Trend di mercato dell’ impiantistica energetica mondiale

Daslav Brkic

Direttore Editoriale Rivista *Impiantistica Italiana* ANIMP

Key Themes (1/2)

- The growth of global **energy demand**
- **The 'Age of Electricity'** – a revolution in electrification

  New ways of *producing* and of *utilizing* power
- **Peak coal** and **oil** on the medium-term horizon
- Rapidly growing **natural gas** demand for the foreseeable future
- **LNG** – the king of gas transportation – and usage
- Plateauing **CAPEX investments**

  ….in this ***Age of Uncertainty***

Key Themes (2/2)

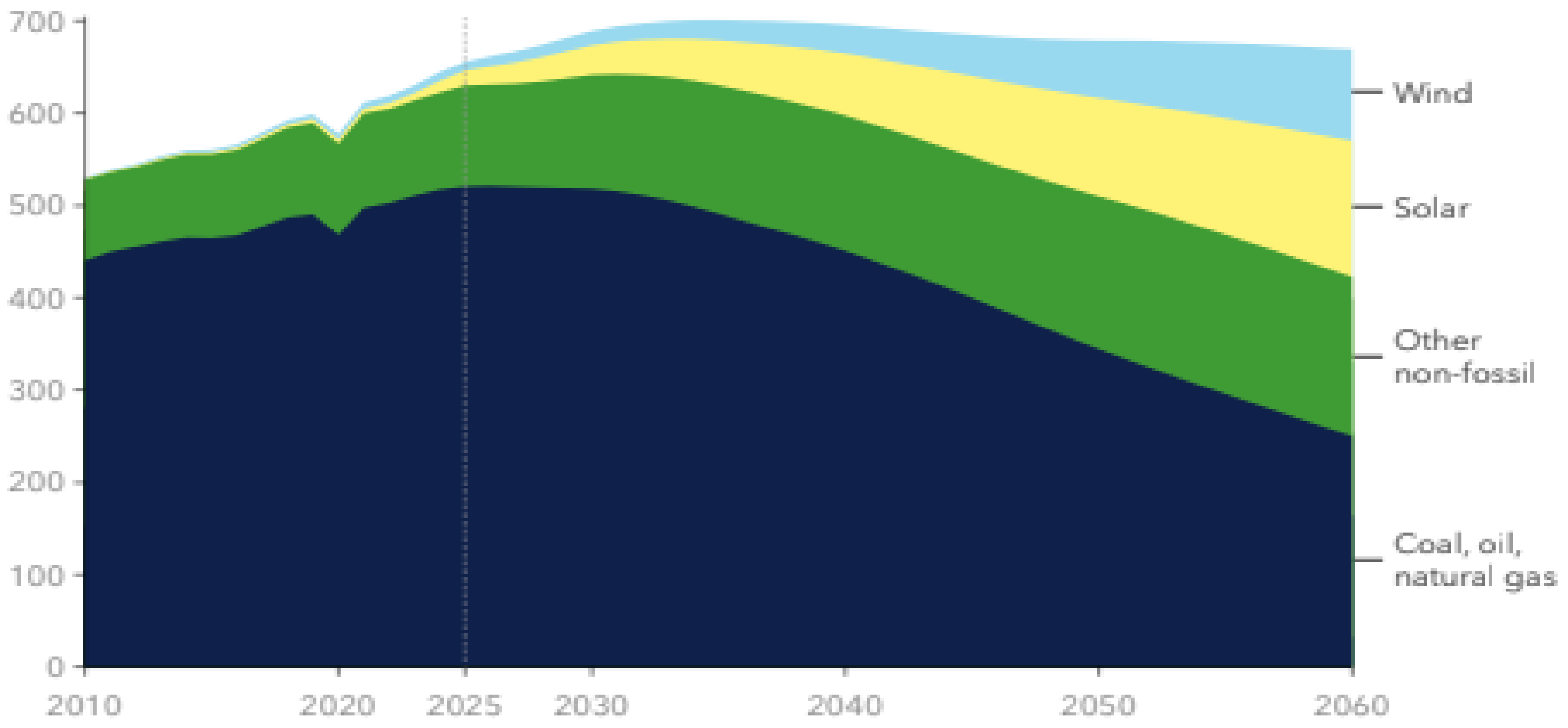
BMW iX5 Hydrogen (Corriere della sera 16.10.2025.)

- Slowing but still growing pace of the **Energy Transition - globally**
- **Energy security** favors **ET**
- **Critical factors:**
  - Breakneck speed of technology and industrial development
  - Incentives and policies
- **Capital investments** in 'green' sectors surpassing traditional ones
- Limited impact globally of current **US policy reversals** (USA 15% of global energy demand)
- The growing technology and market dominance of **China**

Future mega-trends: **1. The world energy demand to plateau**

Increased efficiency balances growing consumption due to more prosperity and demand

Primary energy supply (EJ/yr)

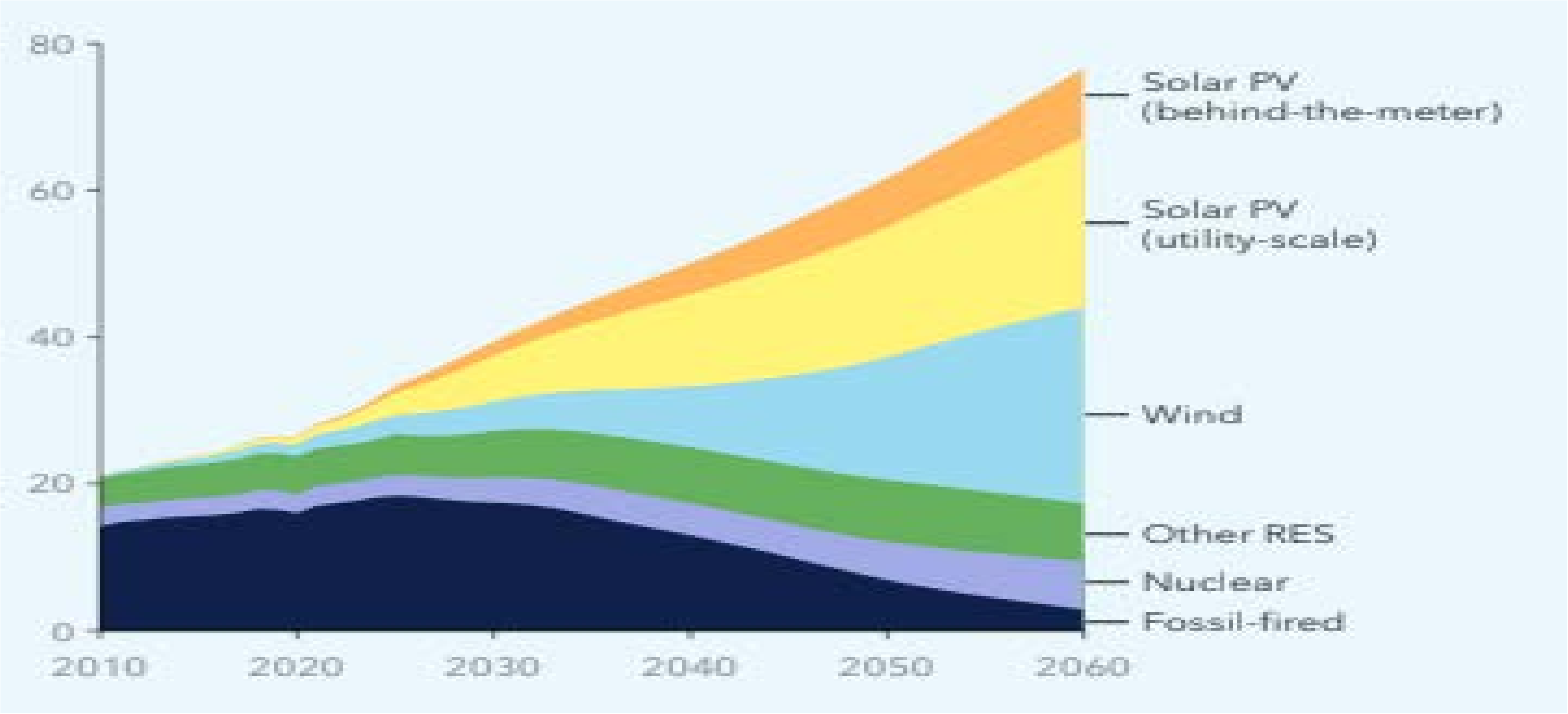


Source: DNV Energy Transition Outlook 2025 (October 2025)

Future mega-trends: **2. Electricity demand to grow significantly**

Industry, A/C in China, India and developing countries, data centers, etc.
Most growth to be satisfied by **renewables**

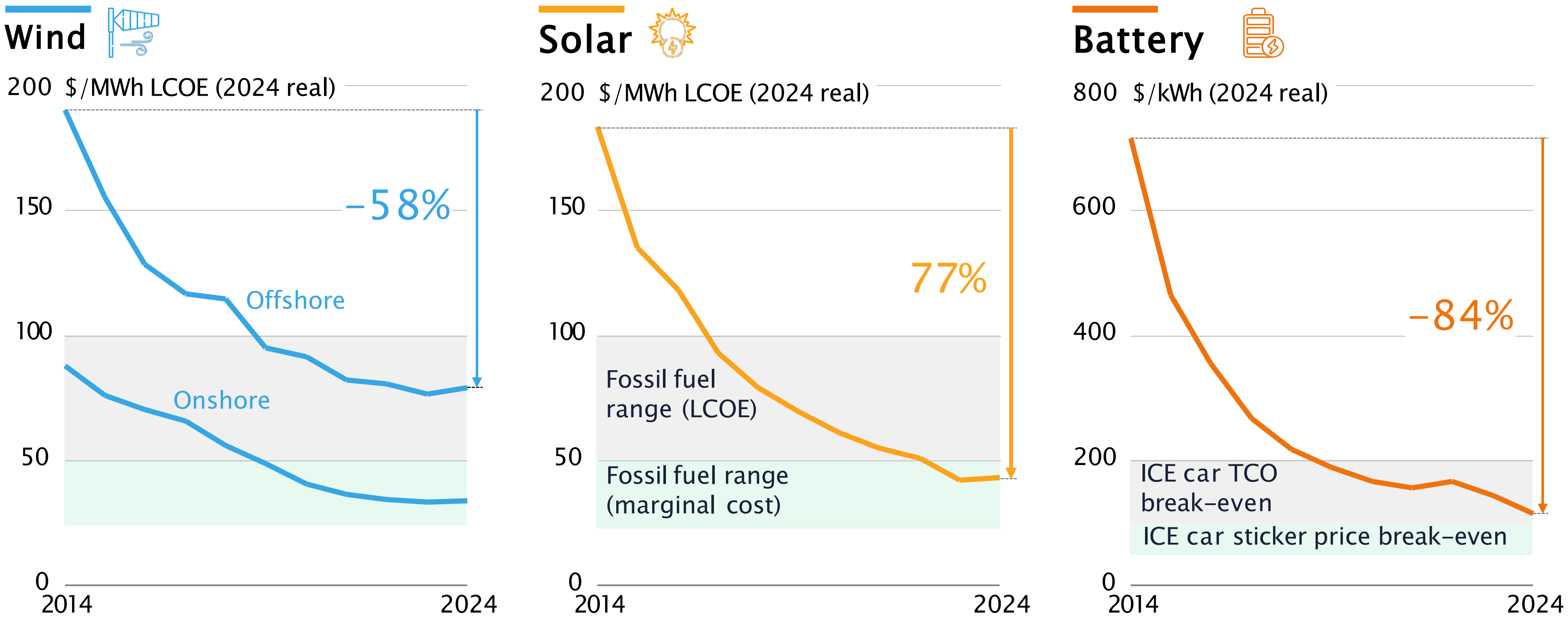
World electricity supply greens and grows (PWh/yr)



Source: DNV Energy Transition Outlook 2025 (October 2025)

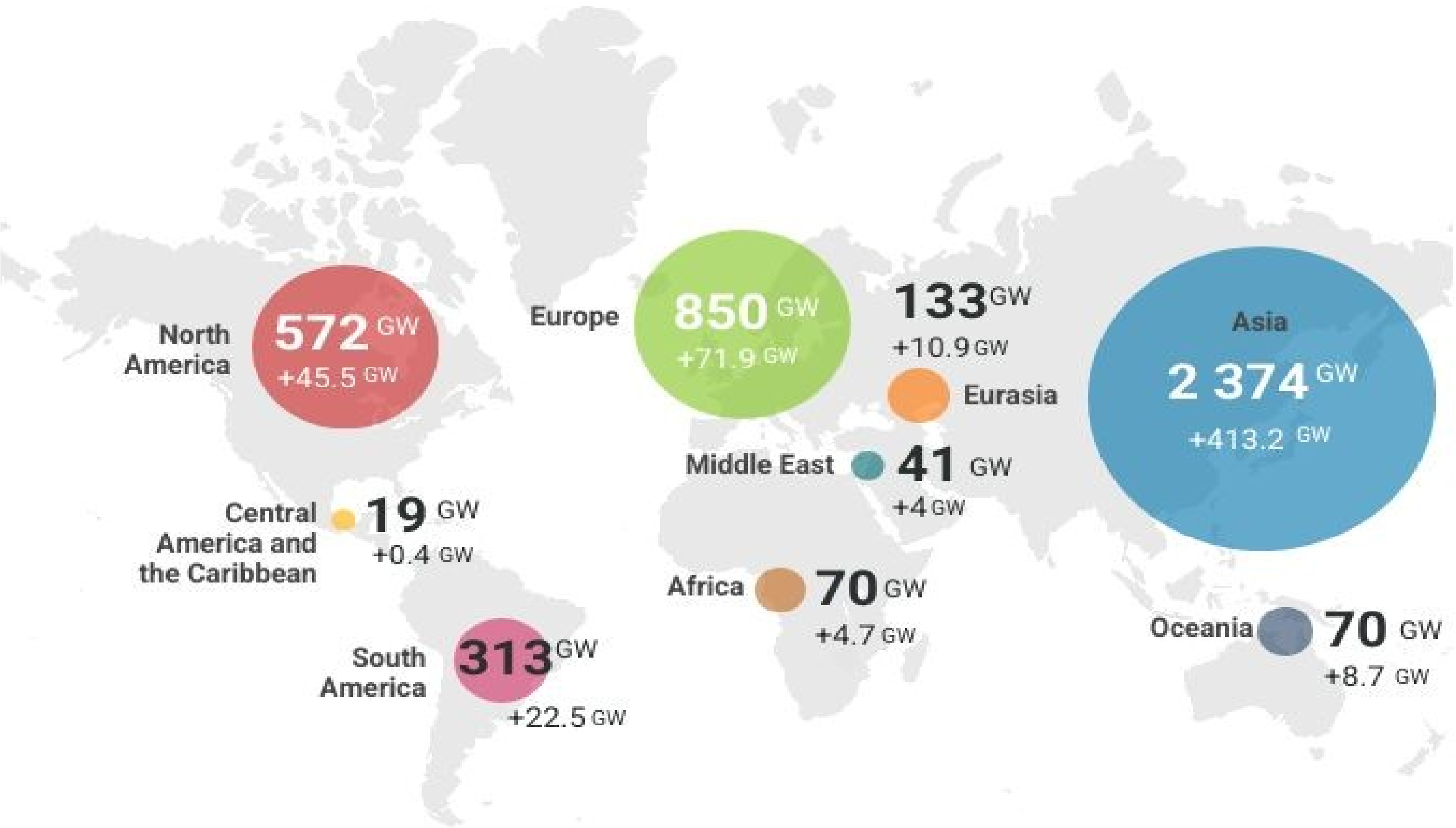
Future mega-trends: **3. Renewables** now cheap enough to challenge incumbents

After decades of cost innovation renewables and batteries are now cheaper than fossils



Sources: IRENA, BNEF (Batteries), Ember (September 2025)

EMBER

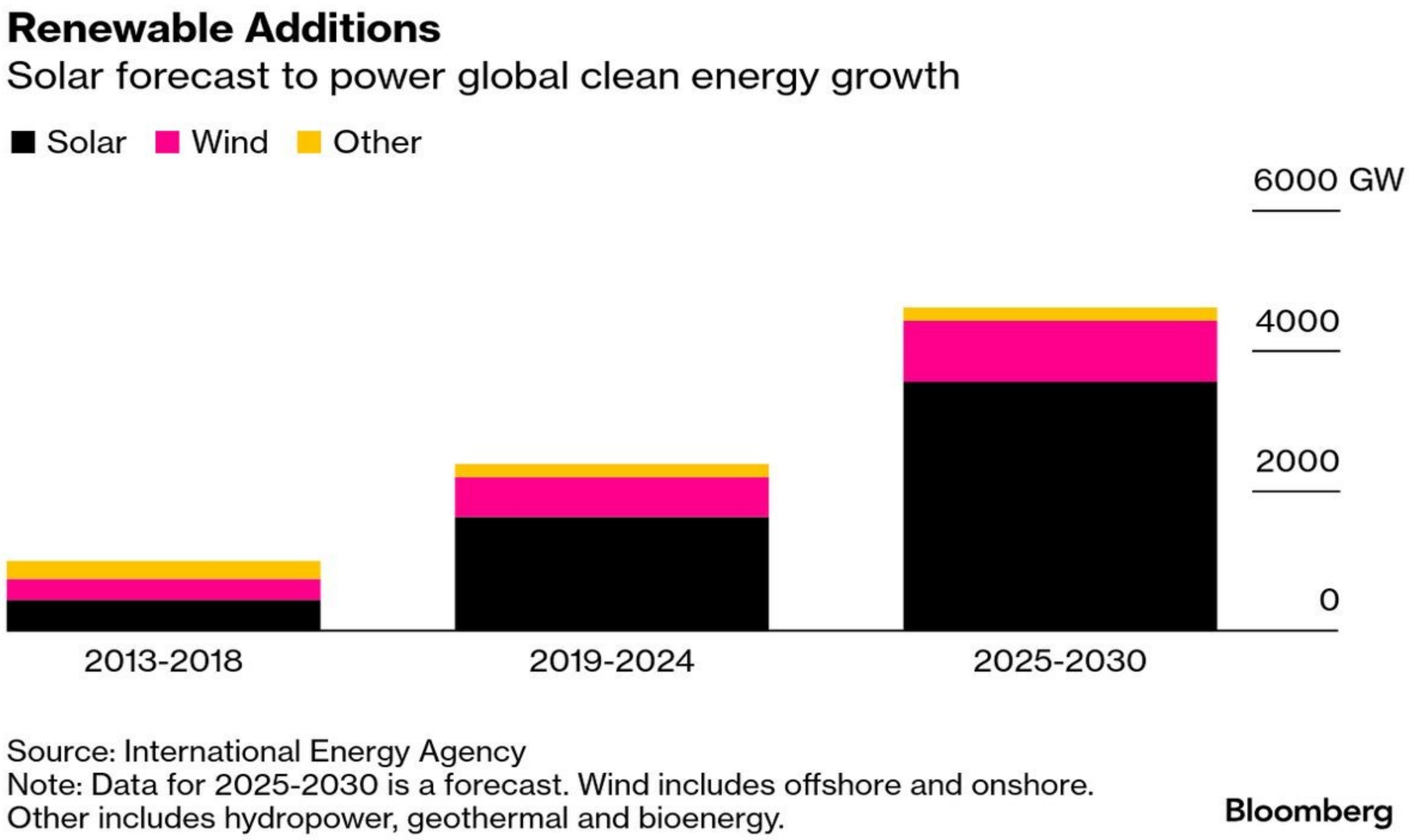


Renewable power capacity by region and additions in 2025

IRENA
International Renewable Energy Agency

Source: IRENA 10 July 2025

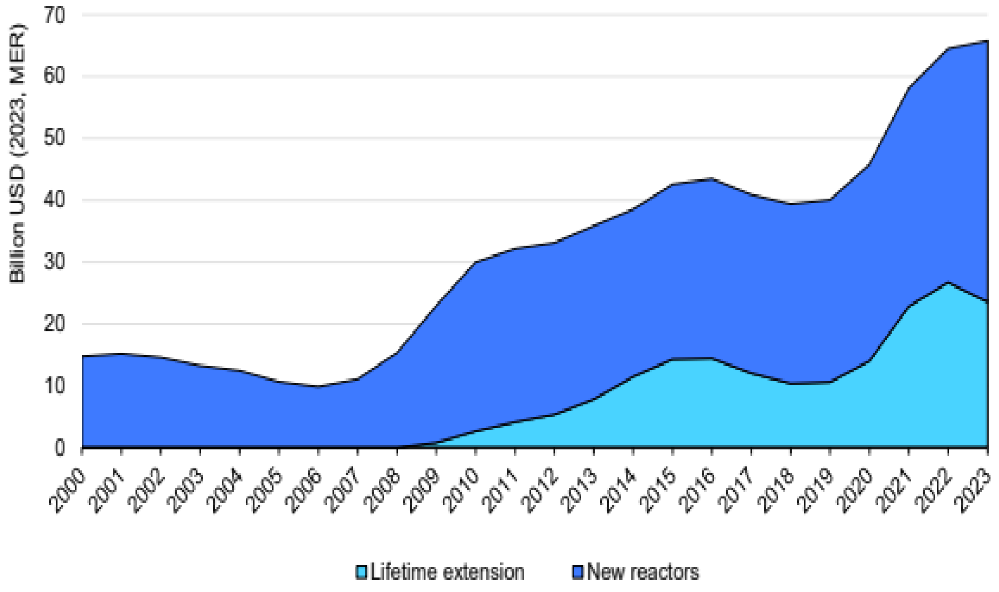
With current policies, **renewables capacity additions** to double to 2030



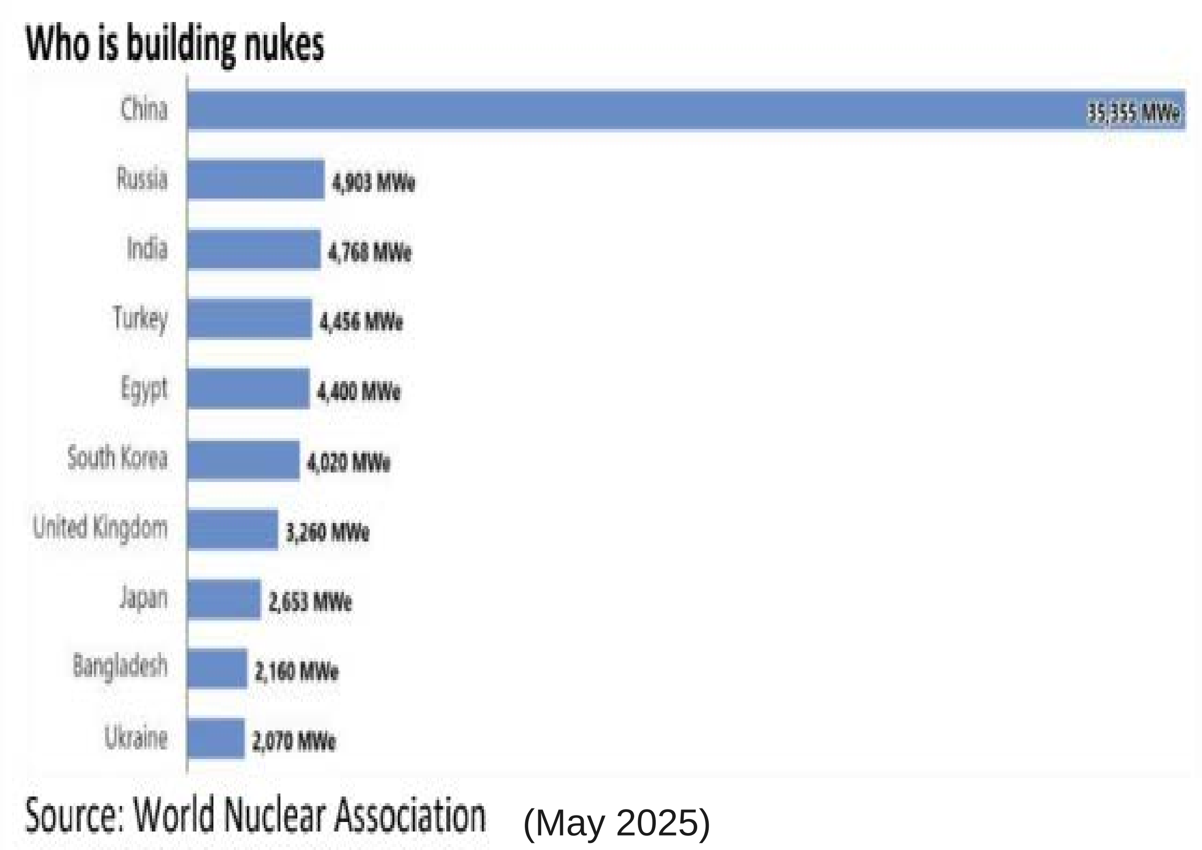
Source*:* IEA via Bloomberg (7 October 2025)

Future mega-trend: # 4. The return of **nuclear**

Global nuclear energy investment by type, 2000-2023



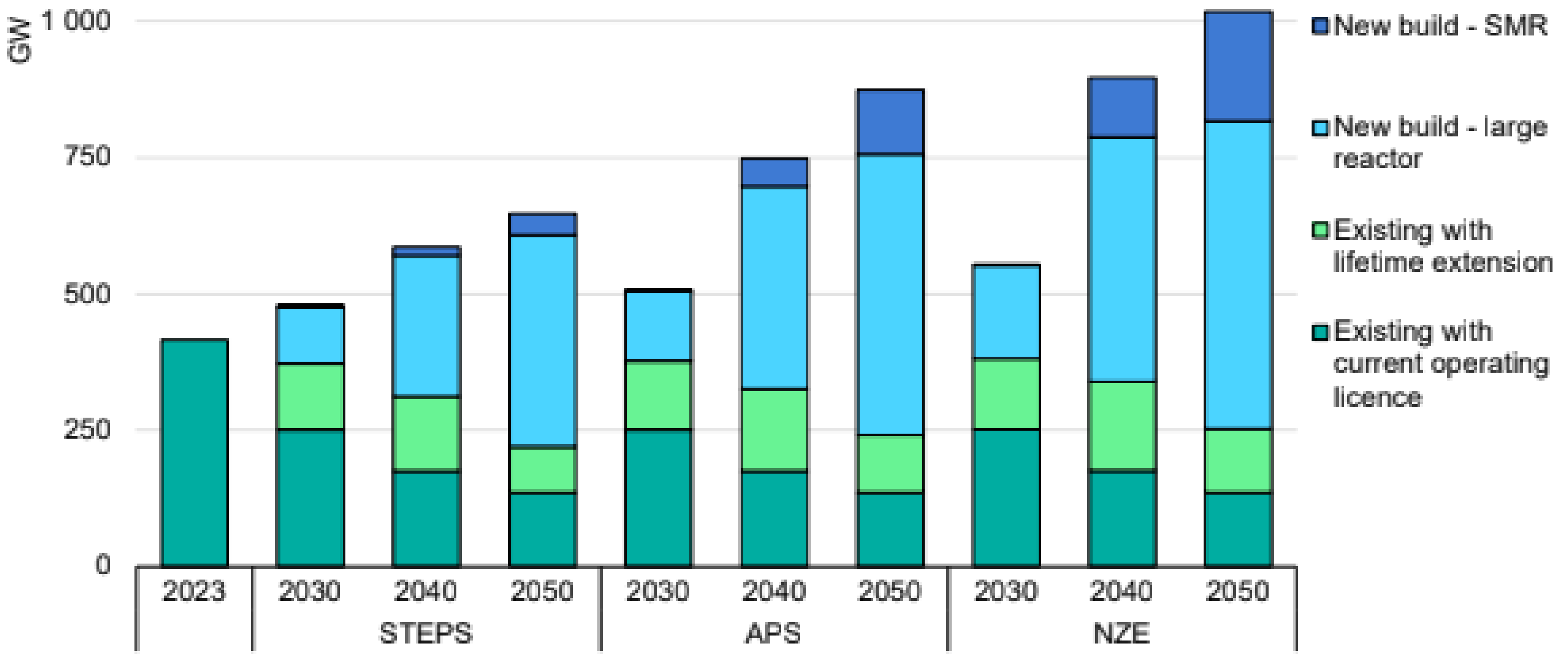
Source: IEA The Path to a New Era for Nuclear Energy (January 2025)



(May 2025)

Global nuclear power capacity to increase under any scenario

Global nuclear power capacity by scenario and type, 2023-2050

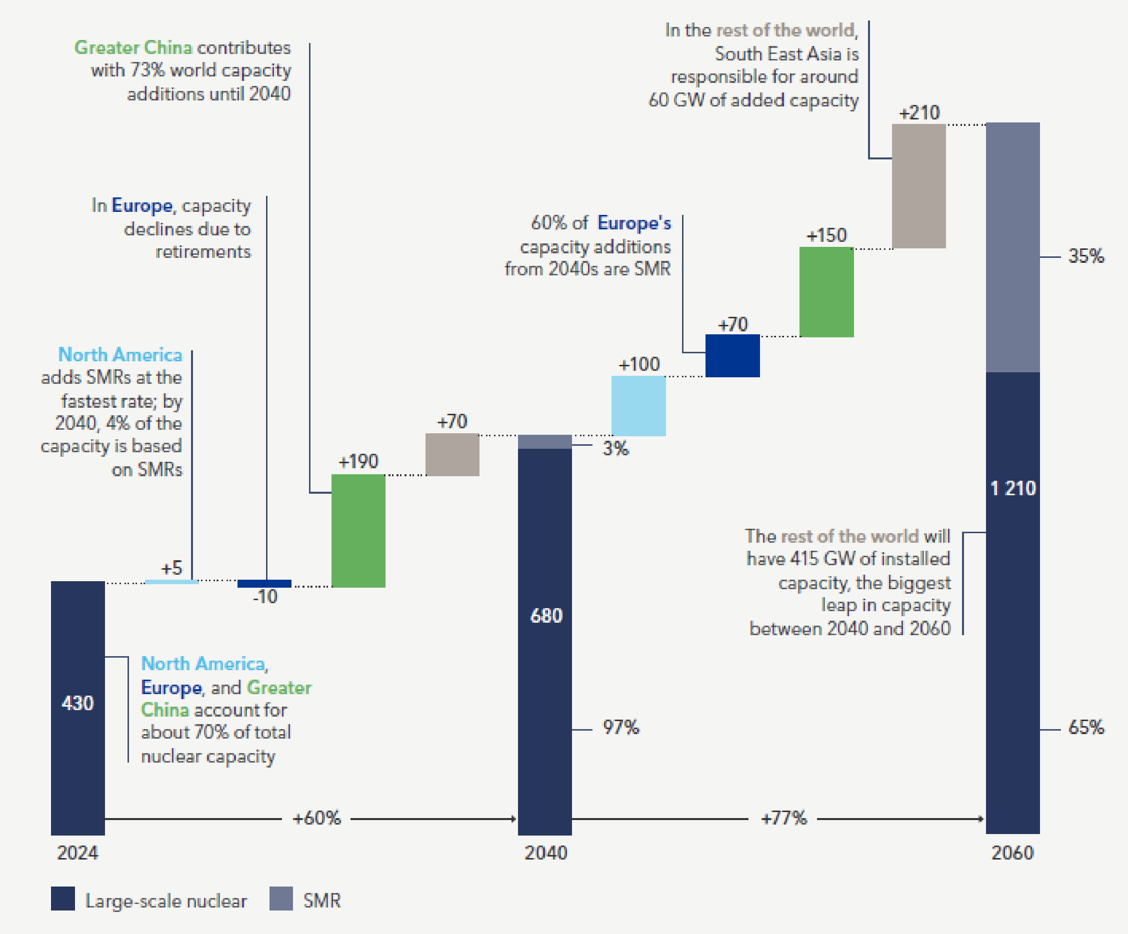


Source: IEA The Path to a New Era for Nuclear Energy (January 2025)

SMRs and China / SE Asia to provide a solid contribution to nuclear growth

SMR vs Conventional nuclear by region

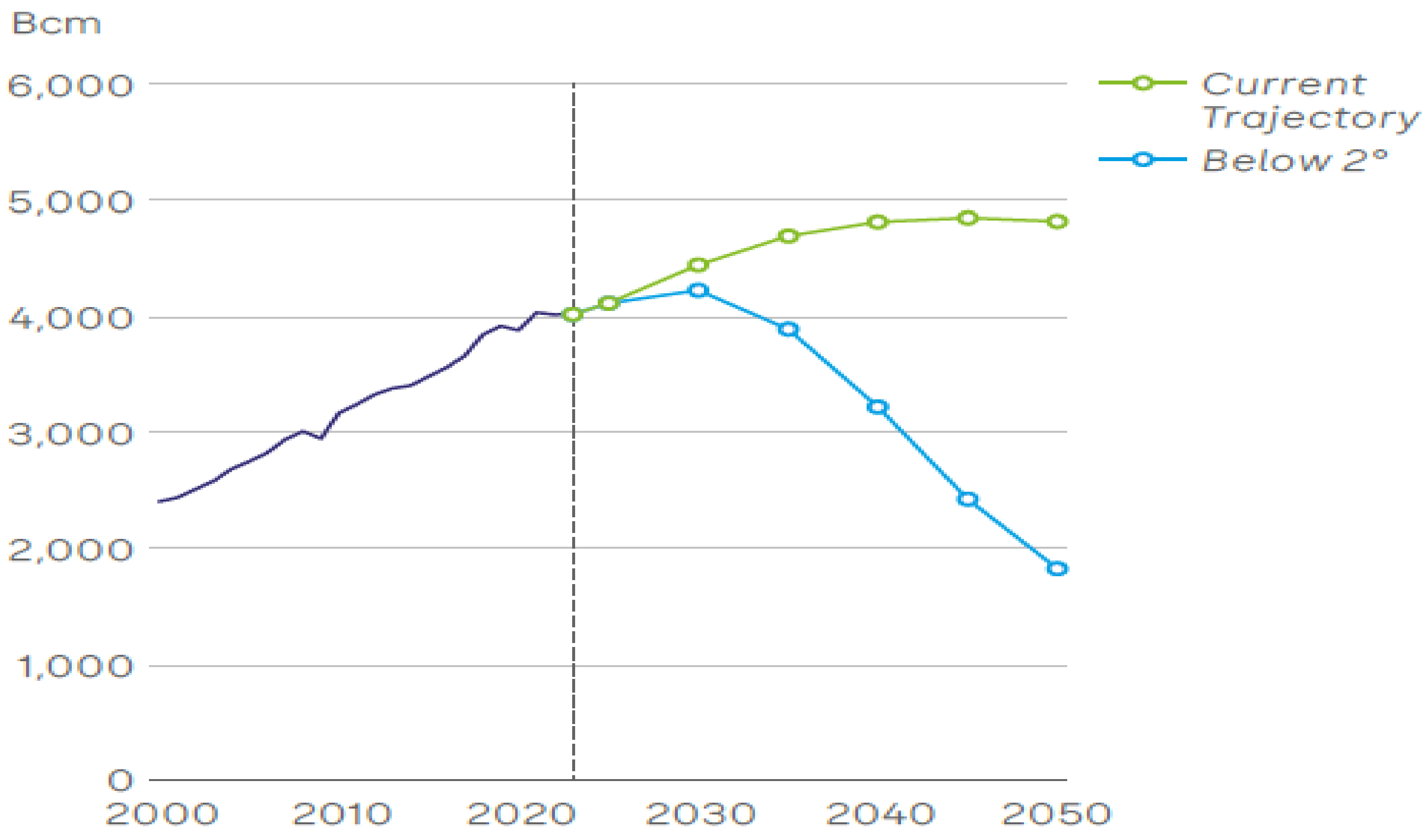
Units: GW



Source: DNV Energy Transition Outlook 2025 (October 2025)

Future mega-trend: **5. Gas is king**

Natural gas demand

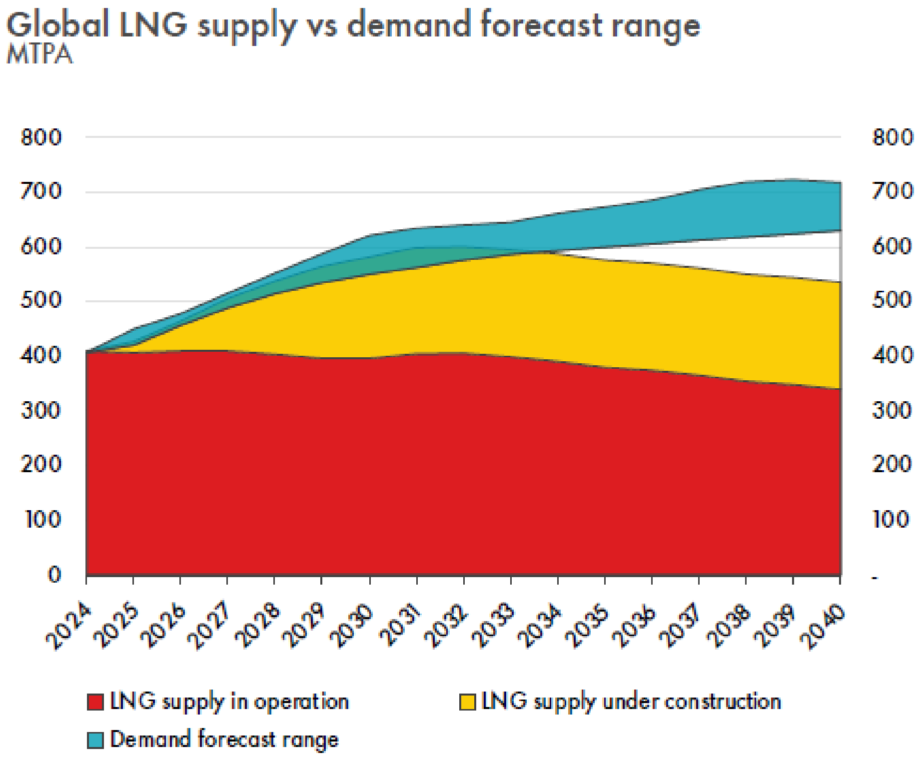


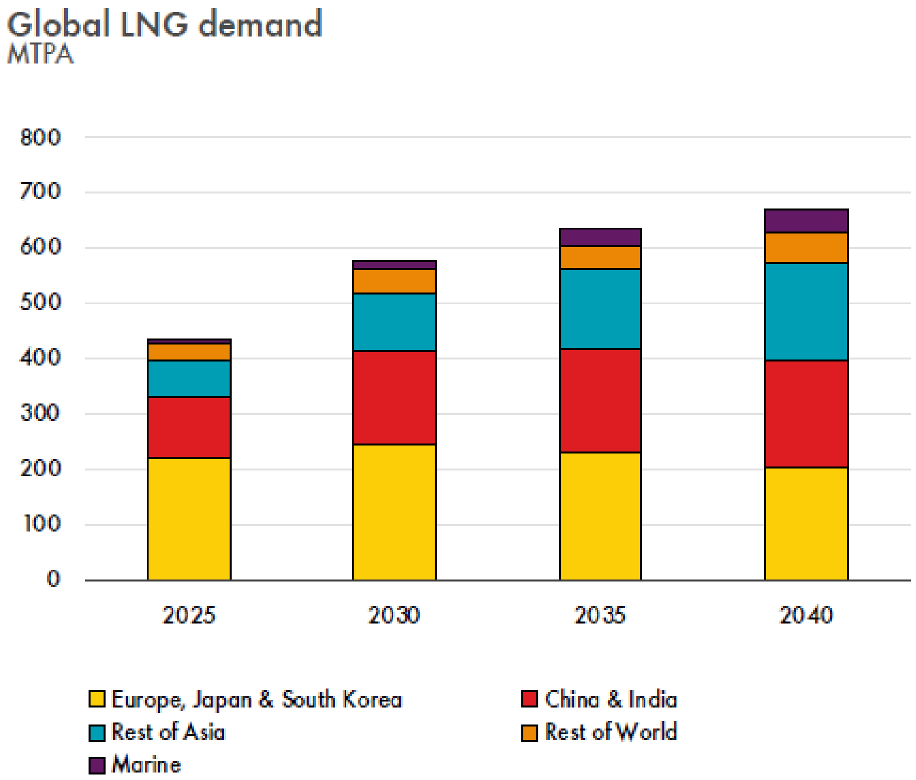
Source: bp Energy Outlook 2025 (September 2025)

Rapidly **growing LNG demand**, expected at least through 2040

Over 30 % of world gas consumption to be delivered via LNG

More investment is needed to ensure supply can keep up with demand



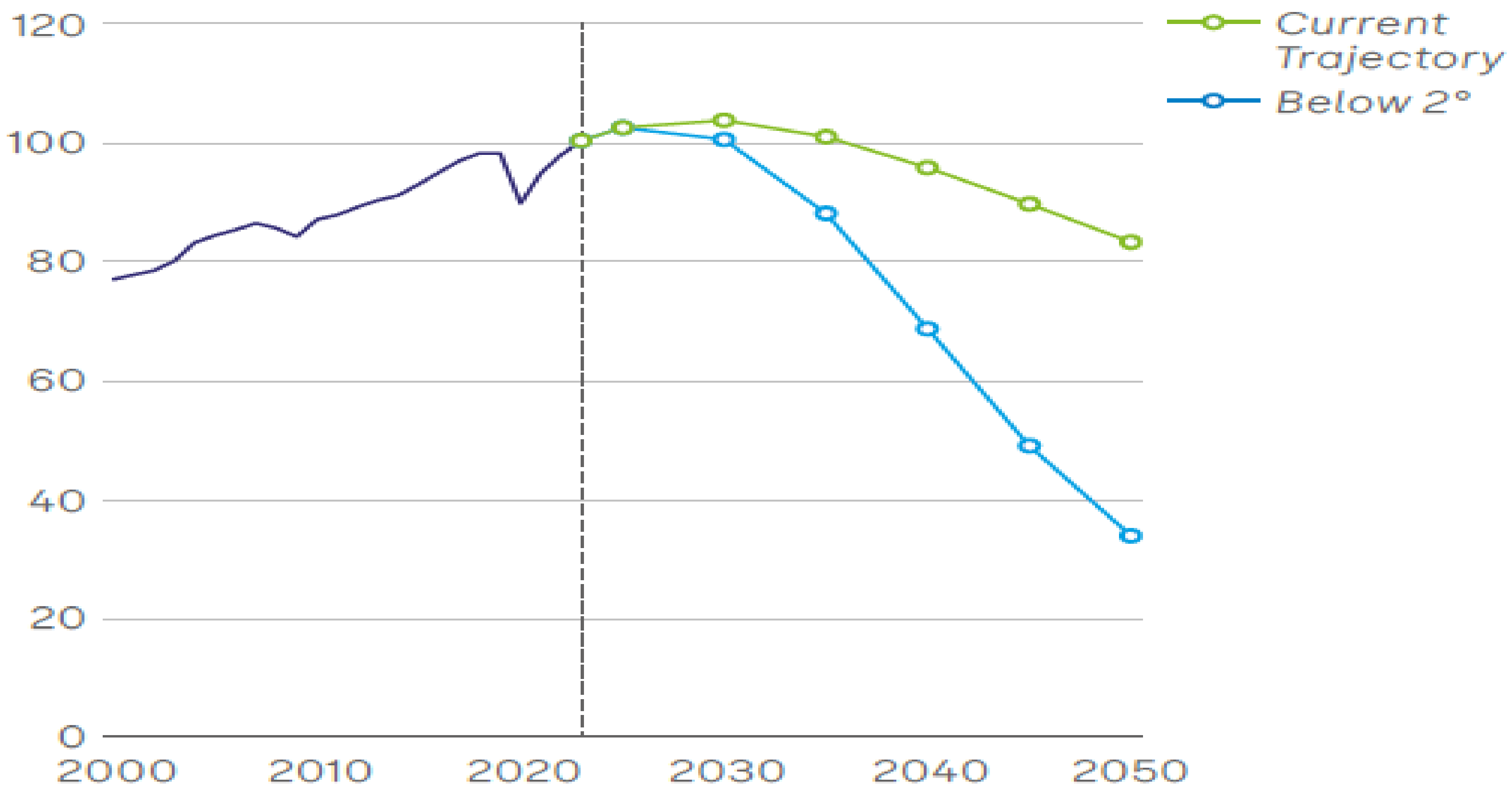


Source: Shell LNG Outlook 2025 (February 2025)

Future mega-trend: **6. Oil demand to plateau at the end this decade, then fall**

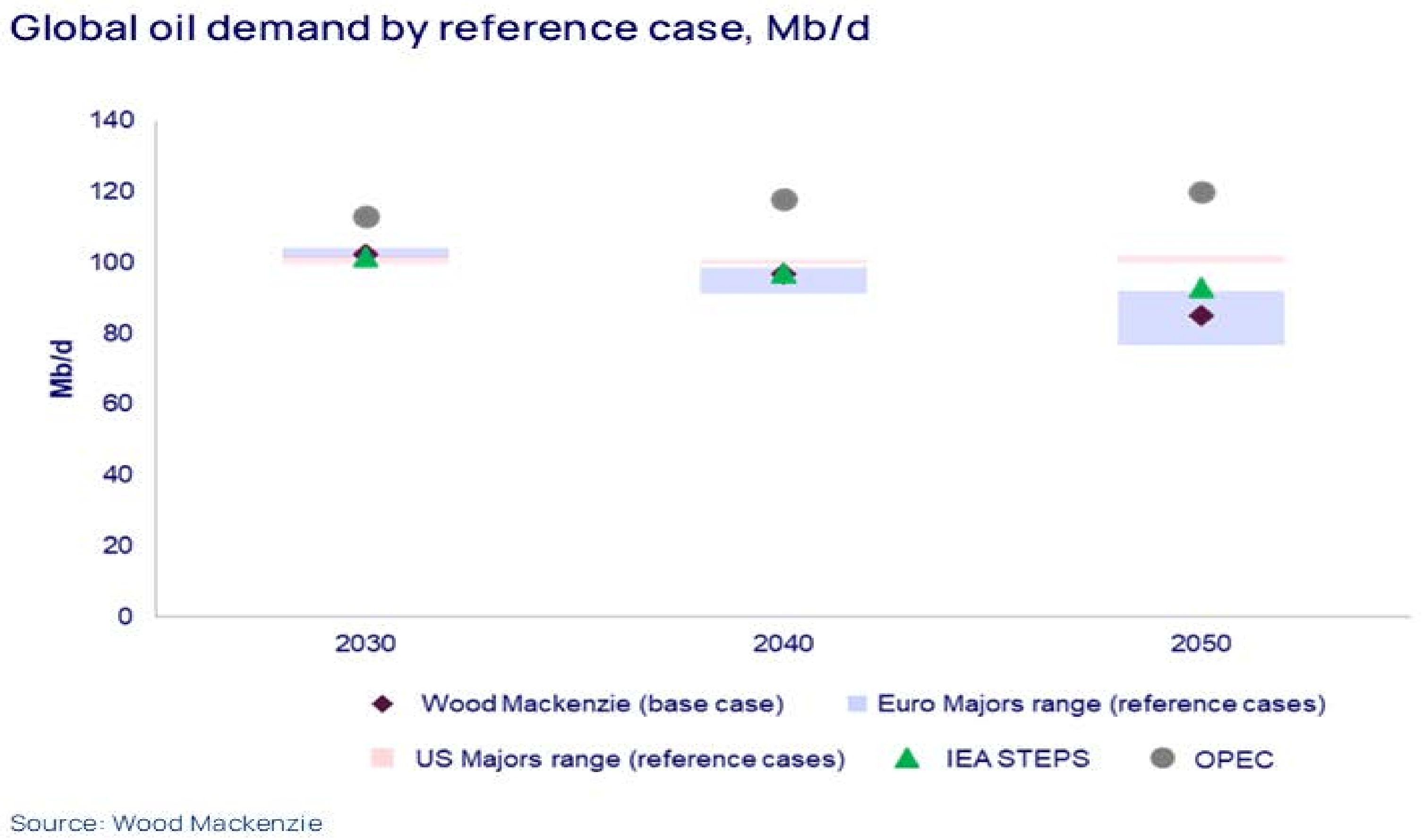
Driven by decreased use in transportation - increased engines efficiency, EVs, new fuels…

Oil demand



Source: bp Energy Outlook 2025 (September 2025)

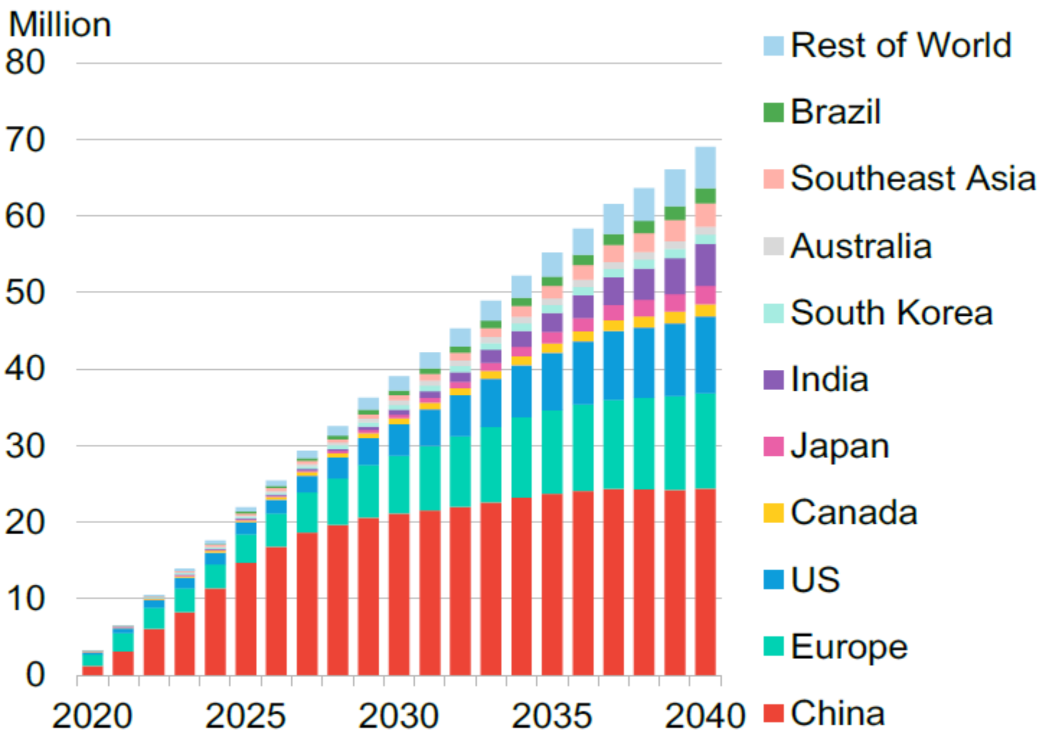
Most players expect broadly similar trends: plateau, then decline



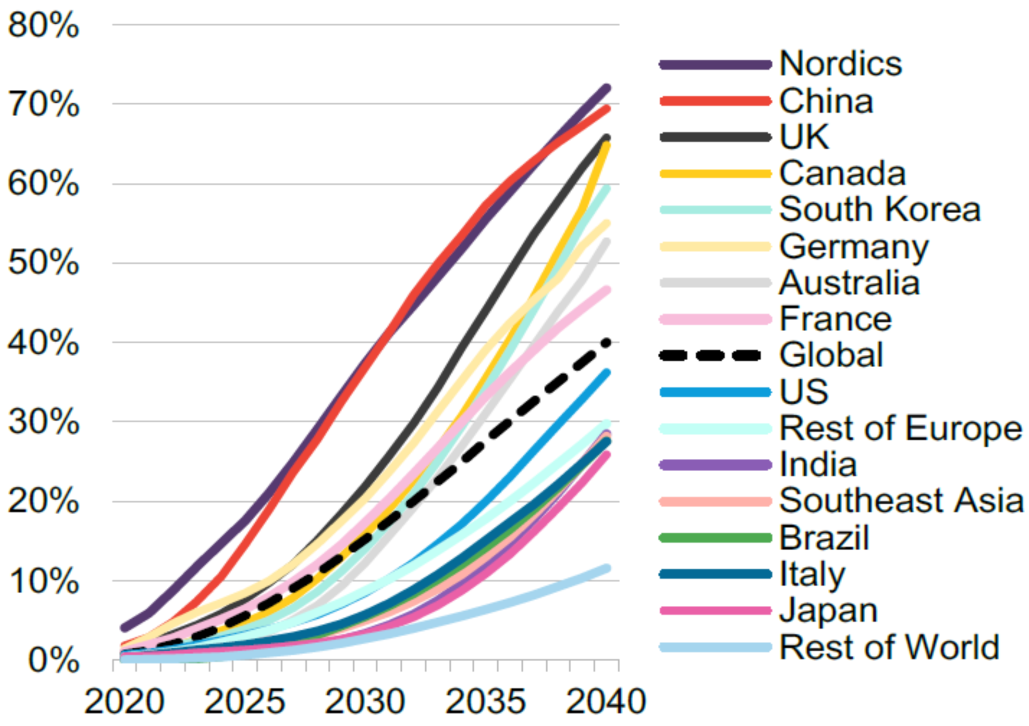
Source: WoodMac 25 April 2025

Future mega-trend: 7. Global passenger **EV sales** taking off

Global long-term passenger **EV sales** by market –
Economic Transition Scenario



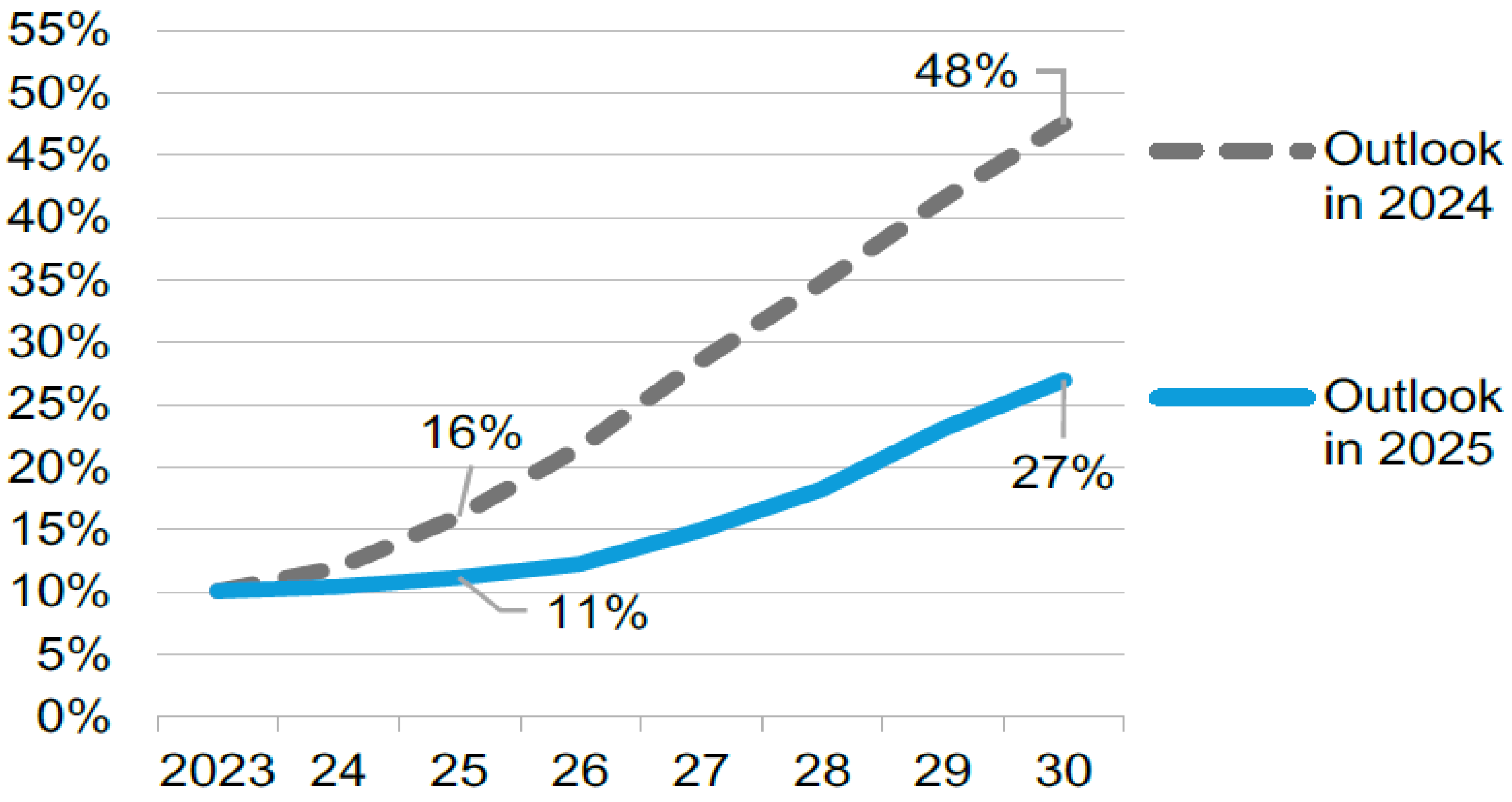
Global long-term **EV** share of passenger vehicle **fleet** by market –
Economic Transition Scenario



Source: BloombergNEF EV Outlook 2025 (Aug. 2025)

Recent developments in the USA will slow down but not stop the adoption of EVs there

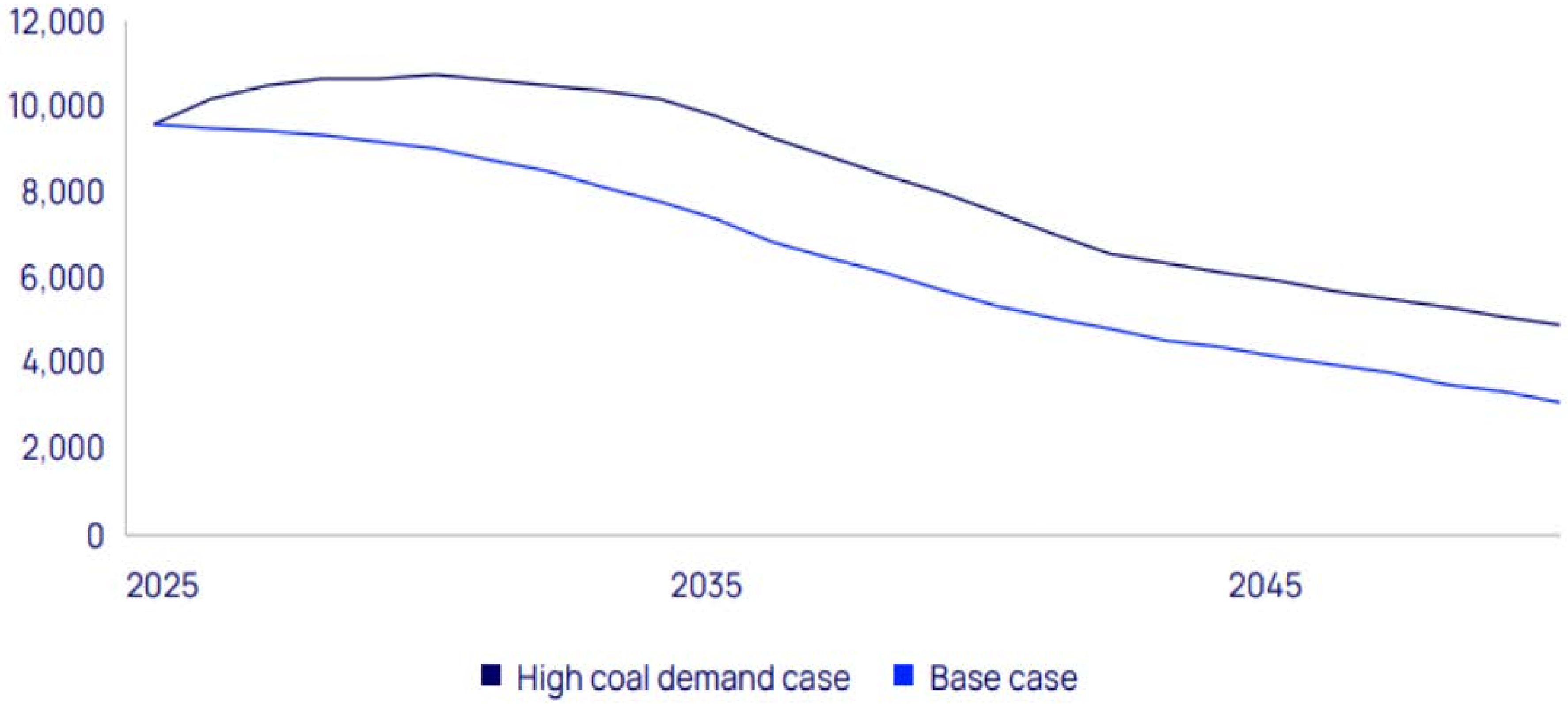
US passenger EV share of total car sales, outlook comparison –
Economic Transition Scenario



Source: BloombergNEF EV Outlook 2025 (Aug. 2025)

Future mega-trend: **8.The decline in the role of coal**

Driven primarily by China, after a plateau over the next years



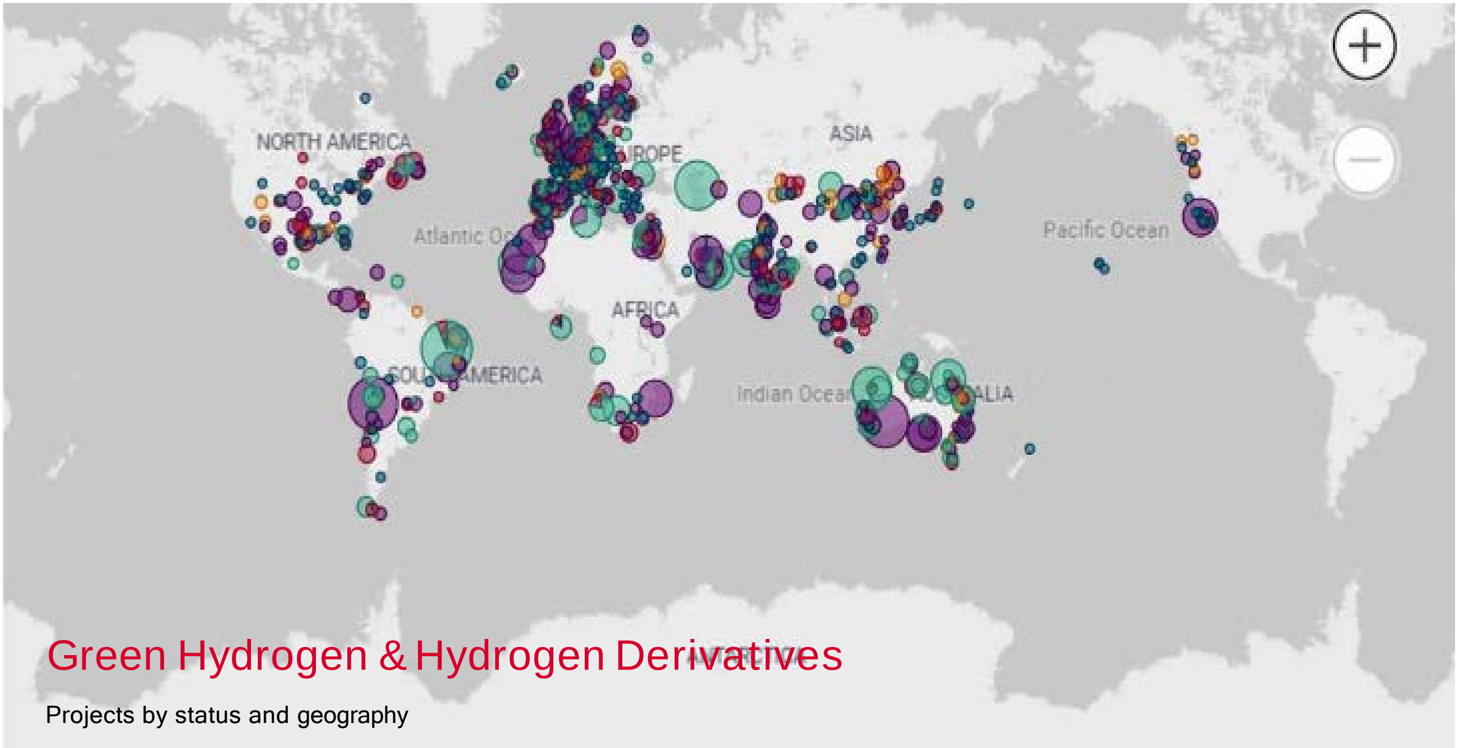
Source: WoodMac 17 July, 2025

Future mega-trend: 9. Clean Hydrogen – Markets and applications to develop, but in the medium term

- ❑ Hydrogen CAPEX investment to date: >100 Bn $
- ❑ 500 FIDs for a further 110 Bn $ last 12 months

Source: Hydrogen Economist from McKinsey study (Sept. 2025)

Neom H2 Project in KSA, 4 GW



Advanced planning | Announced | Construction | Early planning | Fully commissioned

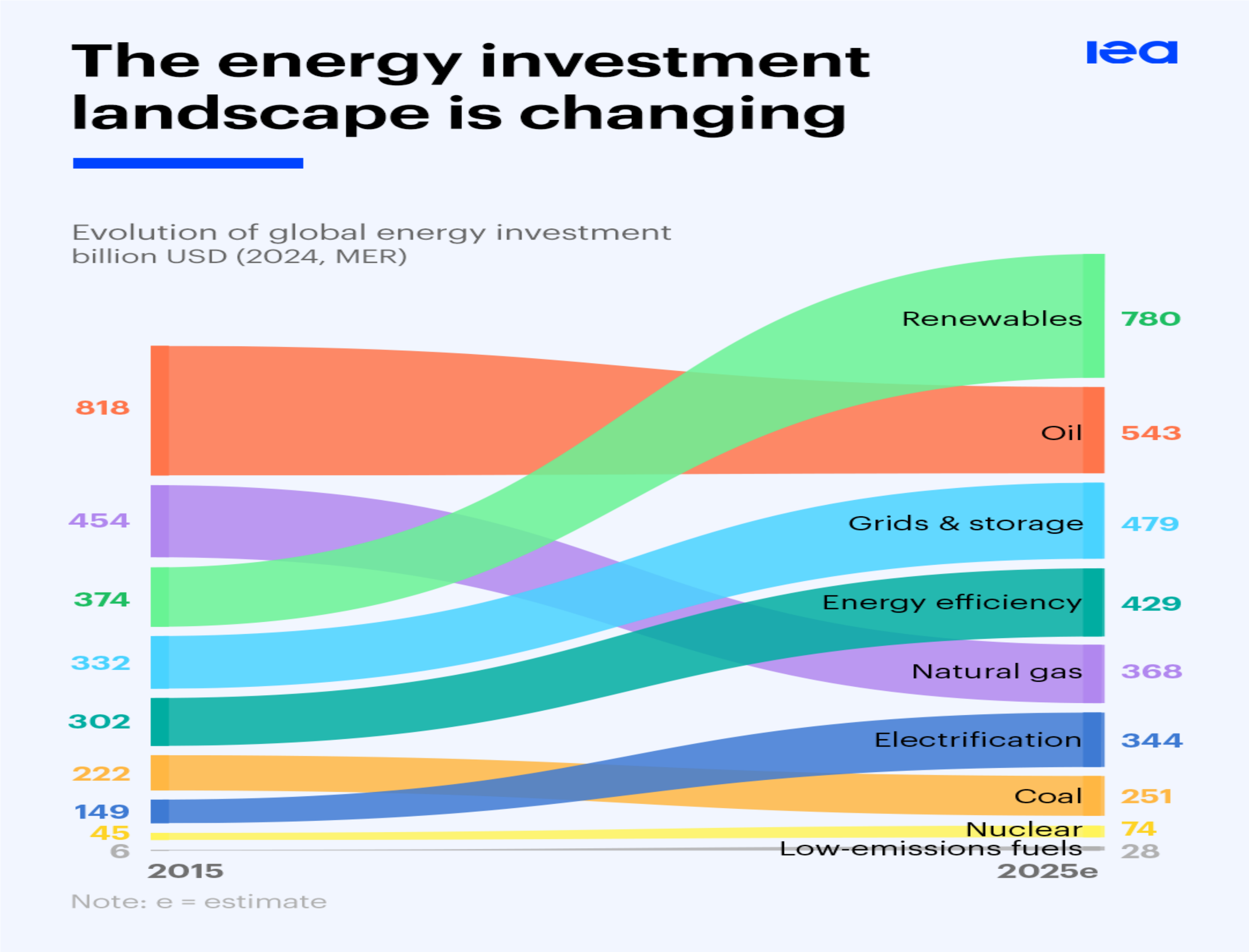
> 600 GW of capacity announced | > 1800 projects tracked | This information not useful for promotion | 90 Geographies

Source: https://connect.ihsmarkit.com/gpe/clean-energy-tech/analytics/CETAnalytics?tab=Projects&subtab=Projects_P2X

Source: S&P Global – Hydrogen (August 2025)

Future mega-trend

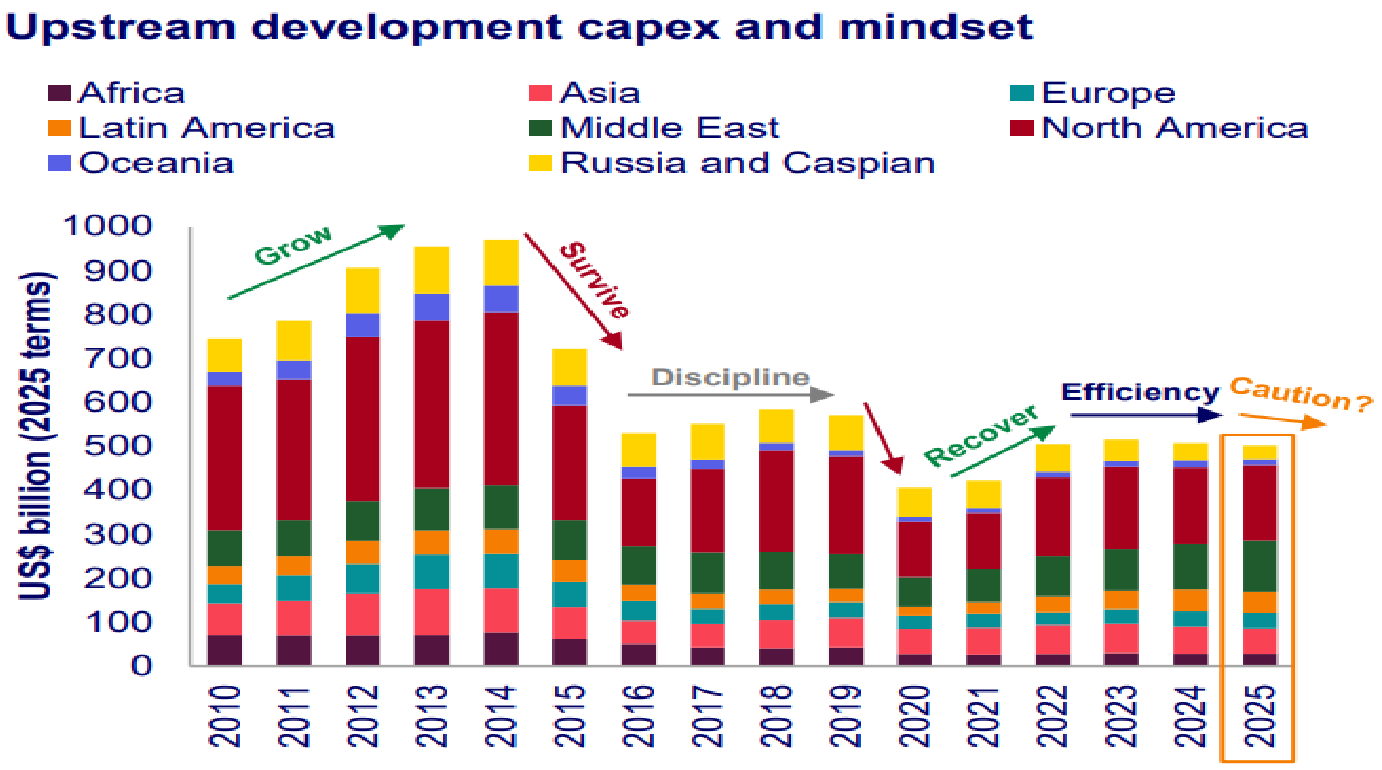
10.



Source: International Energy Agency June 2025.

Upstream **oil & gas capex investment** to fall in 2025 for the first time since 2020

Caution in the face of uncertainty

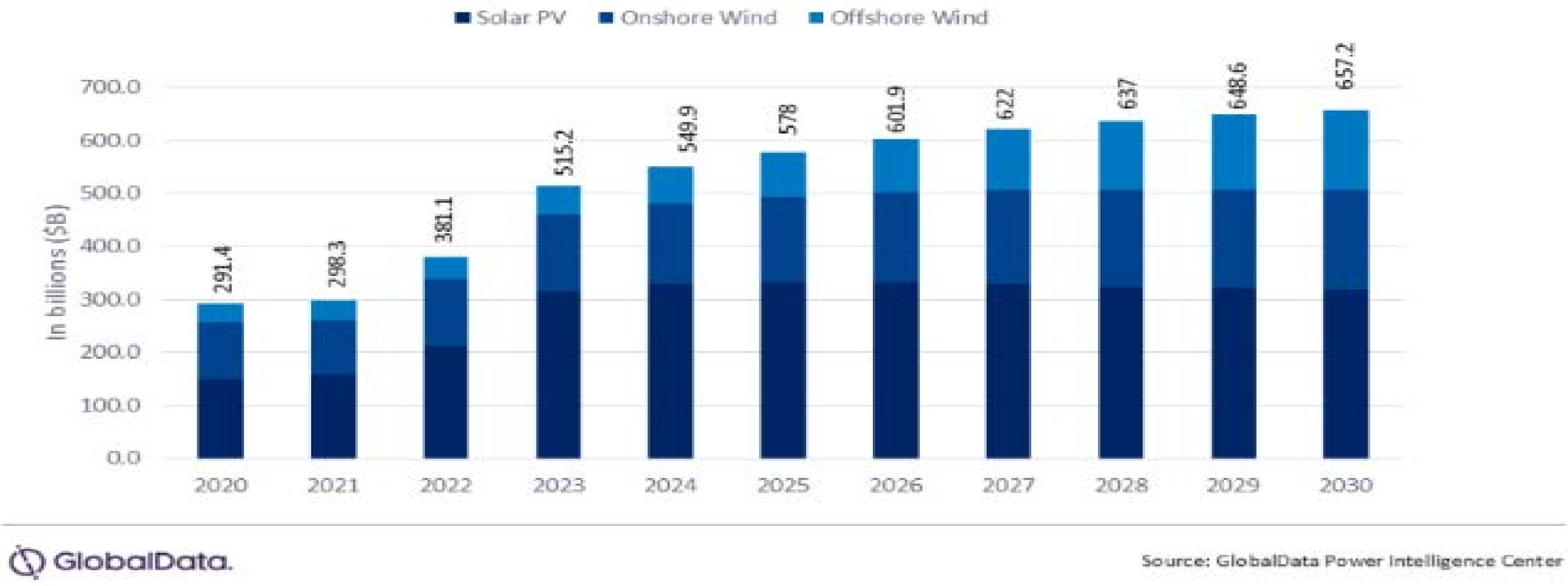


Source: WoodMac April 2025

Investments in natural gas – especially in LNG – are robust, but spending on oil has been revised down in light of the new economic outlook and cost pressures (IEA June 2025)

Global CAPEX **investments** into **renewables** to continue, strongly

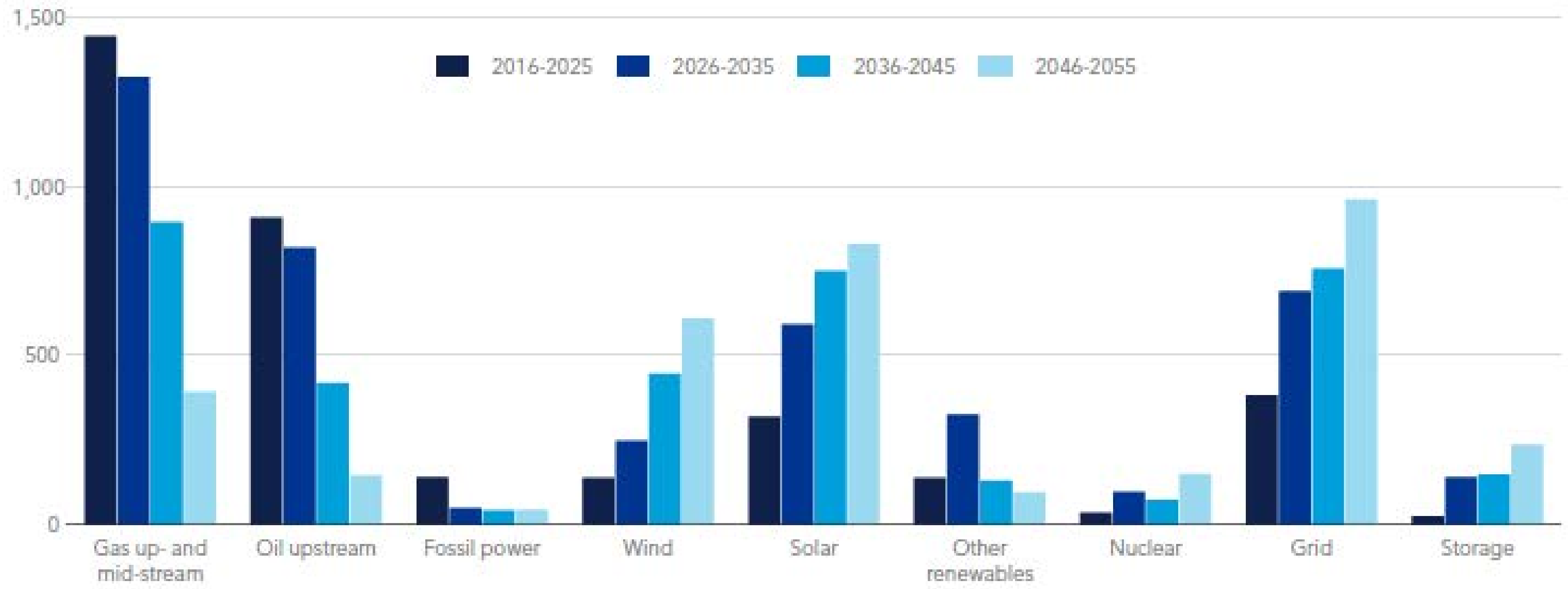
Solar PV and Wind, Global, New Investment, B$
2020-2030



Source: GlobalData Power Intelligence Center (May 2025)

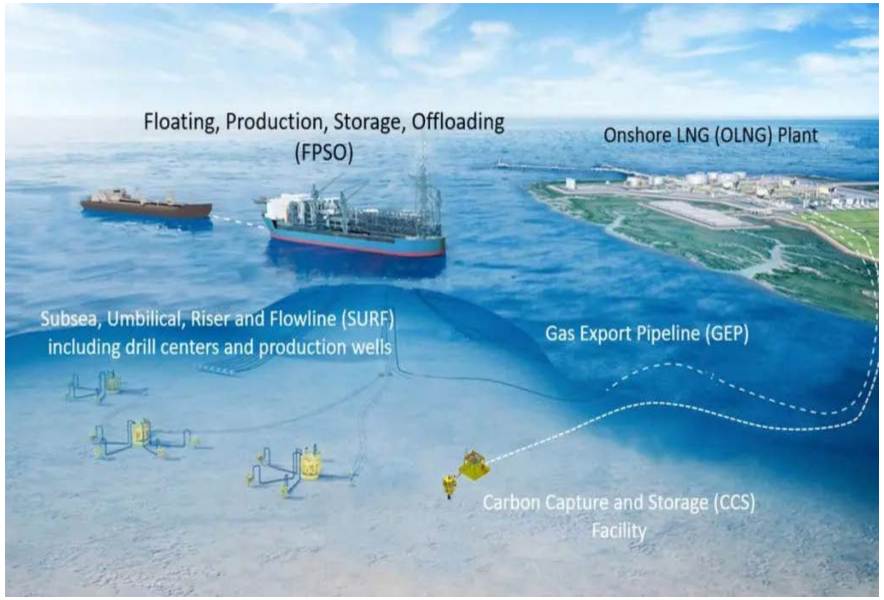
More and more **global energy investments** will be concentrated in wind, solar and grids, **surpassing the traditional sectors**

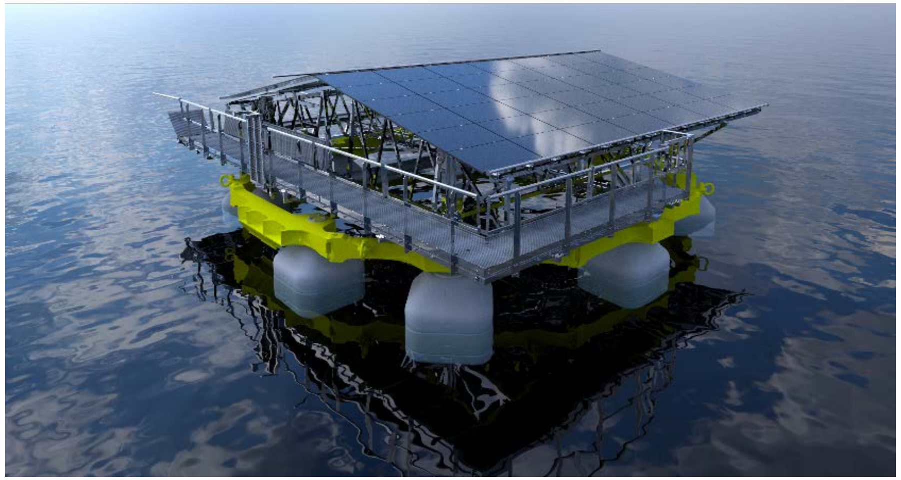
World CAPEX by technology (Billion USD / yr)



Source*:* DNV Energy Transition Outlook 2025 (October 2025)

Conclusions





Saipem Xolar

- Most likely, **oil** and **coal demand** to reach a plateau around the end of this decade, then drop
- Future **gas demand to grow for much longer** before plateauing**,** depending on the rapidly growing **electricity demand** and **renewables** ability to satisfy it
- The **energy transition** to continue, albeit at a somewhat slower pace than originally forecast **–** but with **'green' investments** overtaking the traditional ones
- The '**Age of uncertainty'!**
- **Nuclear**, **batteries, geothermal** next
- **EVs** are a reality and growing
- The **'Hydrogen Economy'** at the doorstep, but will require
  - More technology and industrial developments *at scale*
  - Stronger incentives and clear policies
- **New technology breakthroughs** are keys to the future
- Incumbents: beware **surprises**!