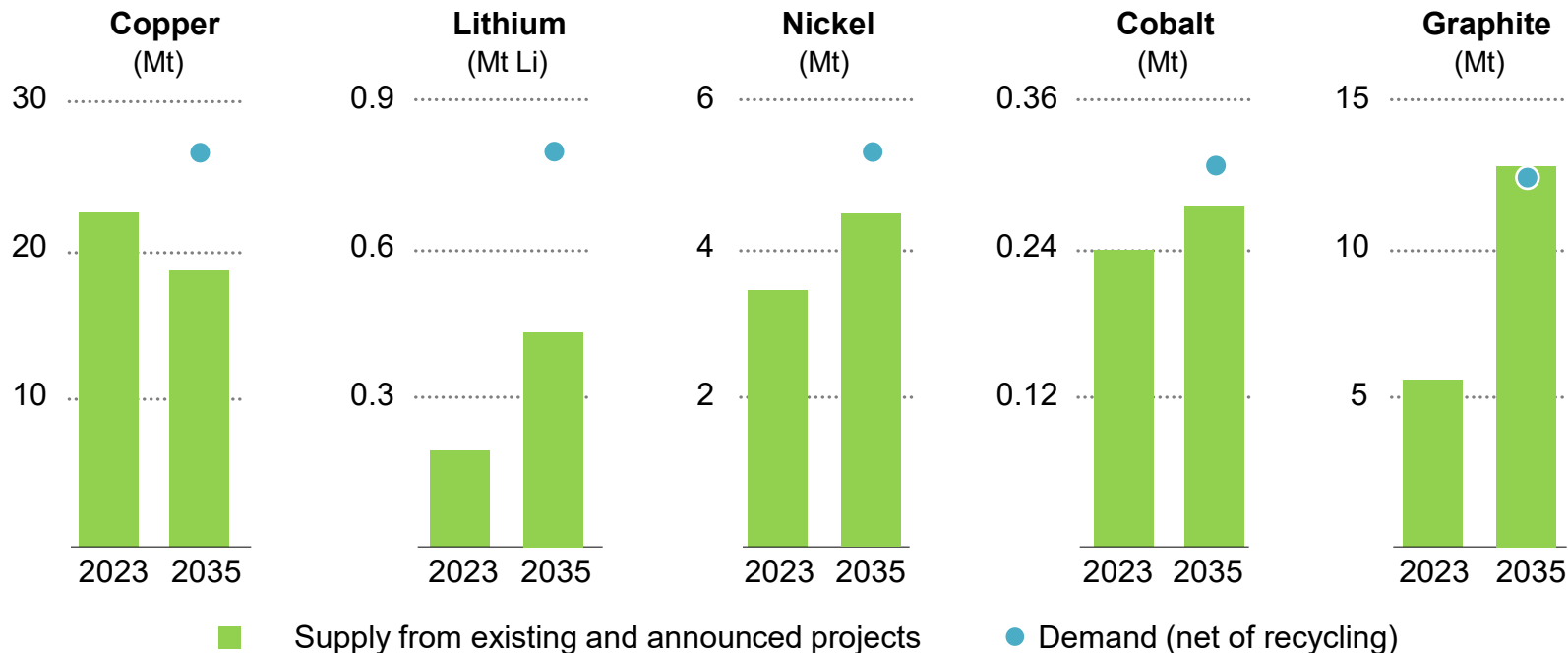
Electricity is growing faster than all other energy sources and it's growing across a wide range of economies, as conventional drivers of growth are supplemented by new ones like EVs, data centres and heat pumps

Electricity use is growing fast, clean power is rising even faster



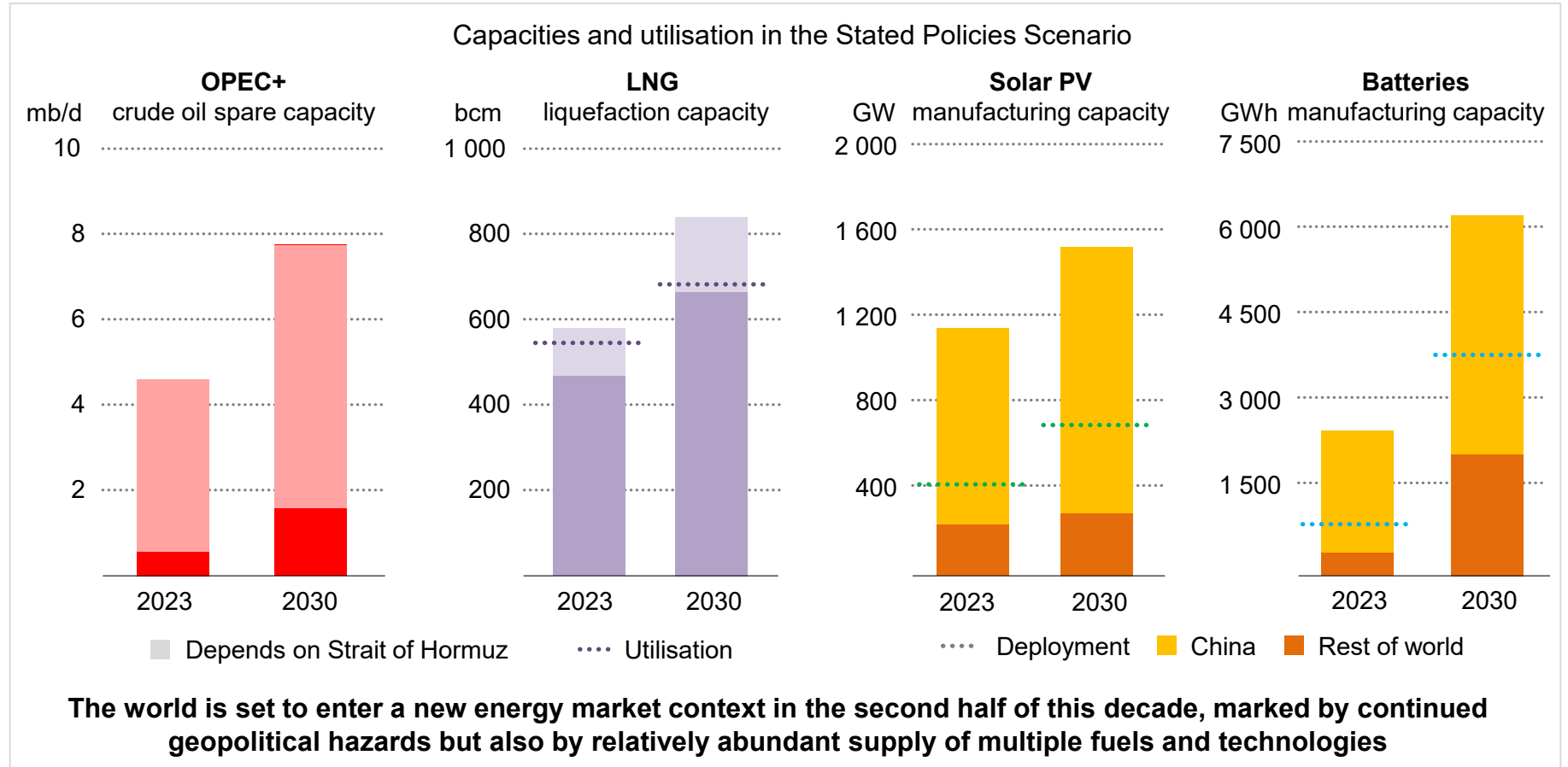
Not all projected supplies are abundant

Mineral supply requirements and expected supply from existing and announced projects



Supply from existing and announced projects falls short of 2035 requirements for some key minerals, notably copper and lithium: additional efforts on recycling and new project development are needed to close the gap

Energy security risks remain high even as market balances ease



Energy Security in Energy Transitions

- (1) Vigilant on traditional risks to energy security
- (2) Well-sequenced/co-ordinated actions across energy demand and supply
- (3) Prioritise energy efficiency across end-use sectors
- (4) Scale up clean energy investment to reduce fossil fuel use
- (5) Put electricity security at the heart of transitions
- (6) Deploy a broad range of low-emissions technologies
- (7) Ensure diverse and resilient clean energy supply chains

Energy trilemma report tasked by G7 Japan to IEA: Countries should remain vigilant on traditional energy supply security risk and become prepared against new types of risk with energy transitions.

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