

The New Energy Geopolitics: Petrostates vs Electrostates

2026-1-29 JCCP International Symposium

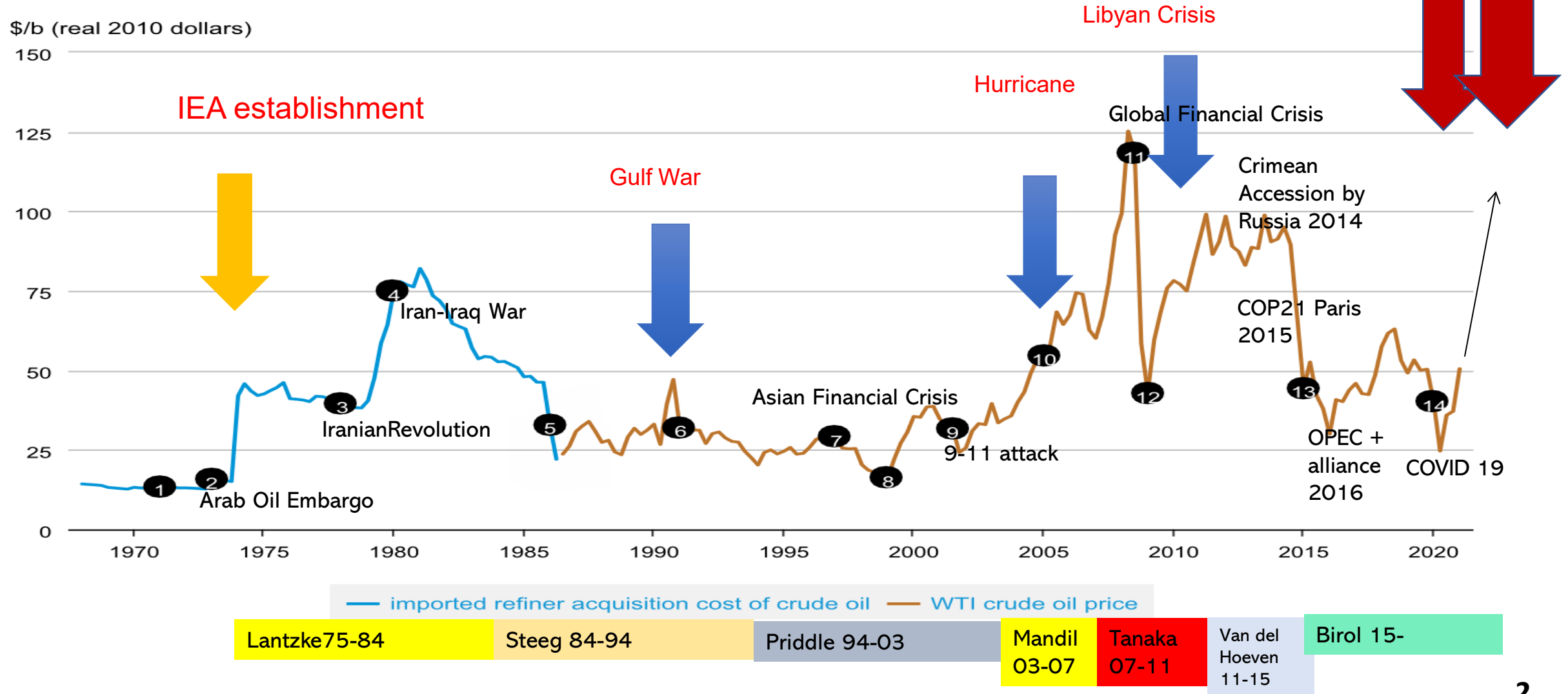
Nobuo TANAKA 田中伸男

Executive Director Emeritus, International Energy Agency (IEA)
Chair, Steering committee of Innovation for Cool Earth Forum
(ICEF)

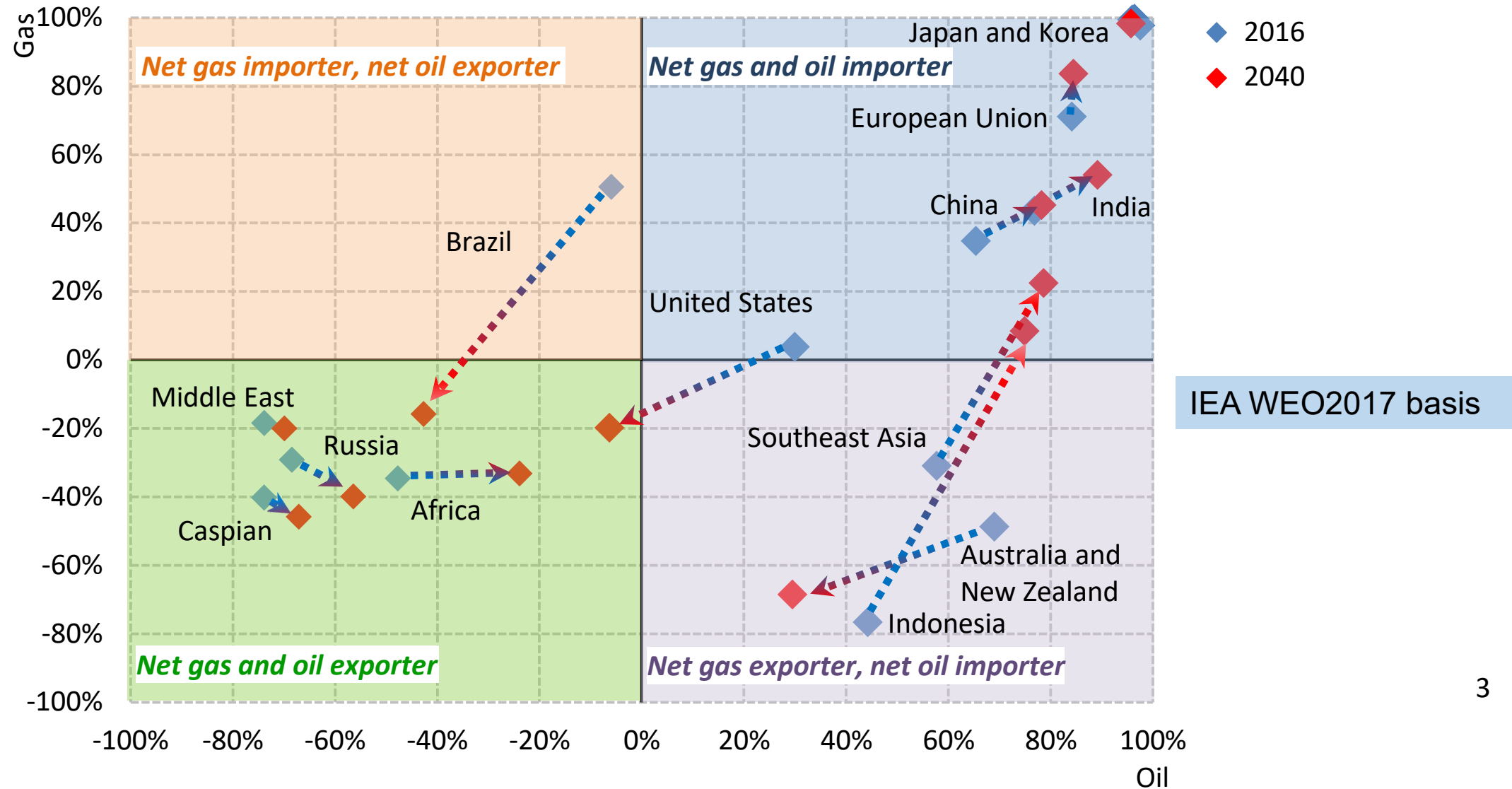


IEA was established for the 1973 Oil Shock

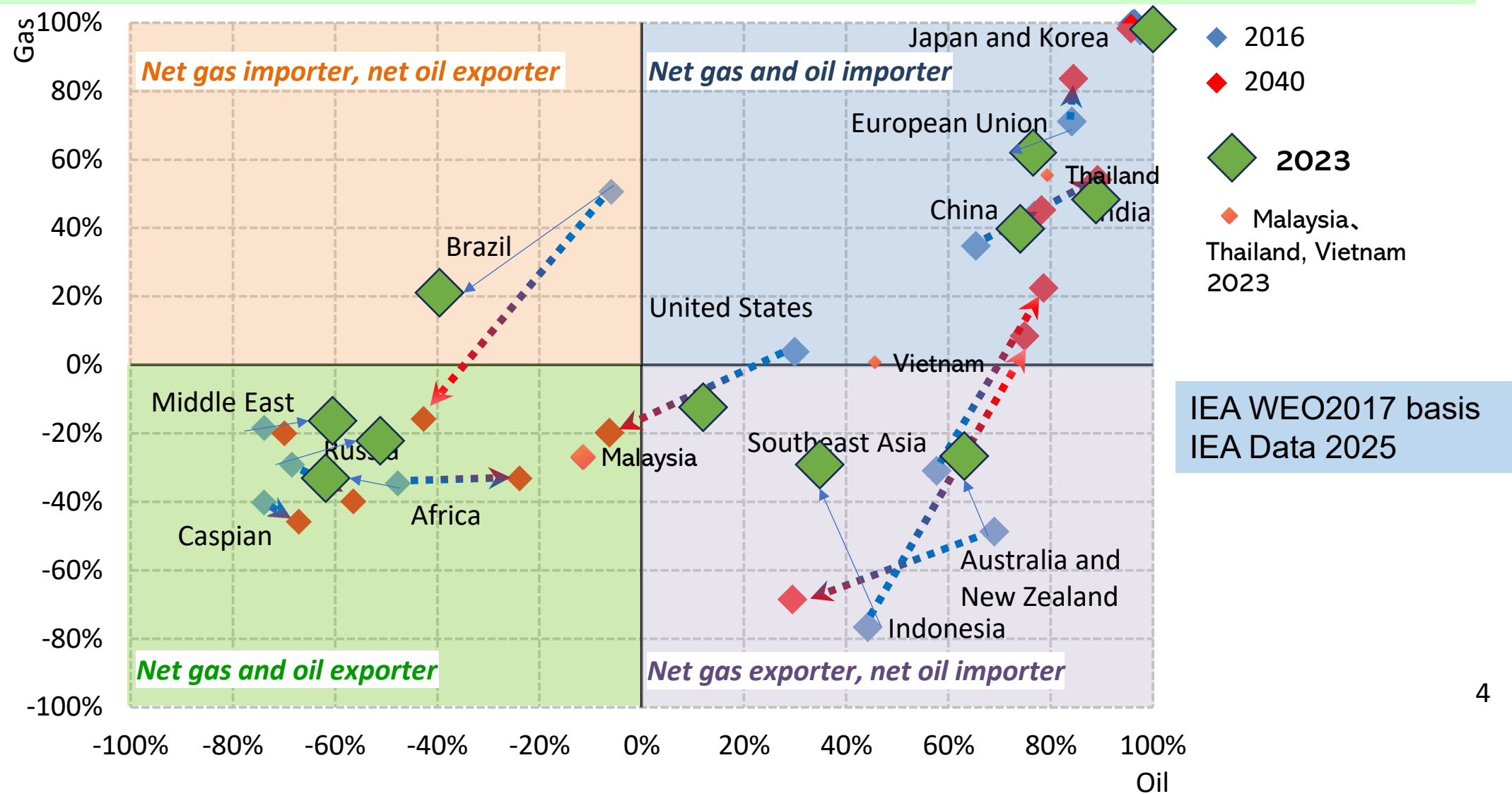
IEA's mission is energy security : it released the Strategic Petroleum Reserve Five times.



Energy Independence : Trump’s US aims “Energy Dominance” by more oil and gas while China and Europe aim at Renewable Energy Independence.



Energy Independence : Trump’s US aims “Energy Dominance” by more oil and gas while China and Europe aim at Renewable Energy Independence.



Modern Renewables % in Final Energy Consumption(2000-2021)

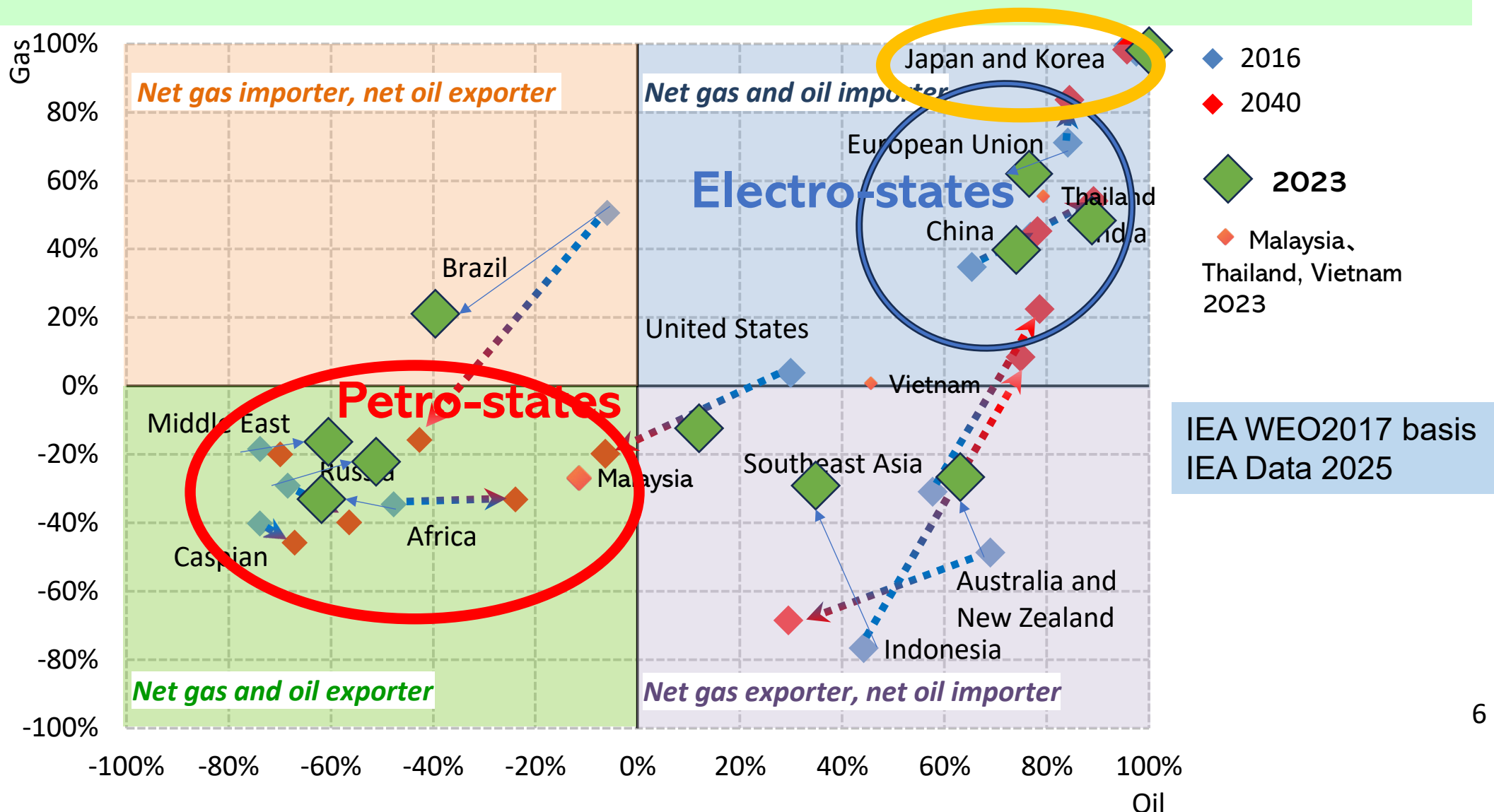
Country	2000	2021	Net +	2021/ 2000	Country	2000	2021	Net +	2021/ 2000
Europe	9%	19%	10%	+115%	Australia	8%	12%	4%	+46%
China	3%	12%	9%	+354%	Indonesia	9%	13%	4%	+48%
US	5%	11%	6%	+101%	Malaysia	3%	7%	4%	+135%
Japan	4%	9%	5%	+139%	Korea	1%	4%	3%	+421%
Brazil	38%	43%	5%	+14%	Middle East	0%	1%	1%	+103%
Vietnam	17%	22%	5%	+26%	Africa	7%	7%	0%	+0%
India	13%	18%	5%	+53%	Russia	4%	4%	0%	+1%
Thailand	11%	16%	5%	+103%					

Ranking by net increase 

IEA Data

China and Europe lead in modern Renewables : US and Asian countries follow them. Russia, Africa and ME lag behind.

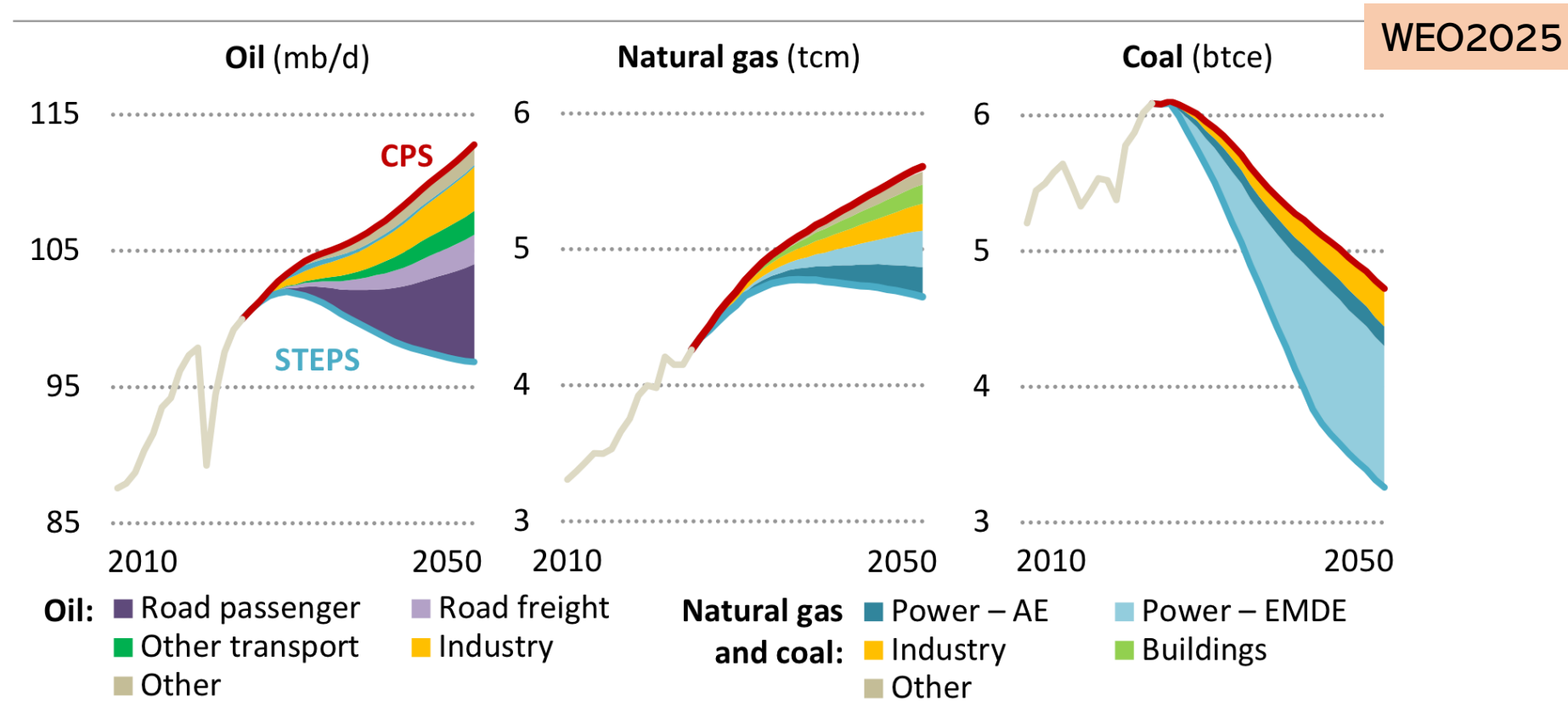
Petrostates v.s. Electrostates: How can Japan and Korea survive?



Will Peak Oil and Gas come by 2030?

Current Policy Scenario says No!

Figure 5.2 ▶ Fossil fuel demand in the STEPS and additional demand in the CPS by sector, 2010-2050



IEA. CC BY 4.0.

Renewables:
Transition or
Addition?

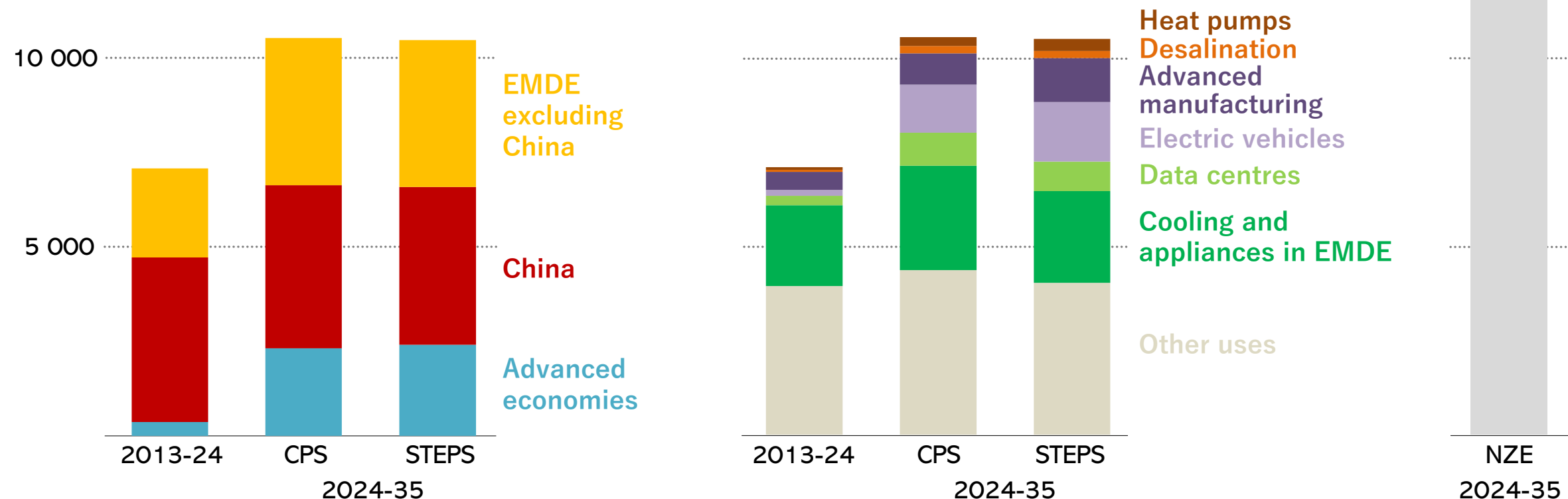
"The Stone Age
didn't end because
we ran out of stones."



Oil demand is higher in the CPS as the uptake of EVs is slower; there is also higher demand for gas and coal notably in emerging market and developing economies

The Age of Electricity is here

Total electricity demand growth (TWh)

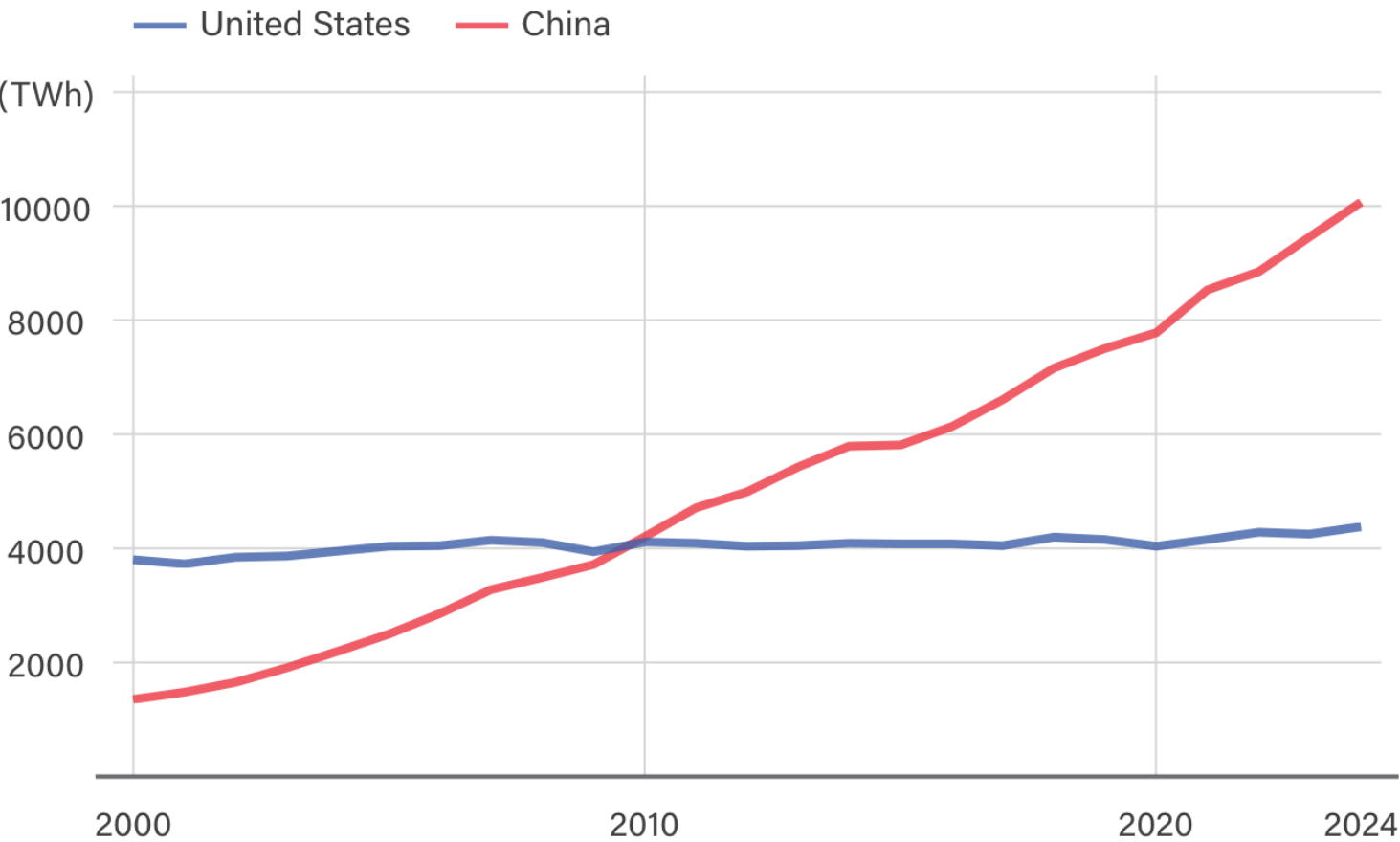


Electricity demand accelerates in all scenarios as growth resumes in advanced economies and strengthens across emerging markets. **Electricity is key to major growth areas for the economy such as advanced manufacturing & AI.**

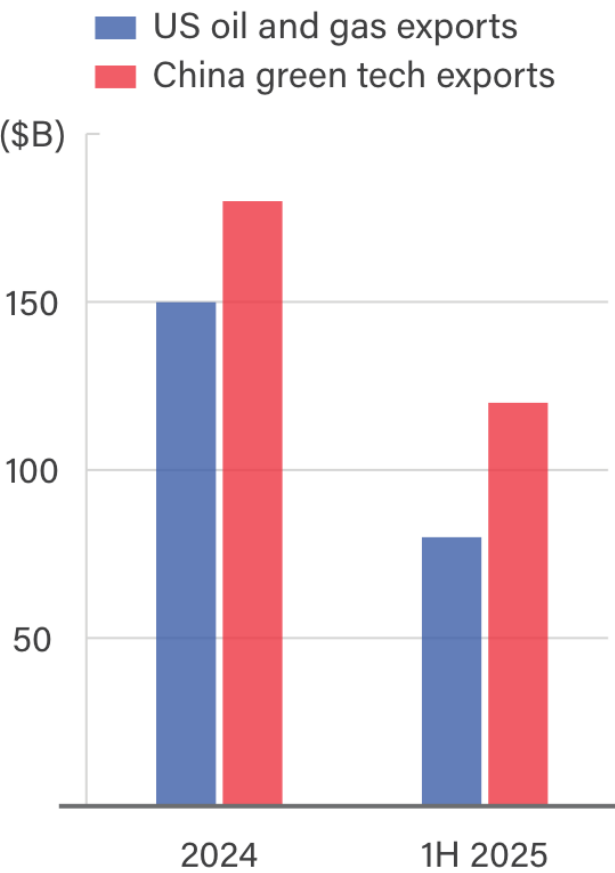
Washington is asking the world to buy 20th-century energy while Beijing offers 21st-century infrastructure. (10 Top Risks 2026 by Eurasia Group)

Electric shock

Electricity generation, total terawatt-hours



Energy exports, billions of dollars



Source: Ember Energy Institute (2025) - Statistical Review of World Energy (2025) – with major processing by Our World in Data; DOE, EIA, China GACC, Ember, Bloomberg calculations

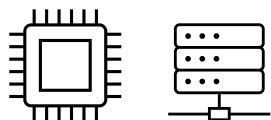
Critical minerals: high concentration raises supply risks

Share of top refining country for energy-related strategic minerals, 2024

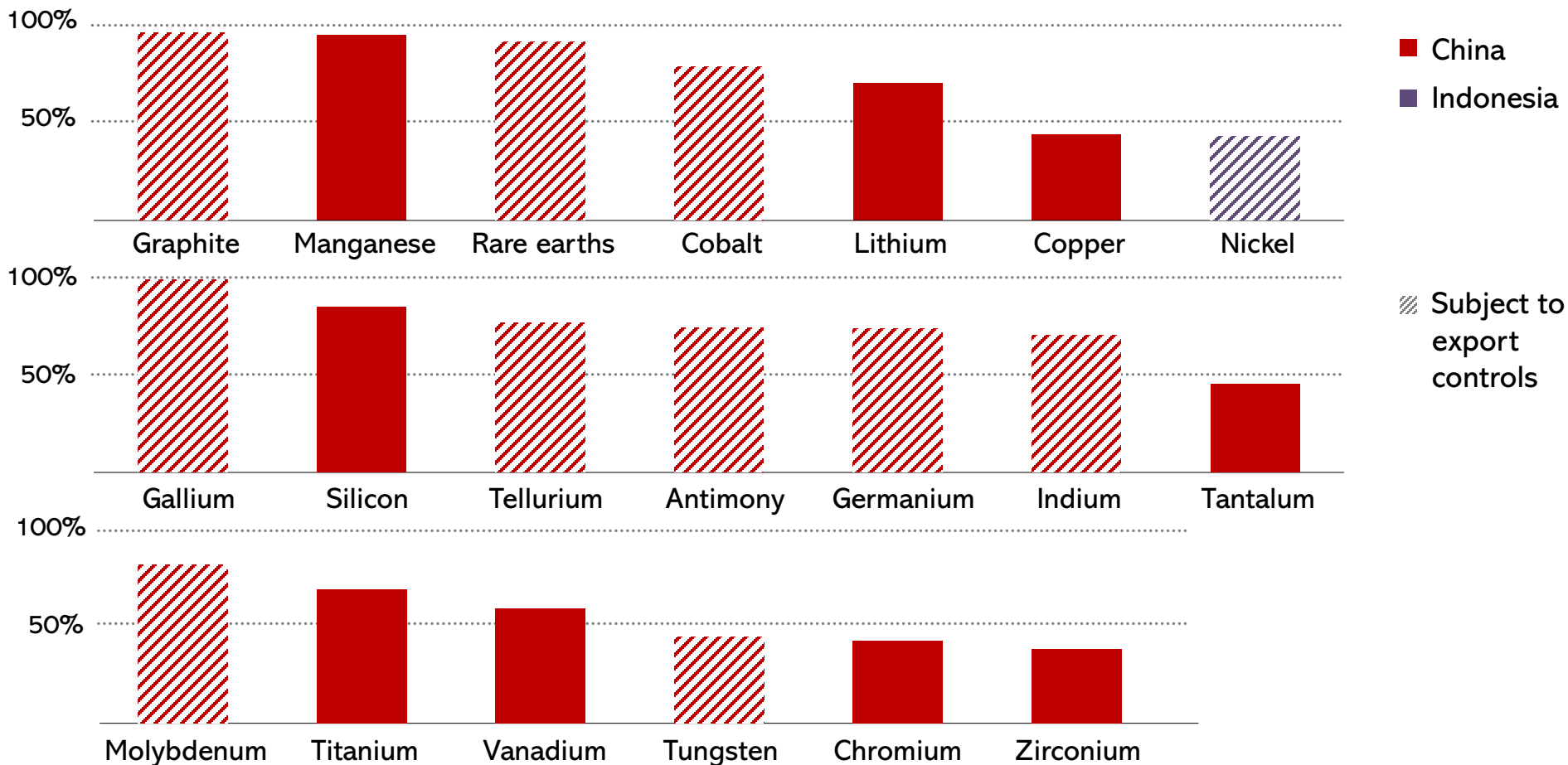
Batteries, grids, renewables



AI, data centres, high-techs



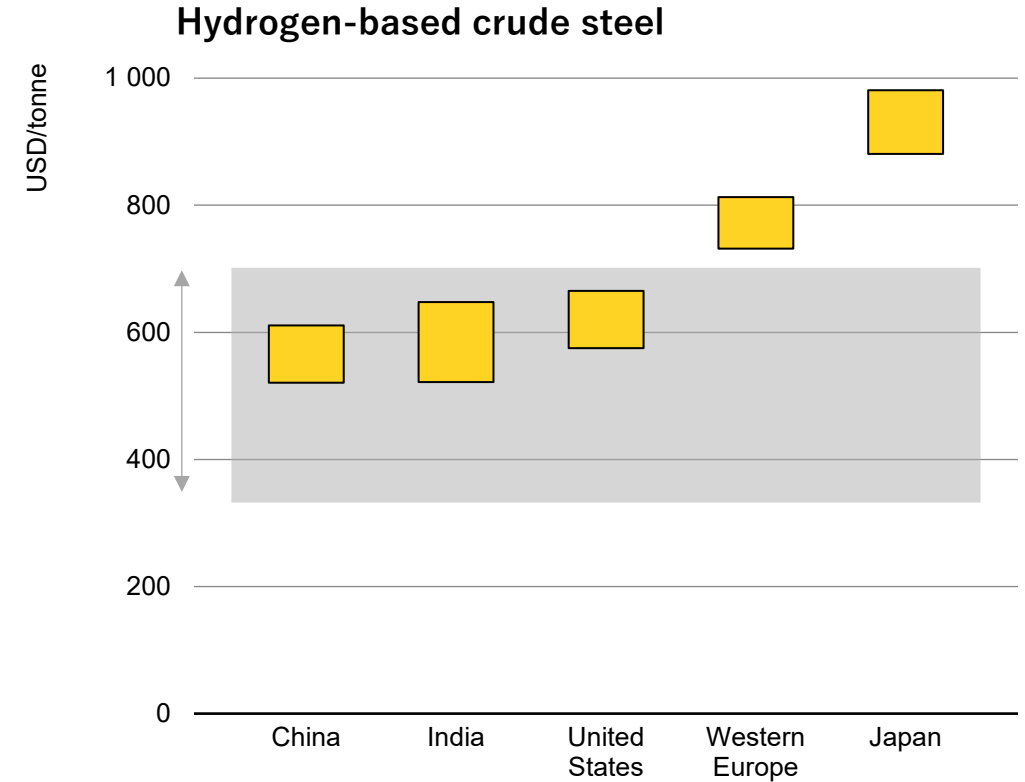
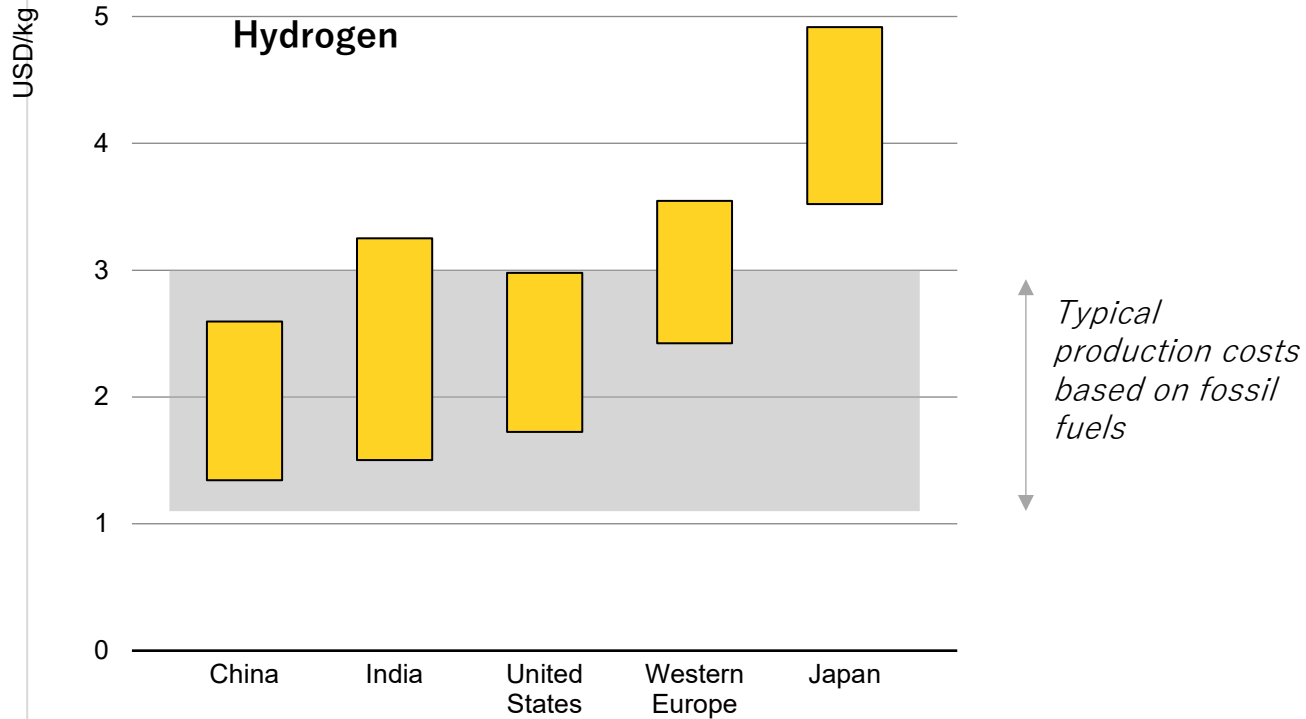
Aerospace, industry, defence



Critical minerals are vital not only for energy security but also for broader economic resilience, but the remarkably high level of market concentration leaves global supply chains vulnerable to disruptions

New Age of Green Industrial Policy

Production costs using electrolysis and variable renewables under announced climate pledges, 2030



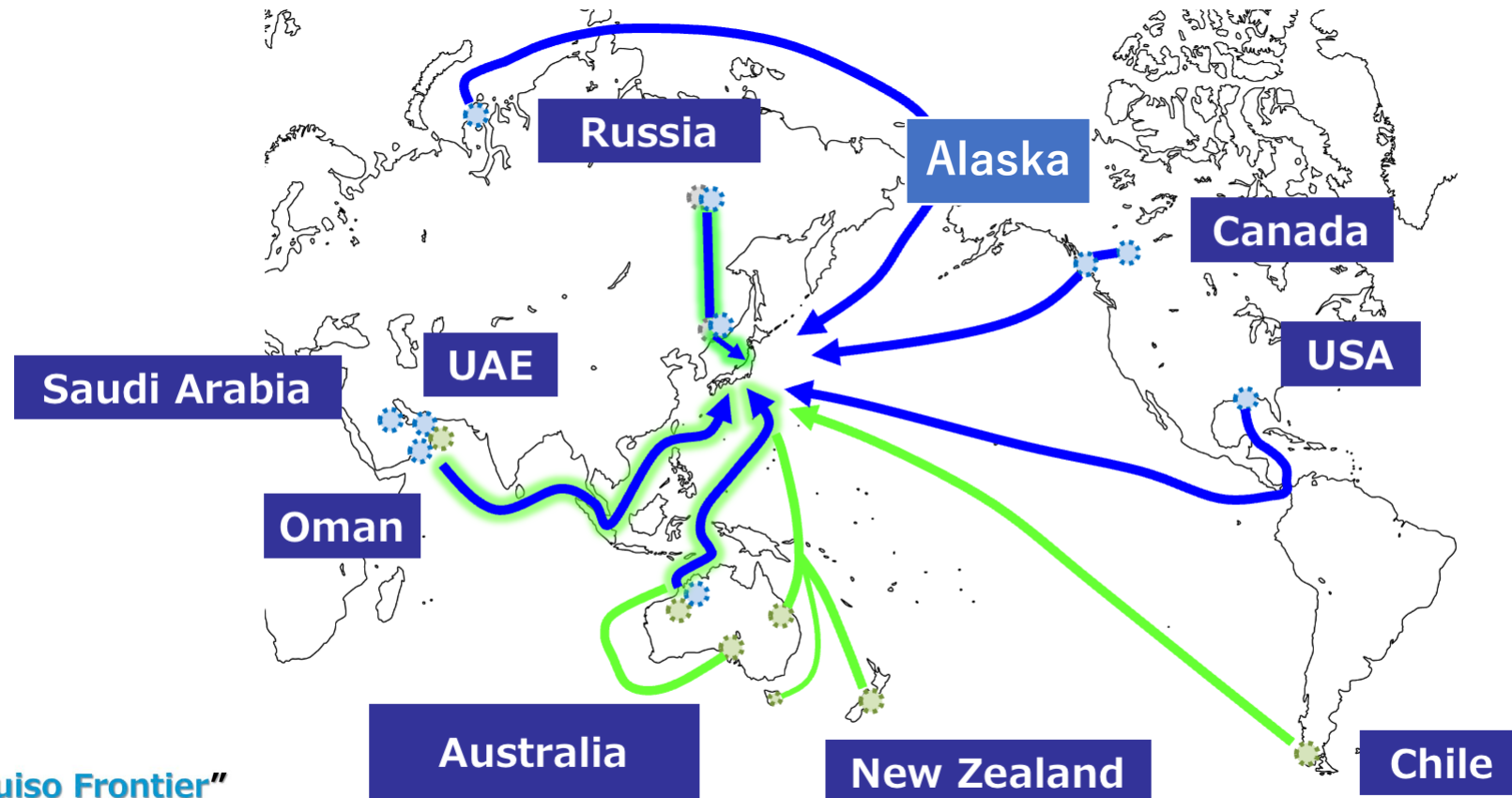
Climate goals and innovation policy are driving new project announcements for energy intensive commodities, but persistent cost competitiveness gaps indicate the need for strategic partnerships and international collaboration.



ADIPEC concluded on 6 November, uniting **239,709 attendees** to set the agenda for the future of global energy and **delivering a record-breaking US\$46 billion** through **35,000 cross-sector deals**.

Convening the full energy ecosystem, including **45 ministers and policymakers**, **1800+ conference speakers**, **2,250+ energy companies** and the **largest assembly of international pavilions** at an energy exhibition worldwide, ADIPEC once again proved to be the global meeting point for the industry.

A Golden Age of Hydrogen is coming?



Liquefied Hydrogen Carrier "Suiso Frontier"

Launch ceremony (11 December 2019)
at KHI Kobe Shipyard



Cargo Tank Installation (7 March 2020)
at KHI Harima Works



CLEAN FUEL AMMONIA ASSOCIATION

➡ Natural Gas (Blue)

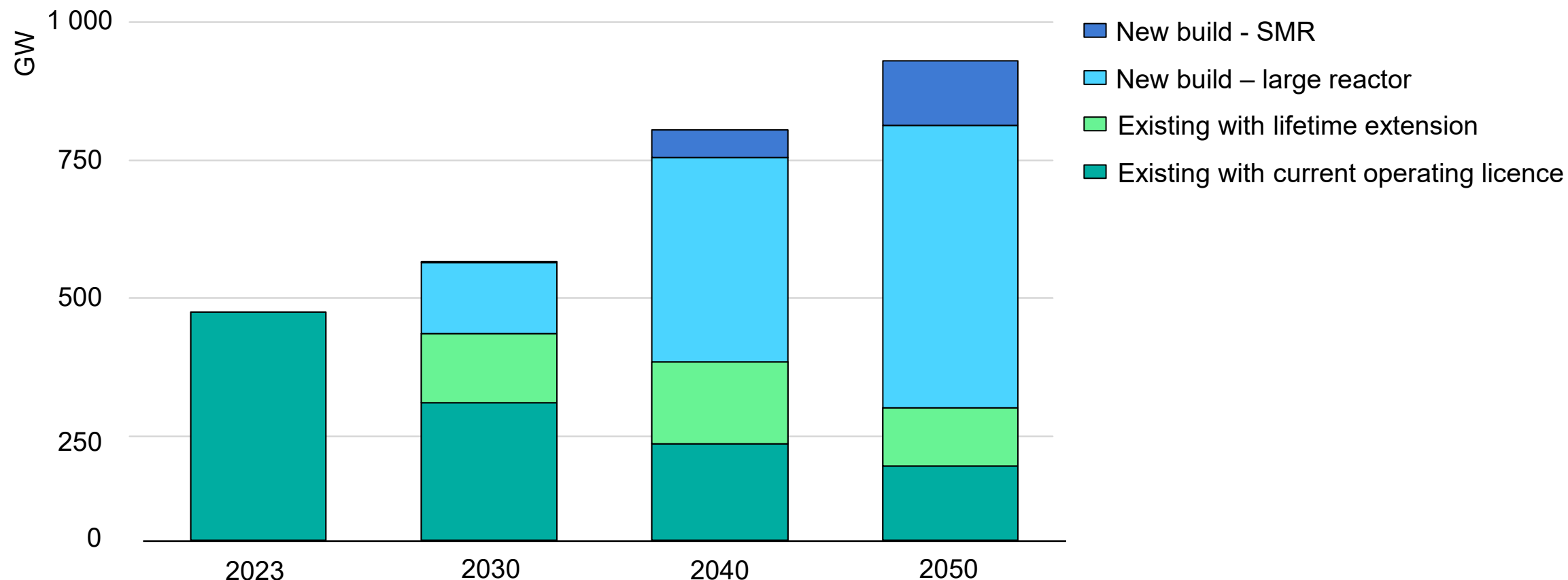
➡ Renewables (Green)

Nuclear energy is set for growth

“The Path to a New Era for Nuclear Energy” by IEA 2025



Global nuclear capacity, 2023-2050

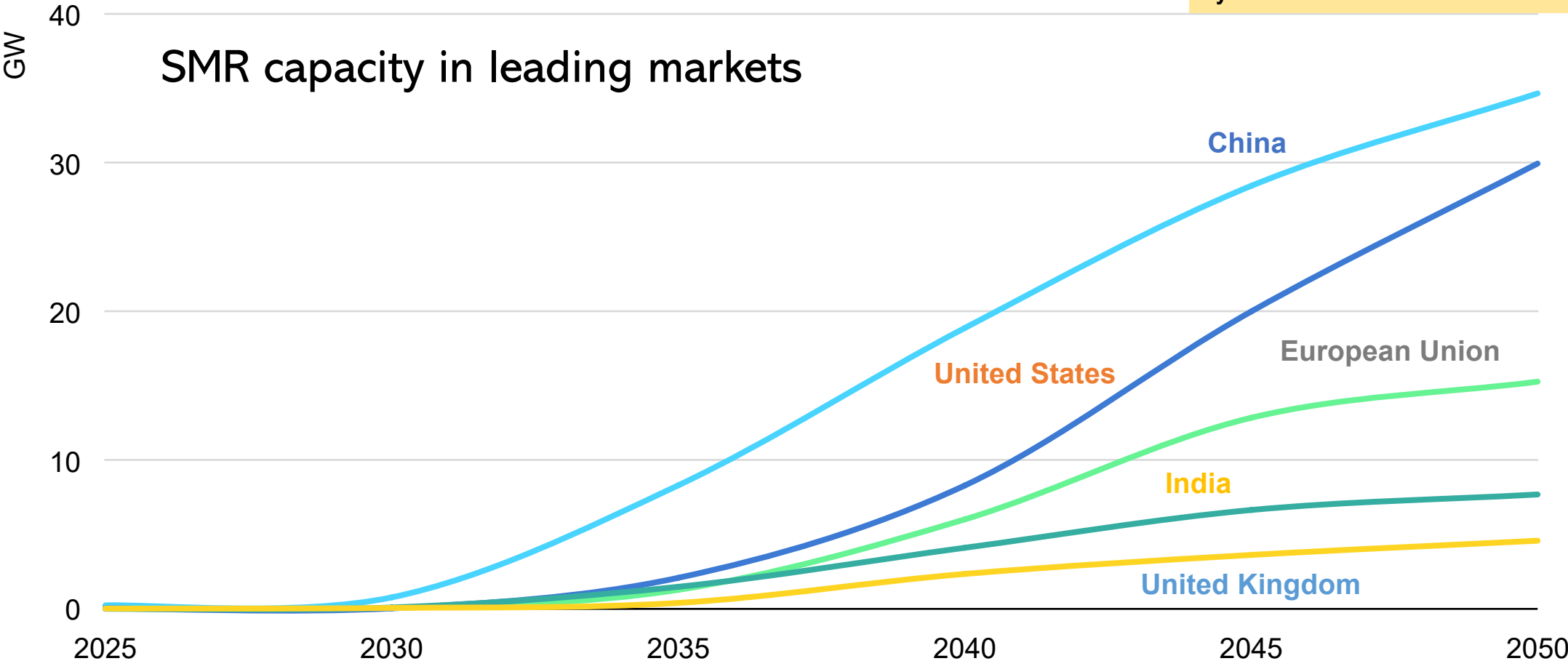


With plans to expand the role of nuclear in over 40 countries, global nuclear capacity is set to double to 2050. **Most growth comes from China and developing economies, and large reactors remain the majority of the fleet.**

SMRs are set for rapid growth

Data centres are emerging as a new dedicated market for SMRs

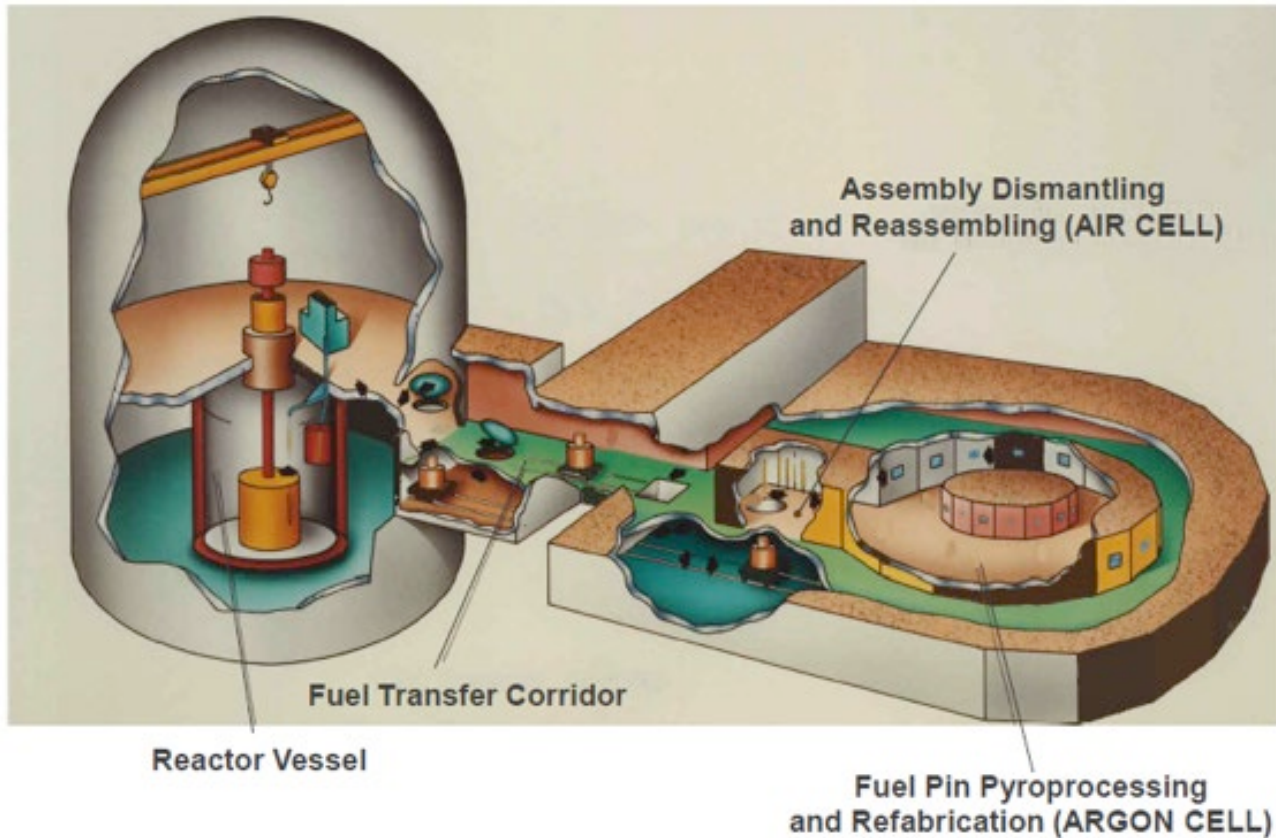
“The Path to a New Era for Nuclear Energy”
by IEA 2025



Innovation, government support and new business models can open a new era for nuclear energy, with over a thousand SMRs totalling 120 GW by 2050, and cumulative investment of USD 670 billion

Time for Safer, Proliferation resistant and Easier Waste Management Paradigm: **Integral Fast Reactor (Metallic fuel, Close cycle Fast Reactor) and Pyroprocessing**

Pyroprocessing was used to demonstrate the EBR-II fuel cycle closure during 1964-69



IFR has features as Inexhaustible Energy Supply ,Inherent Passive Safety ,Long-term Waste Management Solution , Proliferation-Resistance , Economic Fuel Cycle Closure. High level waste reduces radioactivity in 300 years while LWR spent fuel takes 100,000 years.
Applicable to the Fukushima debris

Dr. YOON IL CHANG
Argonne National Laboratory

US envoy Kerry launches international **Nuclear Fusion** plan at COP28

- DUBAI, Dec 5 (Reuters) - U.S. special climate envoy John Kerry on Tuesday launched an international engagement plan to boost nuclear fusion, saying the emissions-free technology could become a vital tool in the fight against climate change
- "There is potential in fusion to revolutionize our world," Kerry told the [COP28 climate summit](#) in Dubai.



Global Energy Forum at COP 28 - Day 1



「危機管理投資」「成長投資」の17戦略分野
AI・半導体、造船、量子、合成生物学・バイオ、航空・宇宙、デジタル・サイバーセキュリティ、コンテンツ、フードテック、資源・エネルギー安全保障・GX、防災・国土強靱化、創薬・先端医療、**フュージョンエネルギー**、マテリアル(重要鉱物・部素材)、港湾ロジスティクス、防衛産業、情報通信、海洋

Japan, Korea and the US should develop JAKUS; N.East Asian AUKUS

Japan, the US and Korea should consider introducing nuclear propulsion submarine facing the geopolitical change in the Indo- Pacific.

U.S. to Share Nuclear Submarine Technology With Australia in New Pact

A new defense partnership between the U.S., the U.K. and Australia forms to focus on security

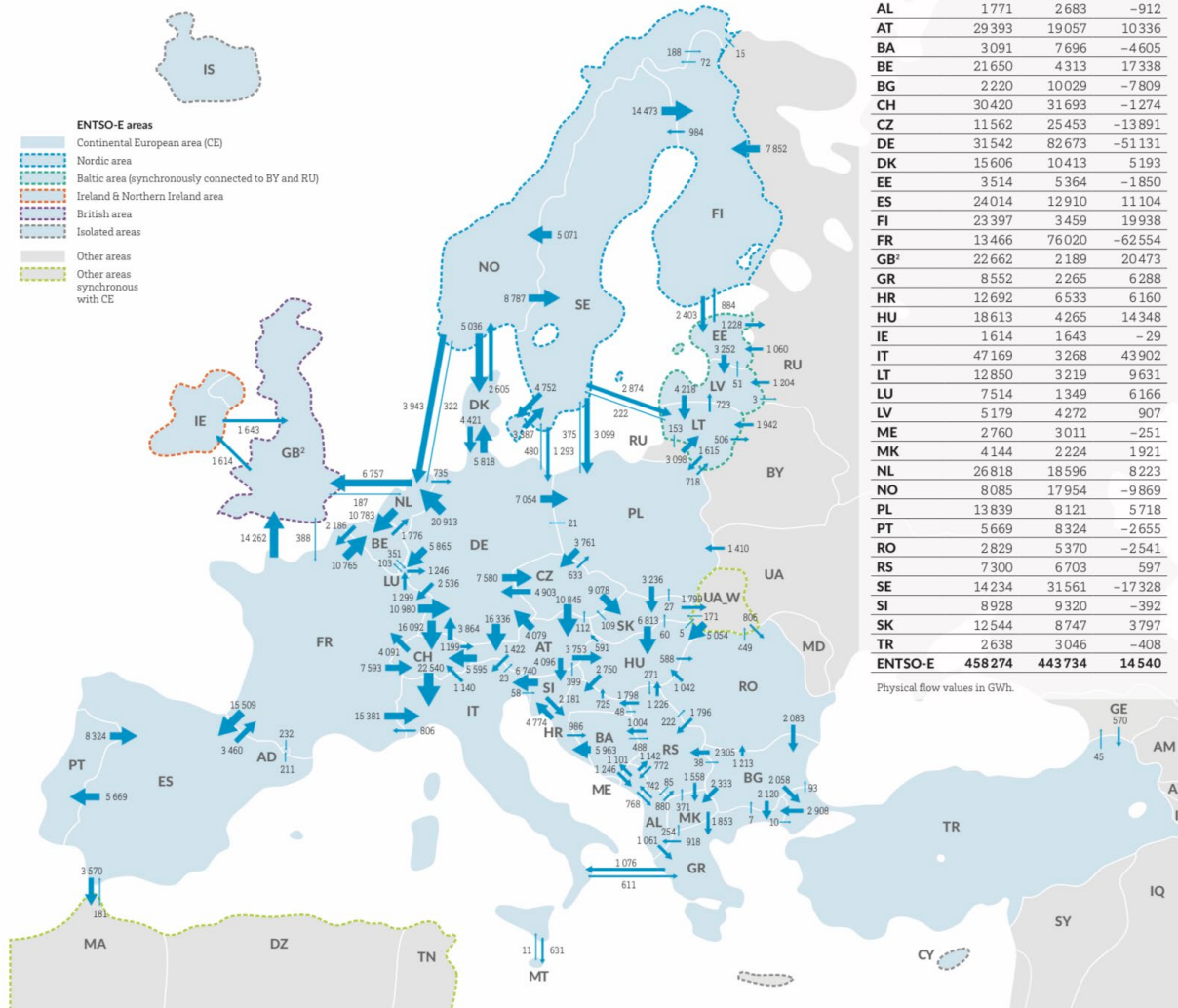


Visit to USS Illinois SSN786 at Yokosuka.



Power Grid Connectivity+ Hydrogen Pipeline: European Collective Energy Security & Sustainability

Physical energy flows



¹ Consolidated yearly values might differ from detailed flow data from the ENTSO-E database due to export consolidation taking into account national statistical resources.

² All data with the country code GB represents monthly statistical data as sum of England, Northern Ireland, Scotland and Wales.

Hydrogen pipeline :European Backbone for 2050

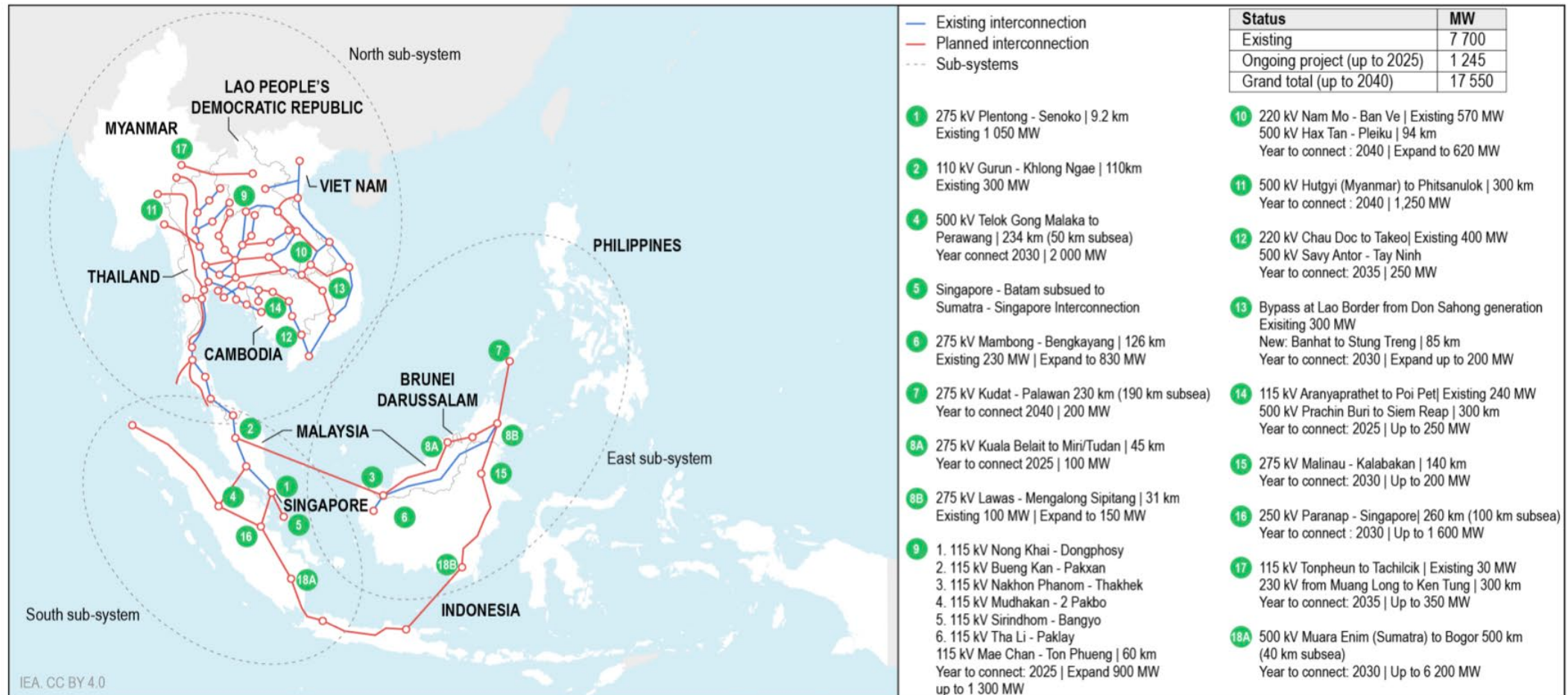


ASEAN Power Grid: the Future

Priorities and implications

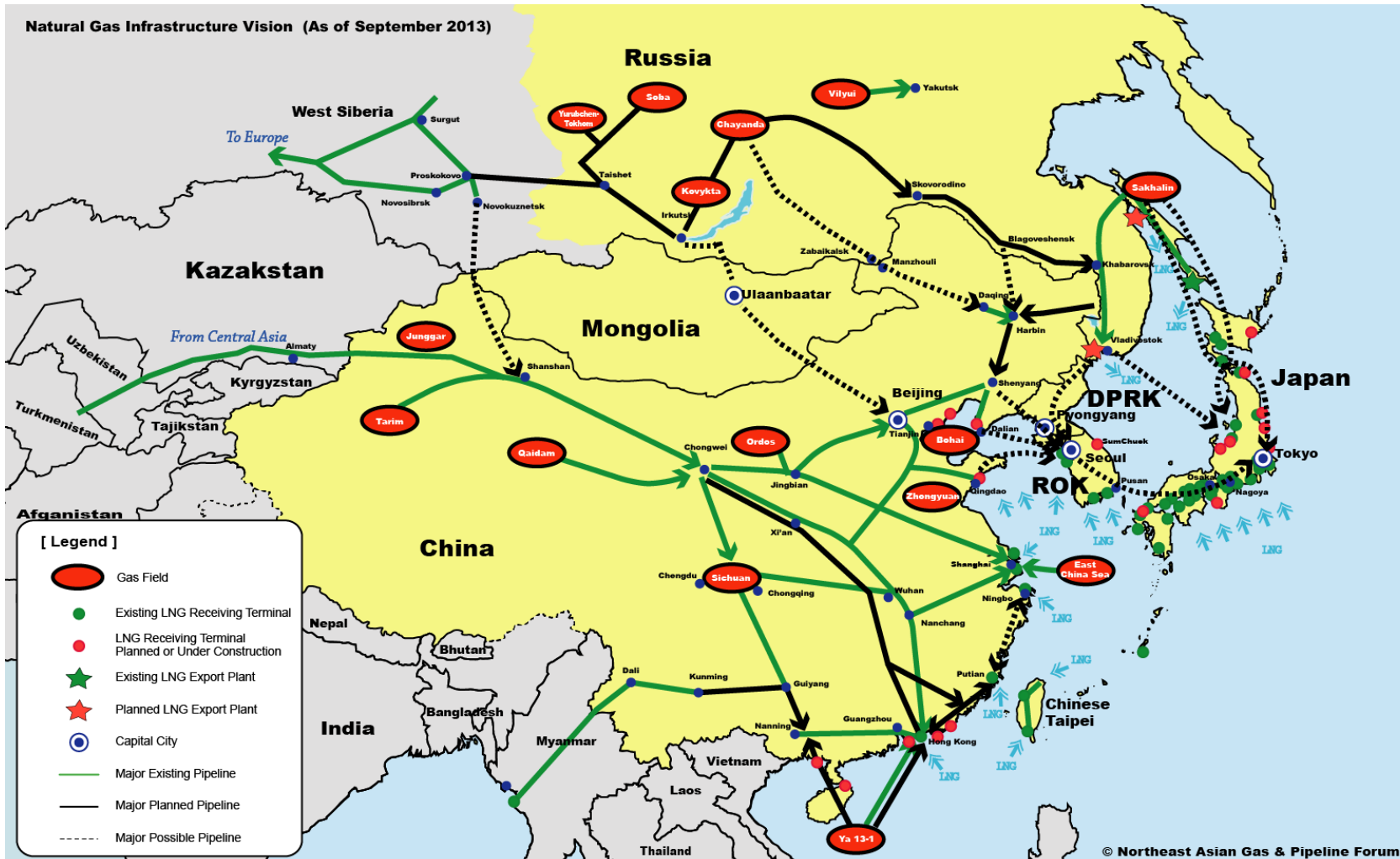
The ASEAN Power Grid seeks to connect all ten countries through several interconnection projects, reflecting regional cooperation in ensuring security of electricity supply

ASEAN Power Grid Map



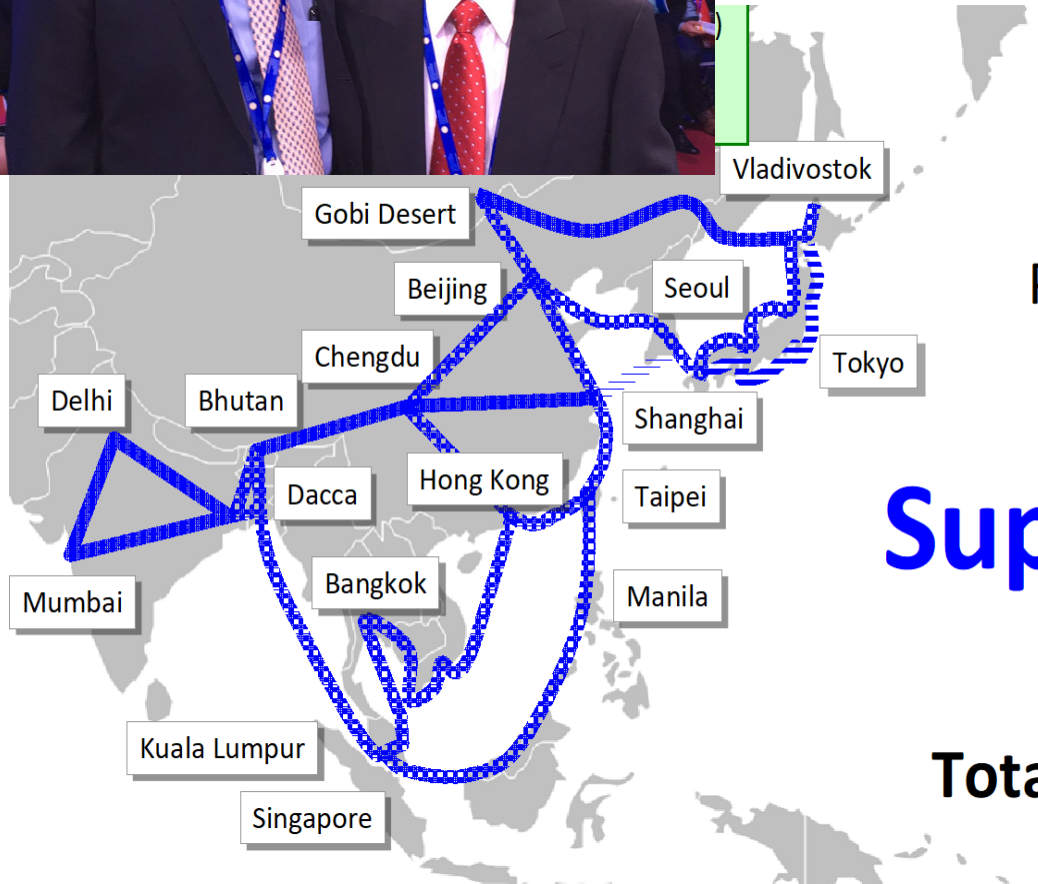
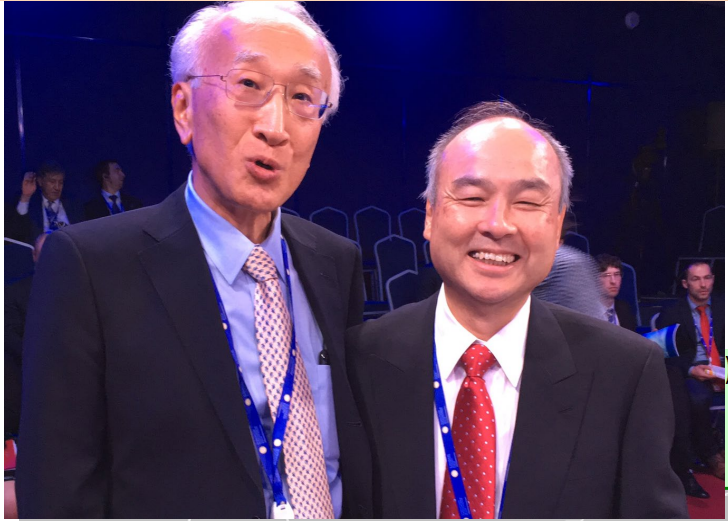
Source: ASEAN Centre for Energy 2024, [8th ASEAN Energy Outlook](#).

Dr. Masaru HIRATA's Northeast Asia Gas Pipeline Infrastructure Forum (NAGPF)



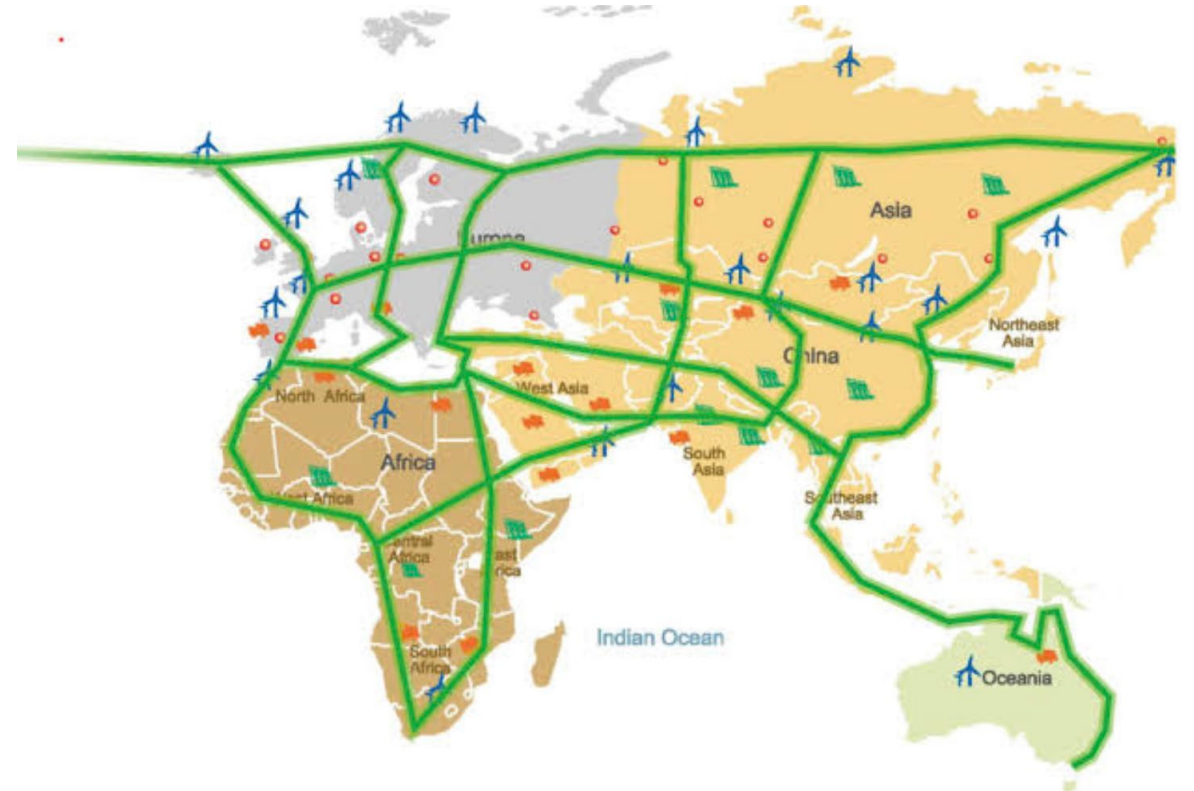
NAGPF should be upgraded to **Northeast Asia Clean Energy Platform (NACEP)** including Grid Connection and Hydrogen Pipeline

Electro-states be connected: Energy for Peace in Asia



Phase 3 Asia Super Grid

Total 36,000km



**Global Energy
Interconnection
Development and
Cooperation Organization
(GEIDCO)**

Presentation by Mr. Masayoshi SON



Global Total

304

million migrants

Top Countries of Origin (in millions)

			as % of total population
	India	18.5	1.3%
	China	11.7	0.8%
	Mexico	11.6	8.9%
	Ukraine	9.8	25.8%
	Russia	9.1	6.3%
	Syria	8.9	36.0%
	Bangladesh	8.7	5.0%
	Venezuela	8.3	29.2%

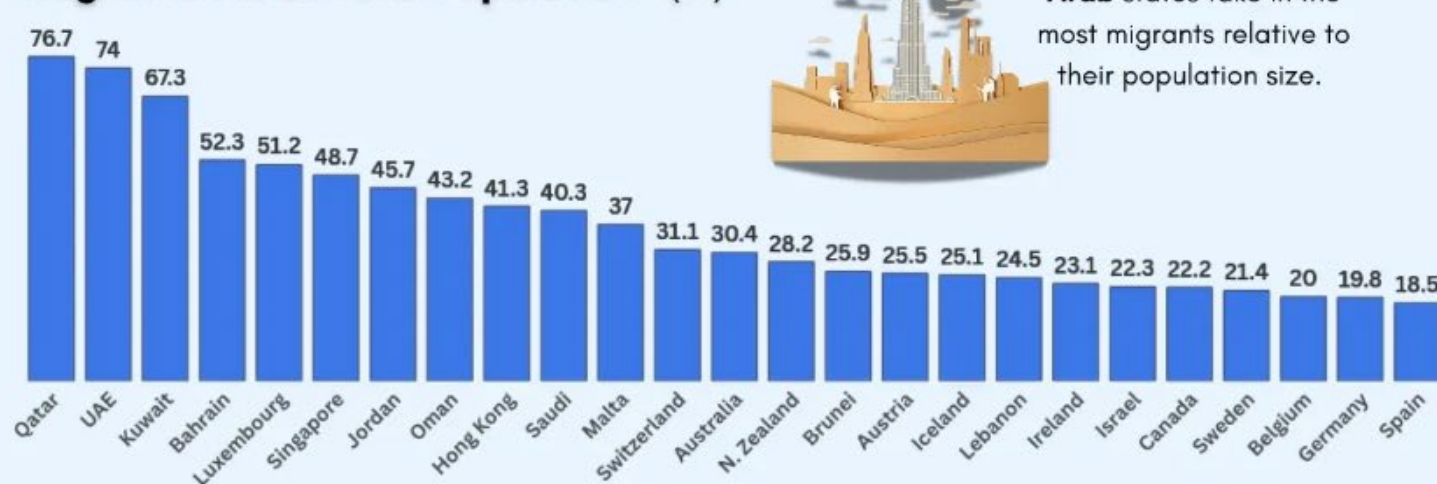
If **India** and **China** were to send out a million migrants each to every country, they would still have more than a billion people back home!

Severe economic problems in **Venezuela** have led to a high level of emigration, comparable to a country at war.

Top 25 Countries by Number of Migrants (in millions)



Top 25 Countries by Percentage of Migrants out of Total Population* (%)



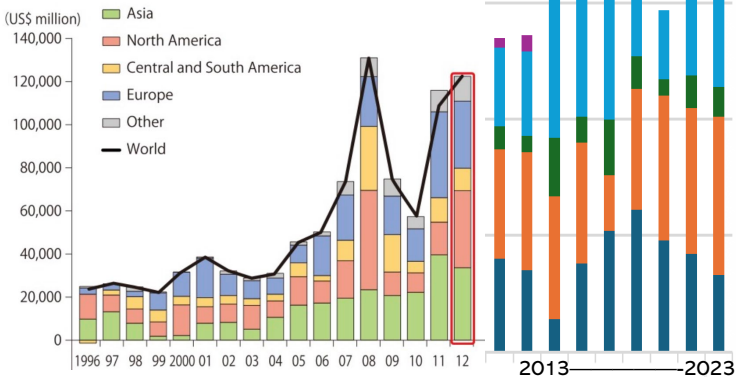
*Ranking excludes microstates with population below 300k

Source: United Nations Department for Economic and Social Affairs & Migration Data Portal, 2025

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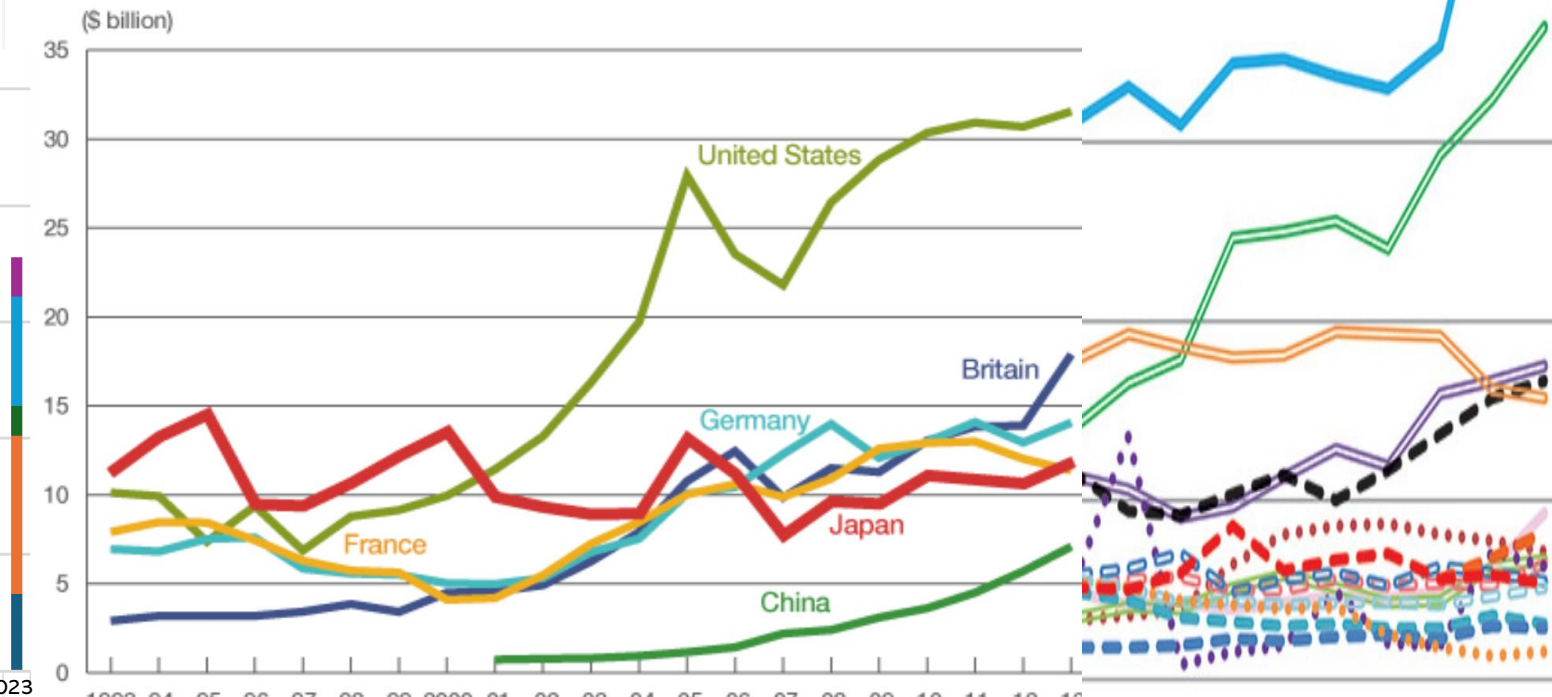
Japan and Asia: Historical Perspective after the WW2

Changes in Japan's outward FDI by region



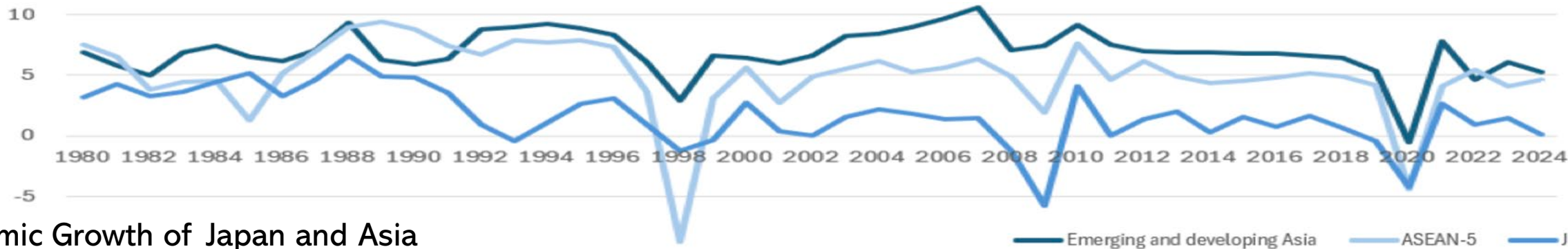
Japan's Outward Investment
to regions

Net Development Assistance from Leading Donors and Estimate
Foreign Aid from China



Note: Figures for 2013 are provisional. Figures for Chinese foreign aid are estimated by approximation to the definition of ODA.
Sources: OECD International Development Statistics; Kitano Naohiro and Harada Yukinori,

China's foreign aid as a proxy of ODA:
preliminary estimate 2001-2022
[Naohiro Kitano](#) & [Yumiko Miyabayashi](#)



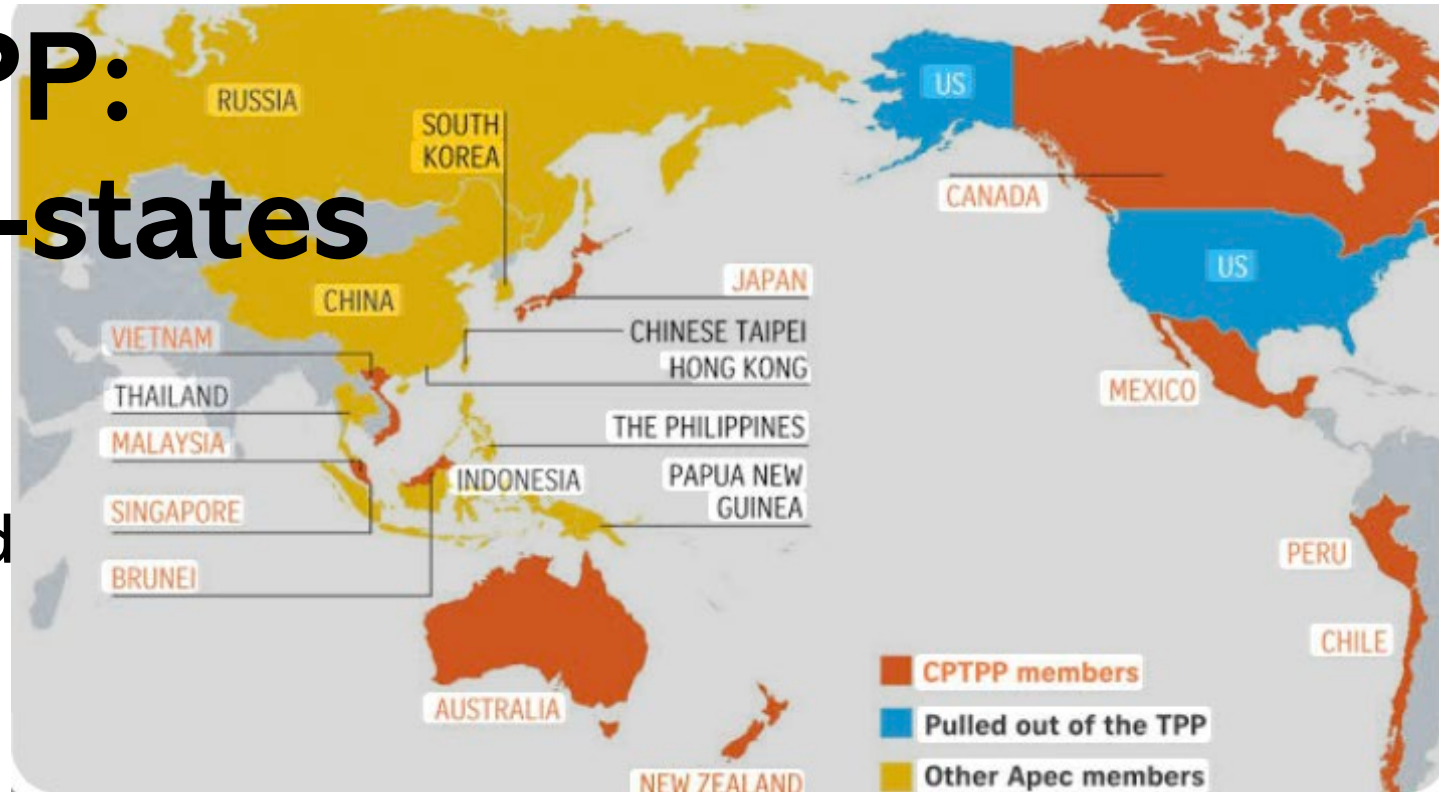
■ Emerging and developing Asia : 日本、韓国、台湾、香港、シンガポールを除くアジア 30 か国
■ ASEAN-5 : 5 か国 (インドネシア、マレーシア、フィリピン、タイ、ベトナム)

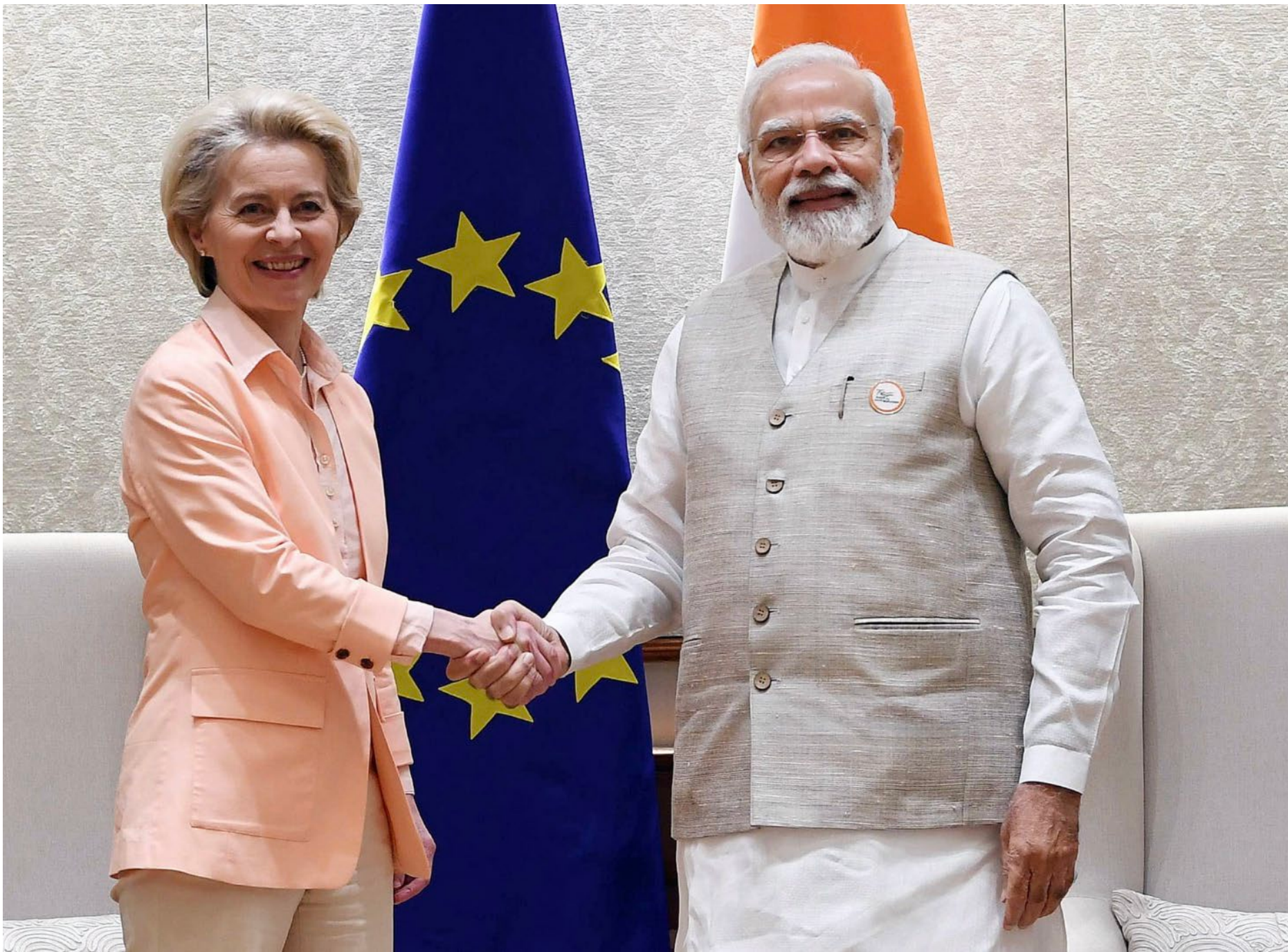
出展： IMF. World Economic Outlook Database. April 2025

Expansion of CPTPP: Alliance of Electro-states

Comprehensive and Progressive Agreement for Trans-Pacific Partnership

- UK joined 2023, Ukraine applied
Why not EU with CBAM
- China and Taiwan applied 2021
- Indonesia applied 2024
- UAE applied, Korea applies soon.
- RCEP (China, Japan, Korea and ASEAN) & India?
- AZEC as Energy Union





Expansion of CPTPP:

Allia

Compre
Trans-P

- UK jo
- Why
- China
- Indo
- UAE
- RCEP
- ASEA
- AZEC

