



Industrial transformation in the age of electricity

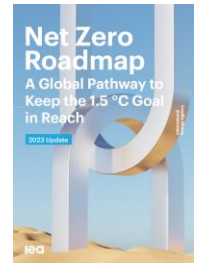
Nicholas Salmon, Energy Modeller

NIM Industry Insights Series, June 16 2026

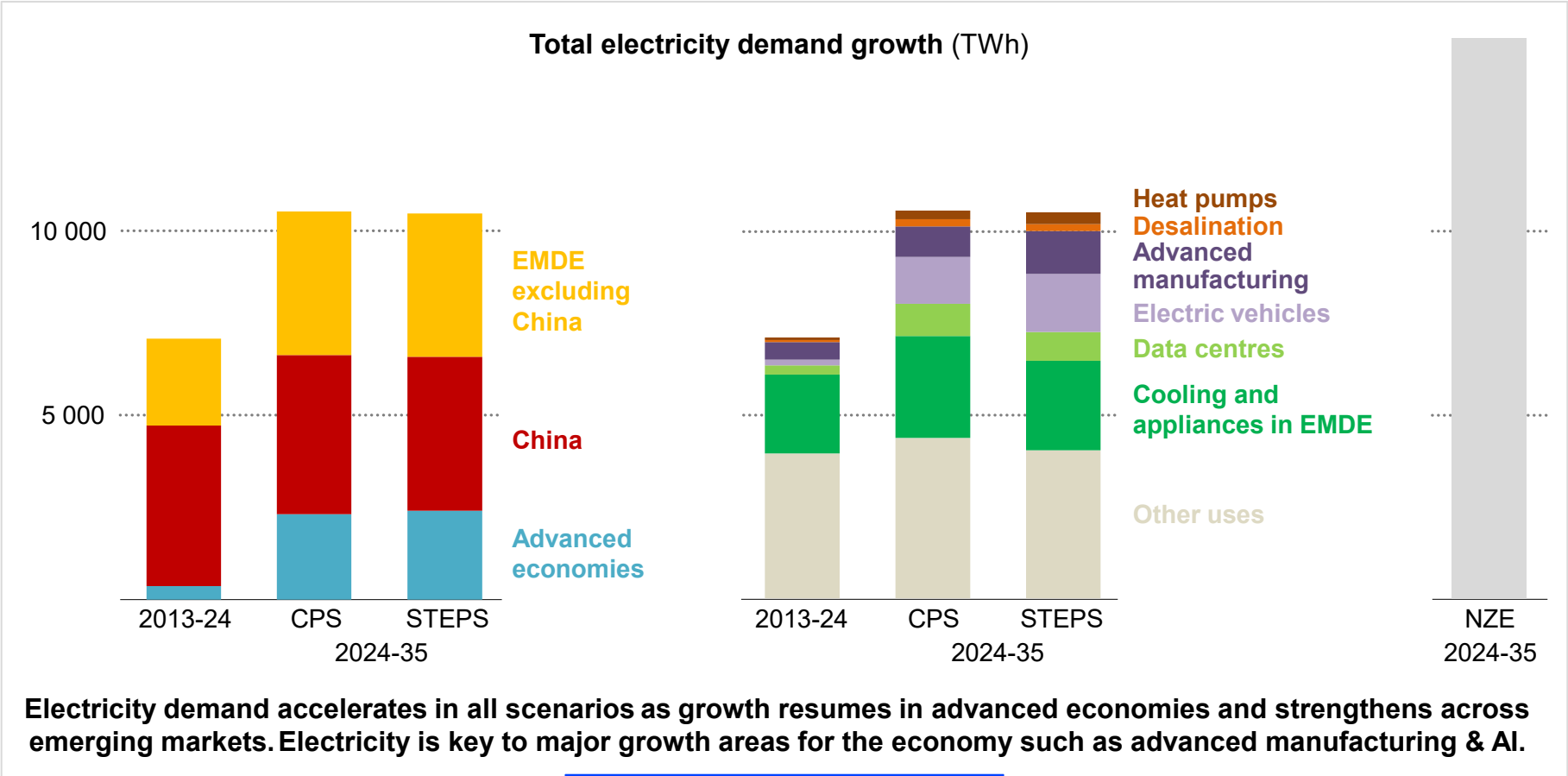
International
Energy Agency

The International Energy Agency (IEA)

- **Intergovernmental** organisation created in **1974** under the umbrella of the OECD in after the first oil shock
- Today the IEA has **32 member countries**, 4 accession countries and 13 association countries
- Original mandate: to **help ensure reliable energy supplies, promote energy efficiency, and encourage technological research and innovation**
- **New mandates** to the IEA from 2022-2024 Ministerial meetings:
 - New path on clean energy transitions and **climate change**
 - Strengthen **energy security**, including **critical minerals**
- The IEA is engaged in all aspects of **the global dialogue on energy**, including addressing climate change, by providing analysis, data, policy recommendations, and real-world solutions: **all-fuels, all-technologies approach**

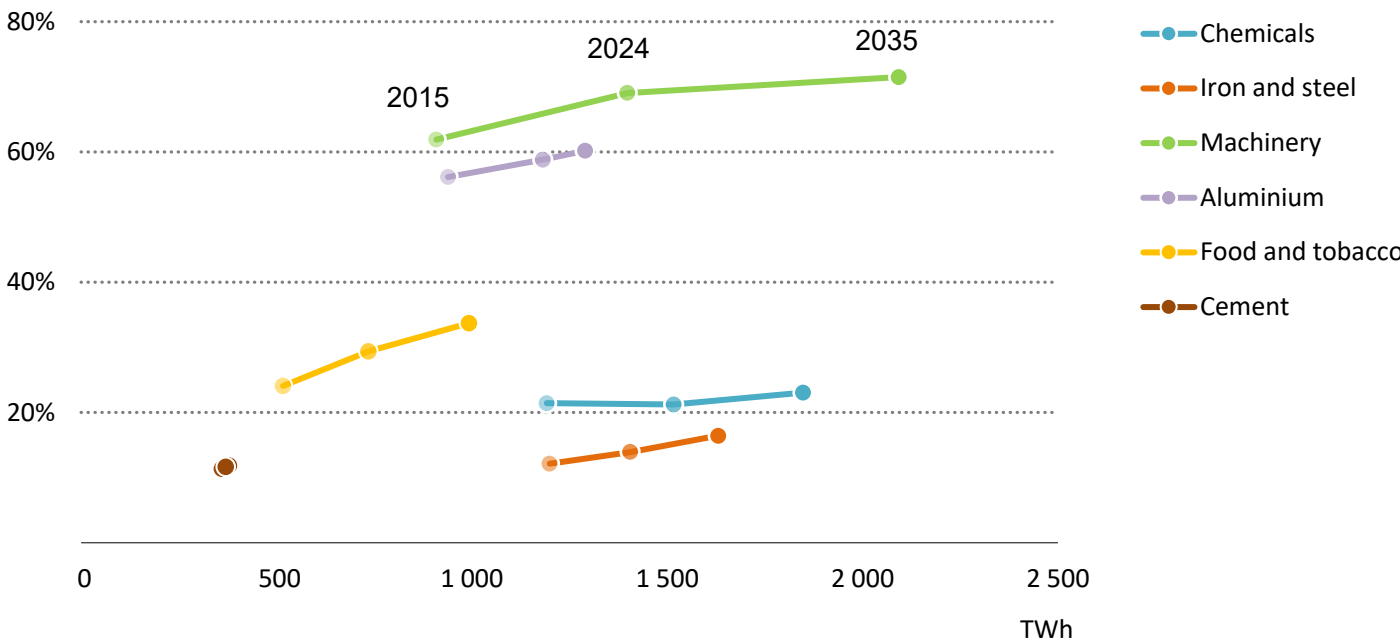


The Age of Electricity is here



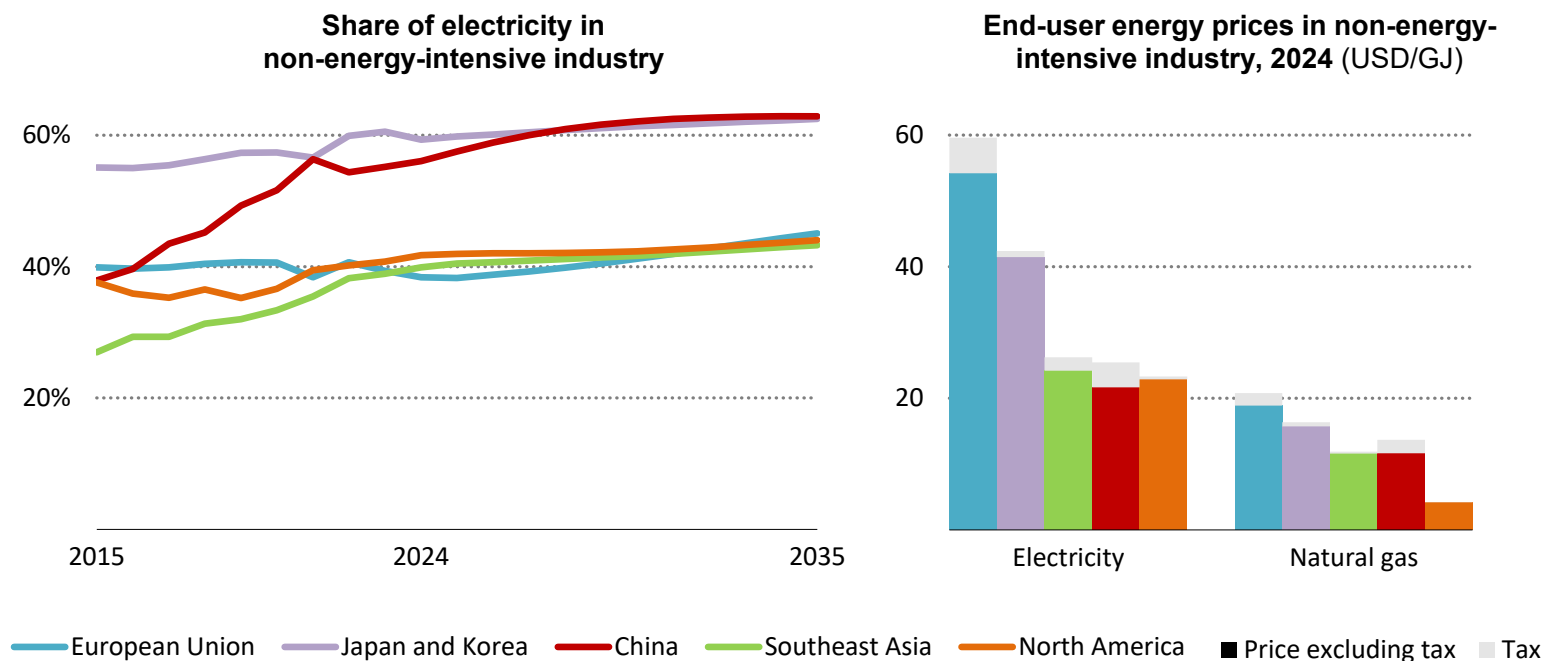
But in industry, activity is the main driver of growth

Share of electricity and electricity demand in key industrial subsectors in the STEPS, 2015 – 2035



Most electricity demand growth in industry comes from increasing activity in sectors which are already electrified, rather than from new electric technologies

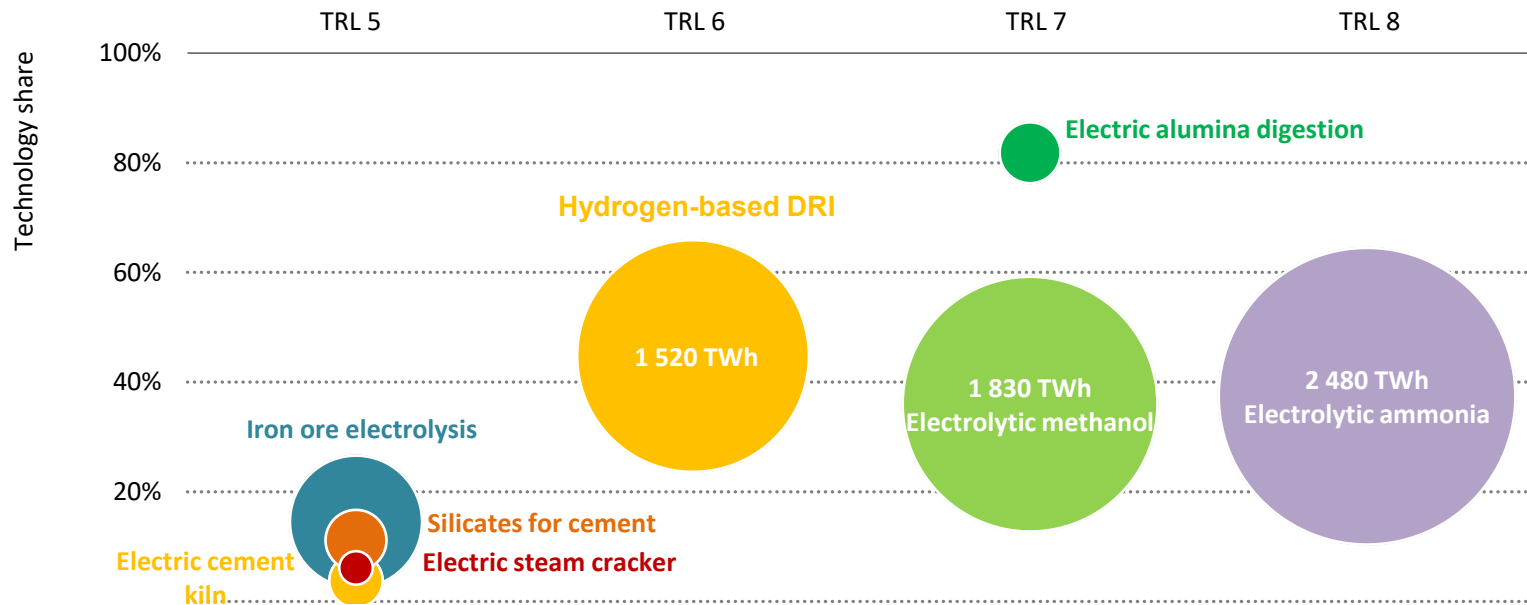
Parts of Asia are already world leaders in electrification



Japan, Korea and China have very high shares of electrification in non-energy intensive industries, driven by a combination of prices, policies and economic structures

Direct electrification of energy intensive industries needs R&D

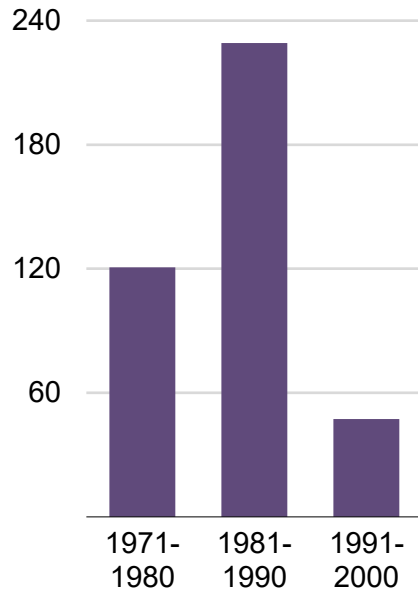
Electricity demand and share of key technologies in industry in the NZE in 2050



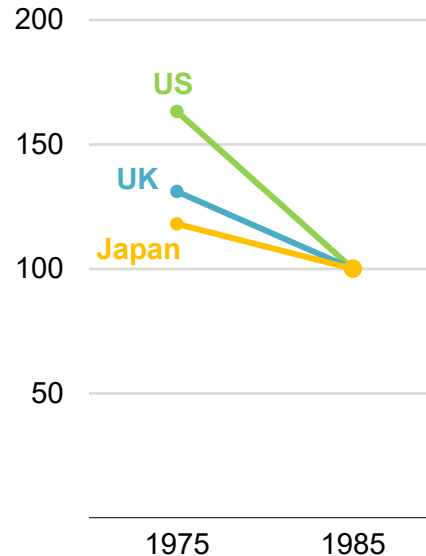
Technologies that electrify energy-intensive industries account for around 10% of total electricity demand by 2050, and this could rise if their deployment potential increases

1970s crises had long-lasting global energy implications

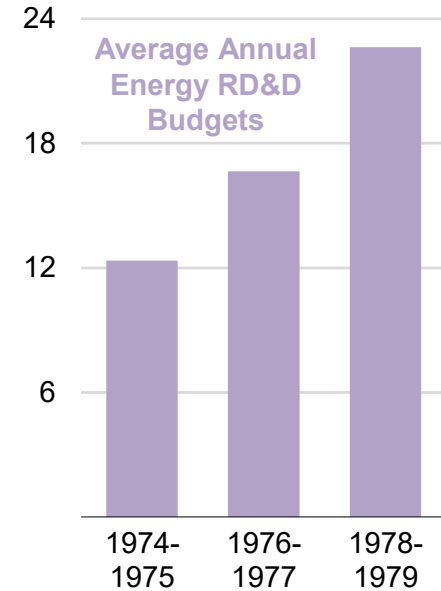
Nuclear capacity additions
GW



New car fuel economy
Indexed: 1985 = 100



Energy innovation
Billion USD (2024, MER)



The 1970s oil crises sparked major growth in deployment of nuclear energy, rapid fuel economy advances, big increases in spending on energy innovation, and a diversification of traditional fuel supplies.

