Tim Buckley, Director CEF
tim@climateenergyfinance.org

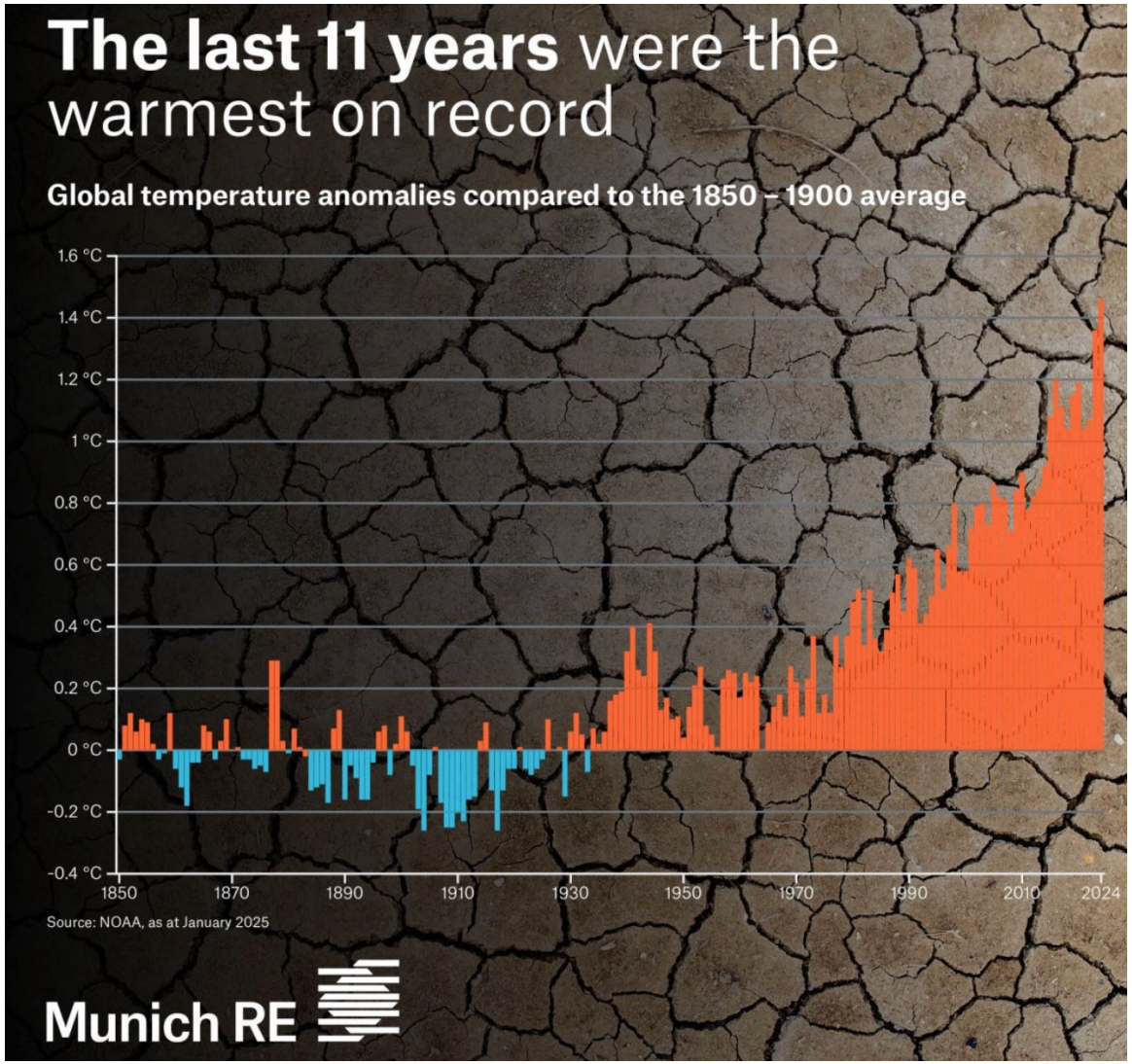
Energy Trends 2026: Wollemi brown paper bag lunch

The Global Energy System Transformation, Led by China, and the implications for Australia.

29 January 2026

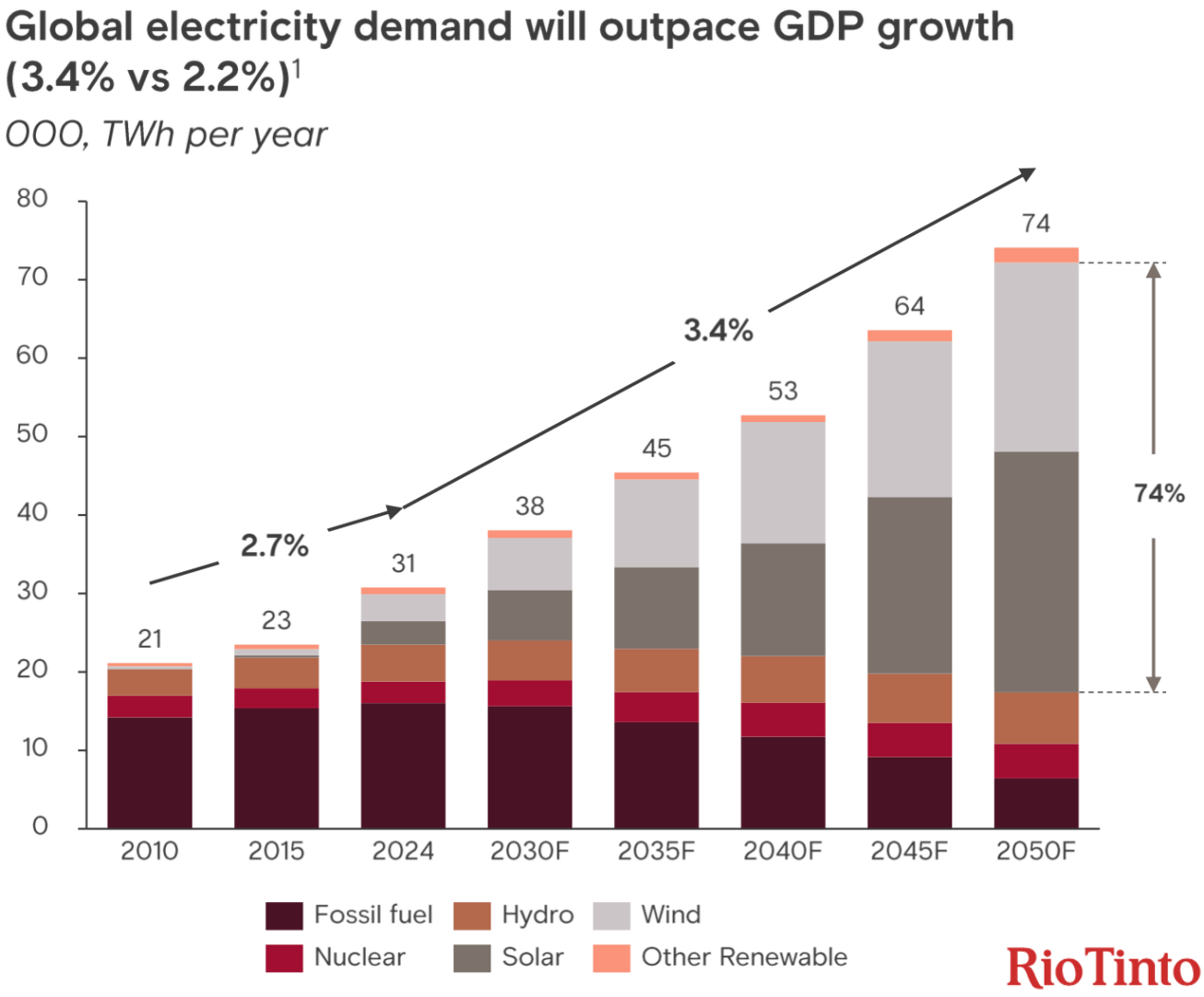
CEF accepts the climate science

CEF is a public interest thinktank with no government or corporate funding



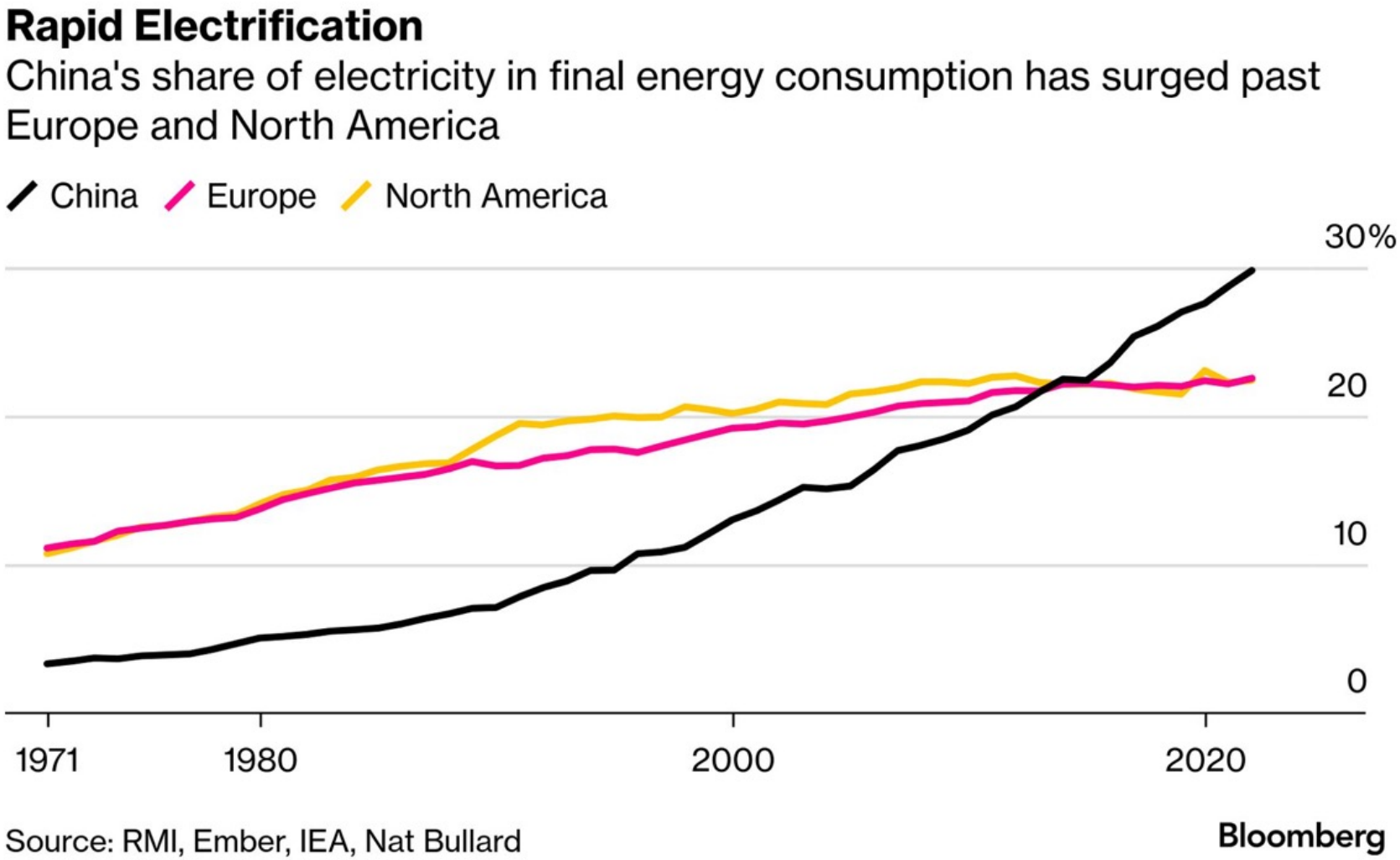
Electrification Accelerates Globally, But China Led

Global electricity demand growth is accelerating (EVs, decarbonisation, AI)



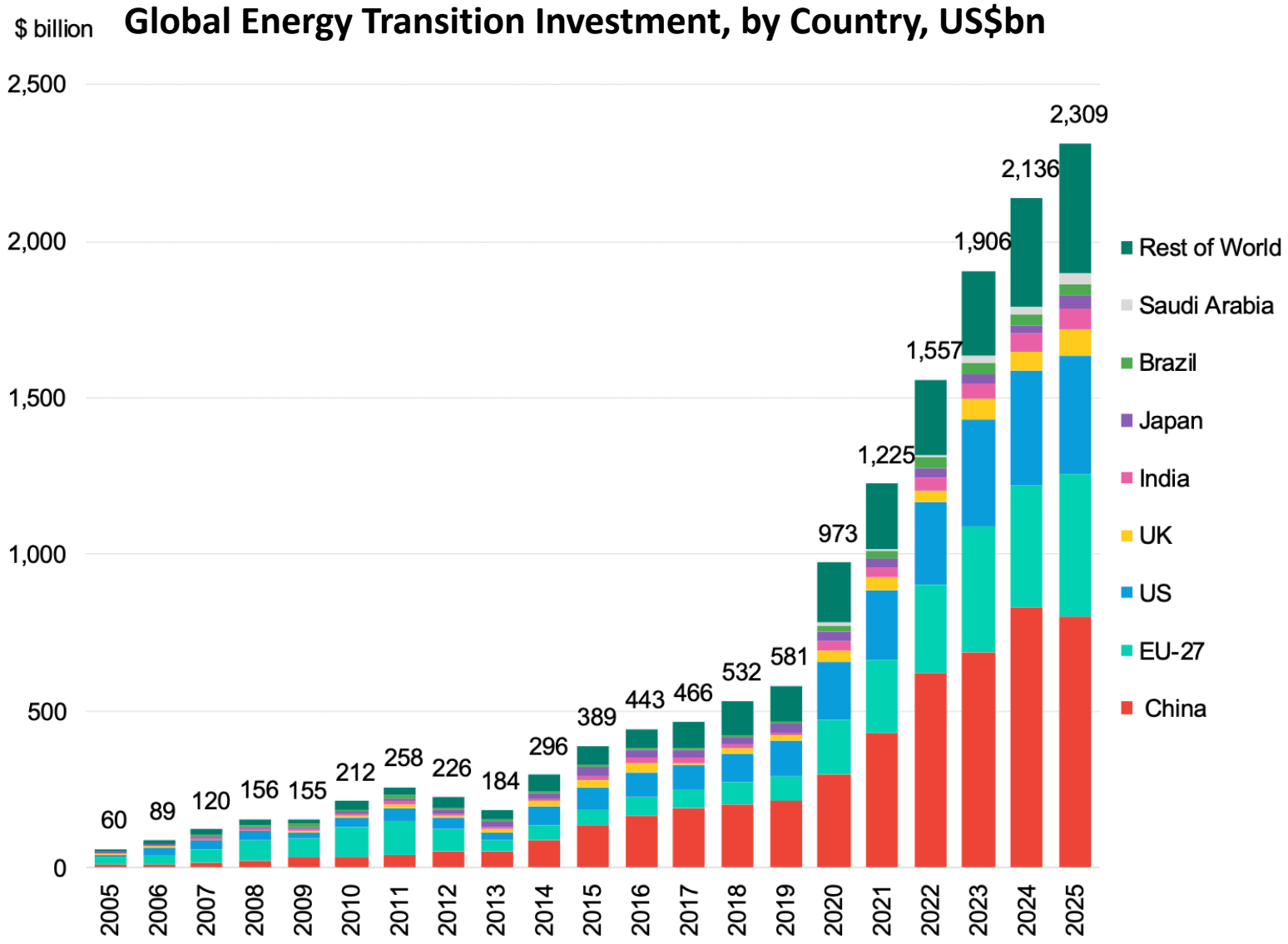
Source: Rio Tinto Economics Team, Presentation December 2025

China is Moving in Decarbonisation, Rapidly



Source: [Nat Bullard Annual Presentation]

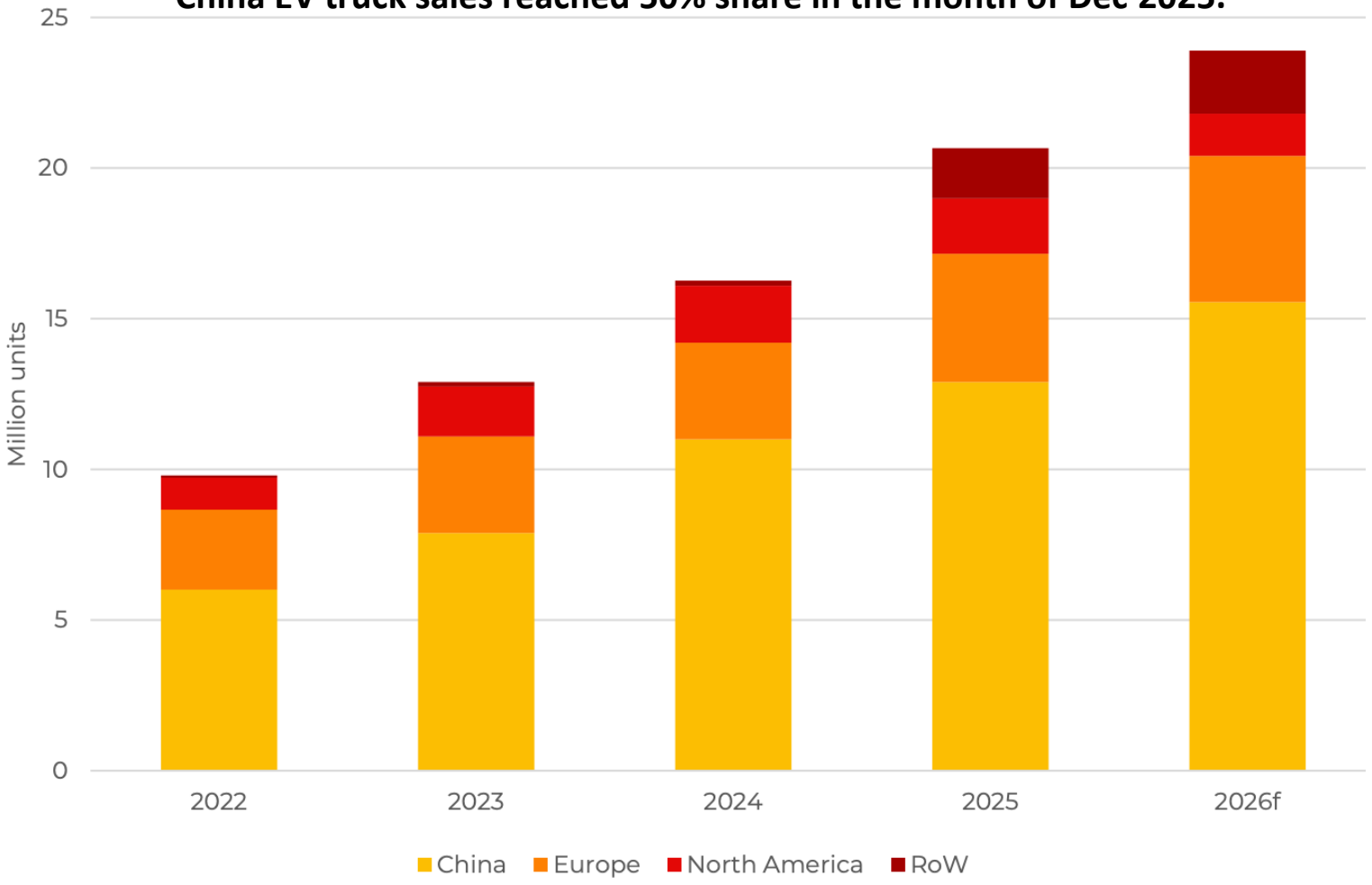
Renewables, EV & Grid outspend Fossil Fuels >2:1



Source: BloombergNEF, Energy Transition Investment Trends, January 2026

Electric Vehicle Boom Continues Globally, But China Led

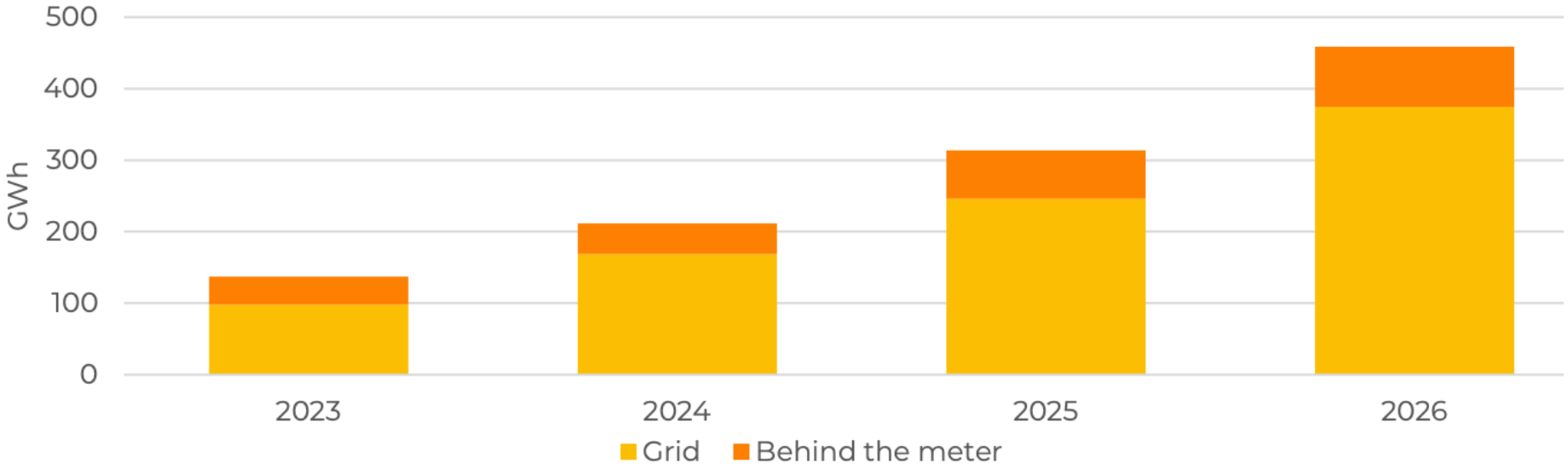
Overall passenger EV sales in 2025 totaled 20.7 million units, +20% yoy.
BMI forecasts 2026 growth to 23.9 million units.
EU EV sales reached 50% share in the month of Dec'2025.
China EV truck sales reached 50% share in the month of Dec'2025.



Benchmark Minerals Intelligence, A Turning Point for Critical Materials? January 2026

Battery Boom Accelerates Globally, But China Led

In 2025, BESS was the fastest growing battery demand market, with 315GWh installed across the grid and behind the meter (BTM) markets. In 2026, BESS is set for another record year, with BMI forecasting 450GWh set to enter operation globally. BESS system pricing hit new lows with project tenders in China hitting US$63/kWh

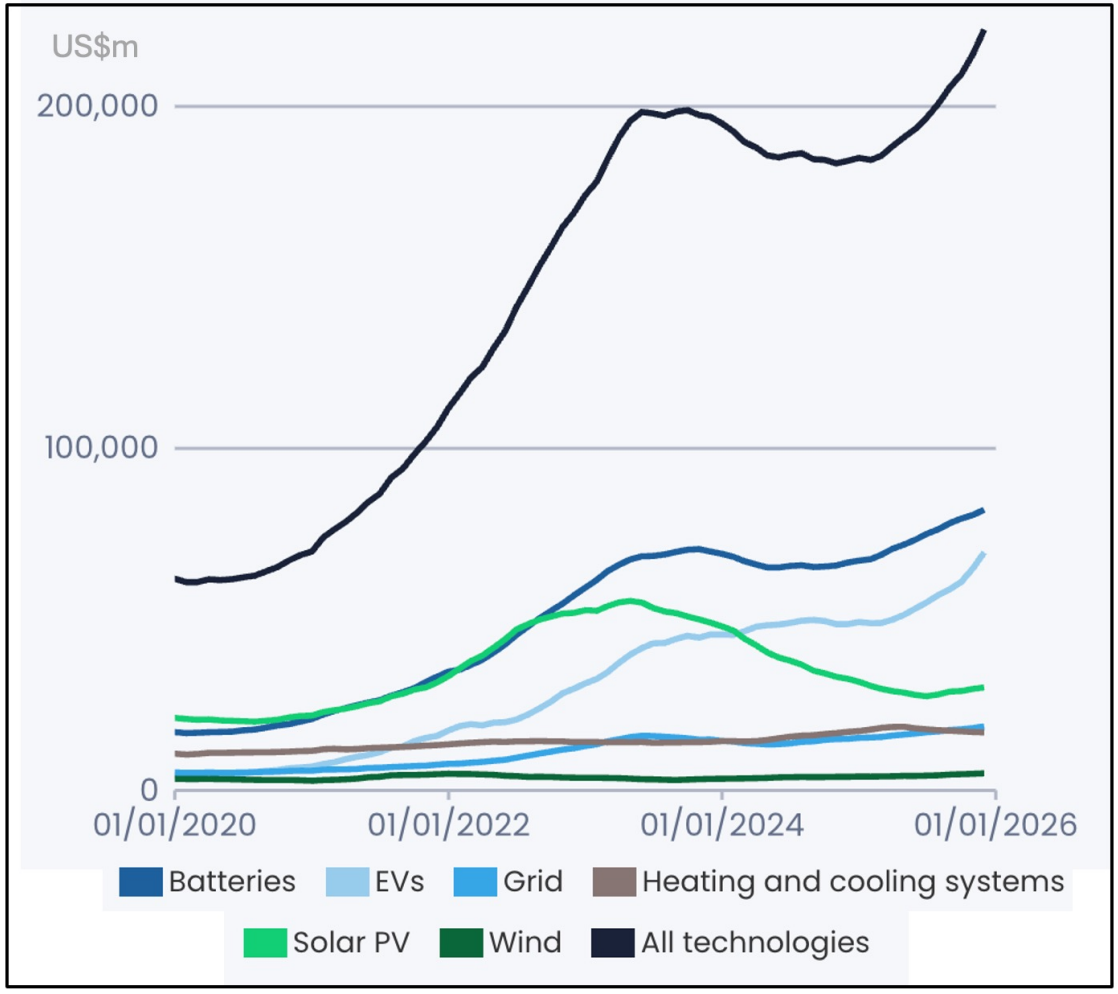


Source: Benchmark BESS Forecast

Benchmark Minerals Intelligence, A Turning Point for Critical Materials? January 2026

China Leads the World in terms of Cleantech Exports

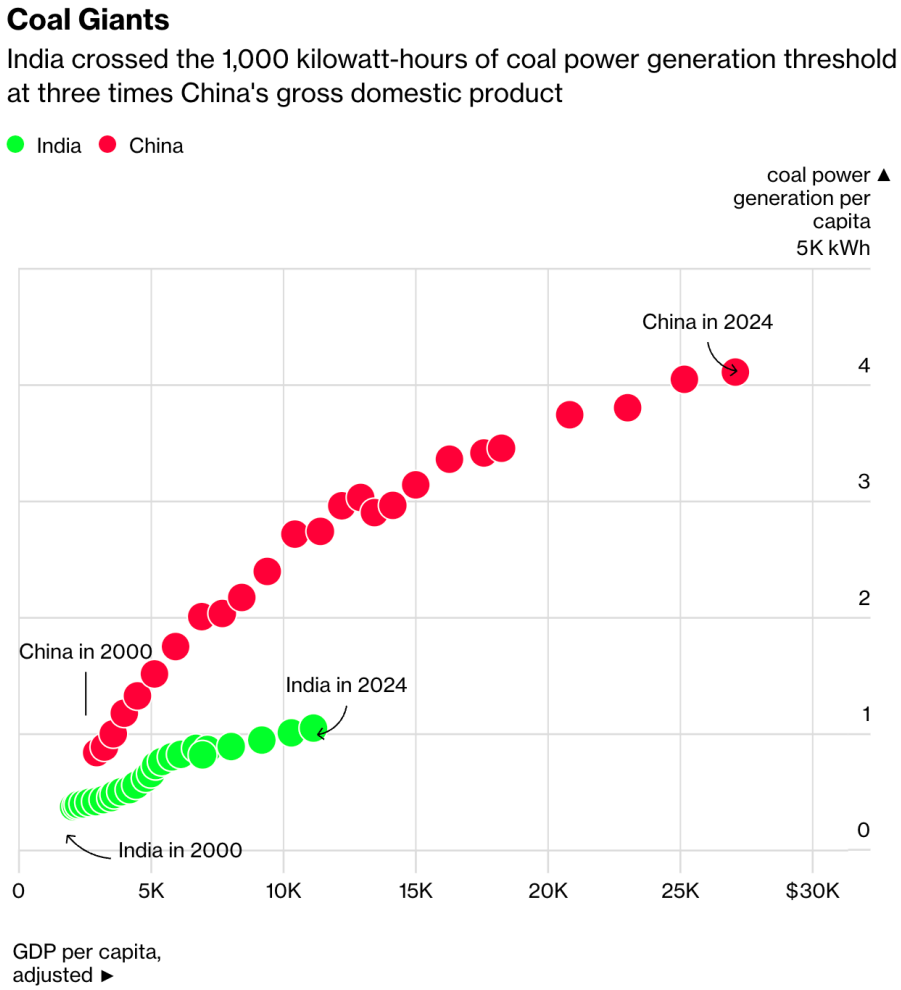
China's Cleantech Exports Continue to Surge (12-month rolling, US$m), despite or driven by ongoing unit price deflation, and technology improvements.



Source: China's General Administration of Customs, EMBER

India is adopting Zero Emissions Solutions, Fast

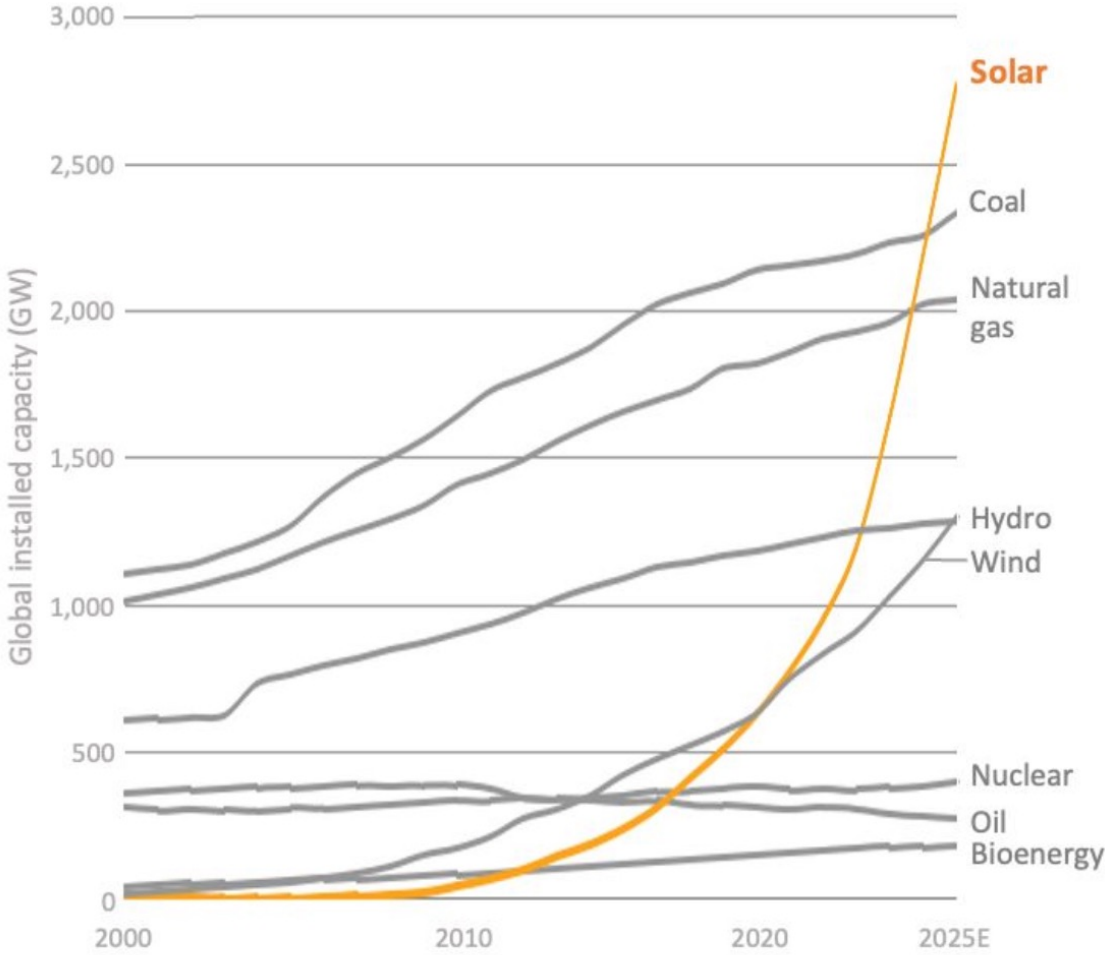
India is well behind China in terms of economic development, but the path is very different, and less energy / emissions intensive.
India added 48GW of RE in CY2025 (+70% yoy)



Source: EMBER, World Bank, January 2026

Batteries & then V2G turbocharge the Solar Disruption

Solar has gone from the smallest to the largest source of capacity (not generation) globally in just 15 years



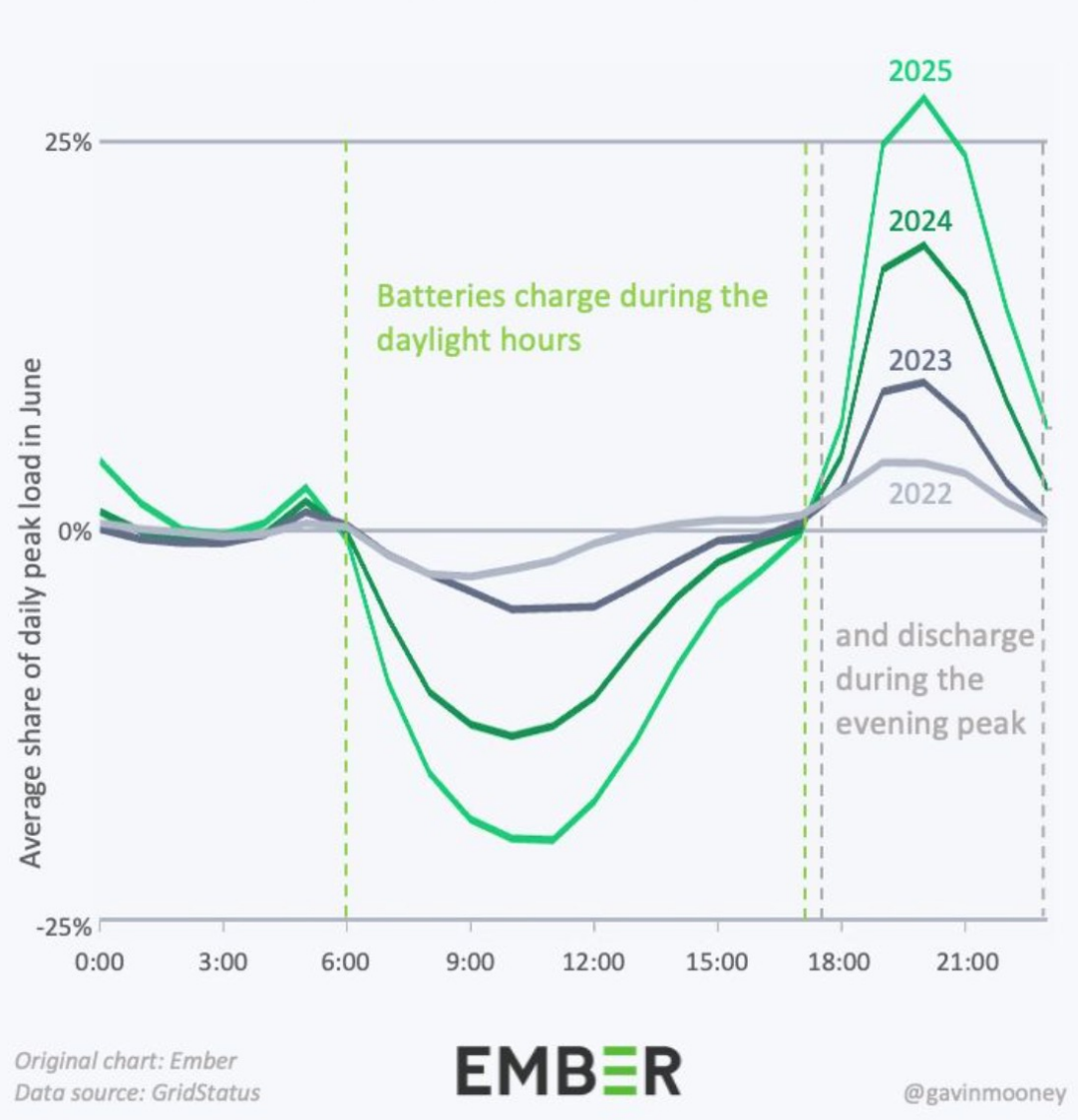
Source: Gavin Mooney, Kaluza, EMBER, BNEF. September 2025

EMBER

@gavinmooney

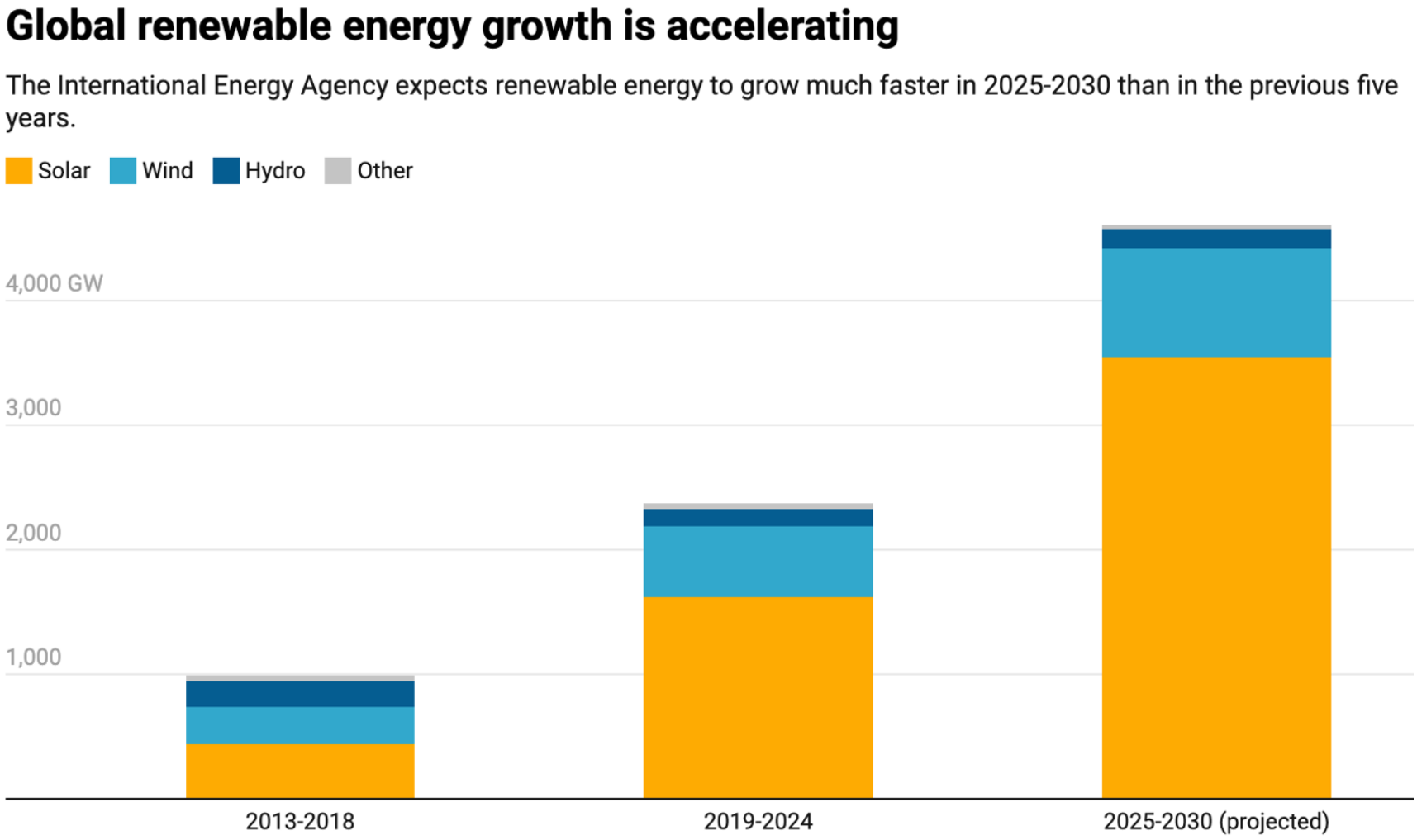
Global Cleantech Investment is Accelerating

Solar + BESS + V2G => Accelerated Energy System Transformation: California



Source: Gavin Mooney, Kaluza

Global Cleantech Investment is Accelerating



Source: International Energy Agency

China is Moving in Decarbonisation, Rapidly

China is still adding flexible coal power plants (too much!), but utilization rates are down to average just 47% in CY2025, balancing ever more VRE! China deployed 446GW of renewable energy capacity in CY2025, +20% yoy. China deploys as much VRE every 5 days as Australia does each year.

New Capacity Installed in China in CY2025 (GW)

Gigawatts (GW)	Dec'2025 Total Capacity	Jan-Dec'25 Net Adds	% Share of new adds	% yoy change in net adds	Dec'25 Net Adds for month
Fossil Power	1,539.0	95	17%	75%	16.8
Hydropower	448.0	12	2%	-16%	3.1
Nuclear Power	62.5	2	0%	-58%	-
Wind Power	640.0	119	22%	50%	37.4
Solar Power	1,201.7	315	58%	14%	40.5
Total capacity	**3,891.3**	**543**	**100%**	**27%**	**97.8**
Renewable Energy adds		446	82%	20%	81.0
Zero Emissions Capacity Adds		448	83%	20%	81.0

Source: National Energy Administration; CEF Estimates

China is Moving in Decarbonisation, Rapidly

China's coal power generation in CY2025 was -0.9% yoy. Not a dramatic decline, but pivotal relative to 5.3% yoy overall electricity demand growth – electrification of everything, and >100% of new generation from zero emissions sources.

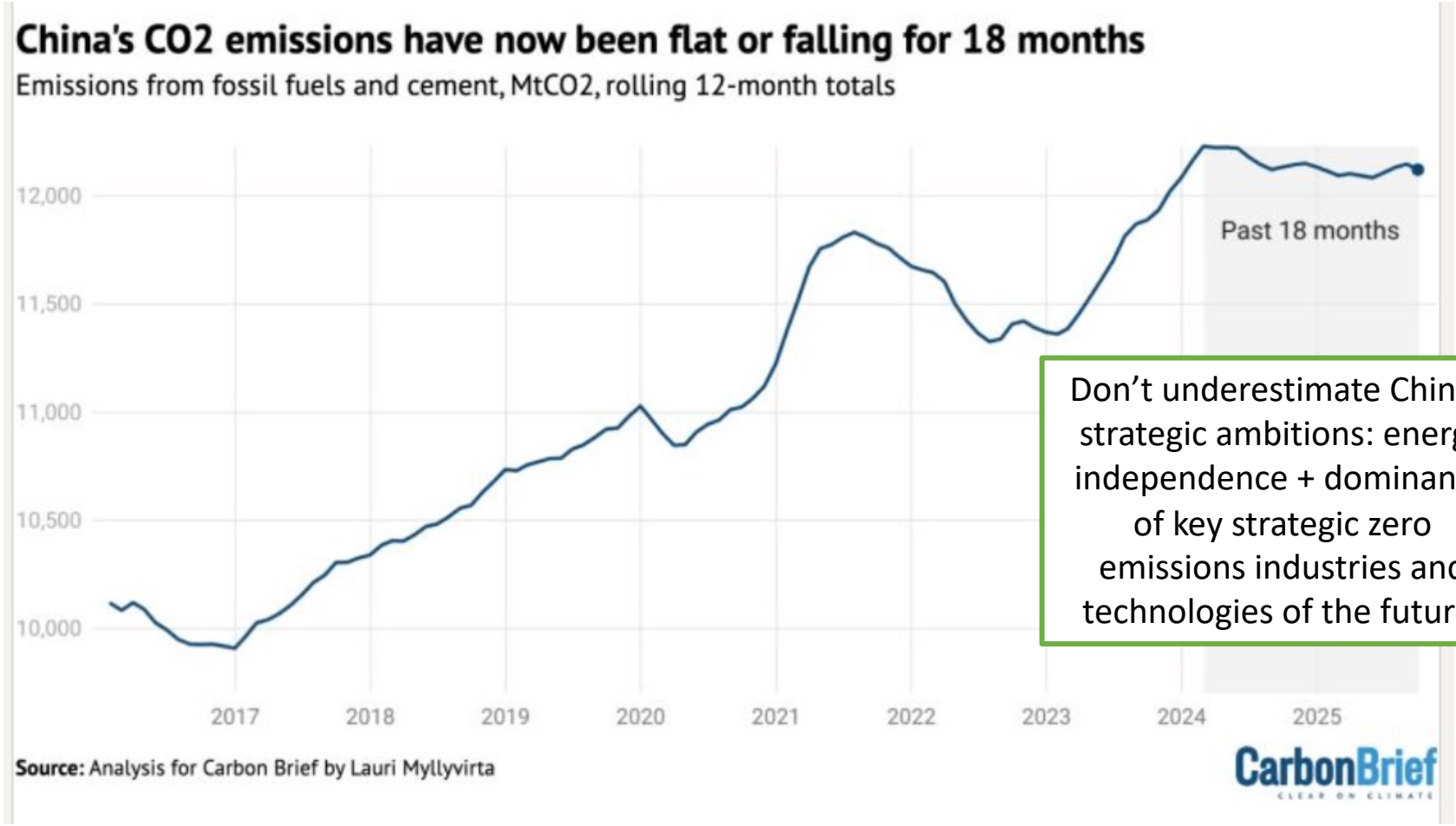
China's Power Generation Year-to-date December 2025 (TWh)

TWh	Jan-Dec 25	Jan-Dec 24	% change yoy	Share of CY25 Generation	Dec-25	Dec-24	% change yoy
Coal	*5,802*	*5,853*	*-0.9%*	*55.6%*	*535.5*	*553.4*	*-3.2%*
Gas	*288*	*283*	*1.8%*	*2.8%*	*27.5*	*26.8*	*2.7%*
Other fossil	*17*	*17*	*1.3%*	*0.2%*	*1.6*	*1.6*	*1.9%*
Thermal	6,107	6,153	-0.7%	58.5%	564.6	581.7	-2.9%
Bioenergy	198	197	0.7%	1.9%	18.8	18.7	0.3%
Hydropower	1,327	1,280	3.7%	12.7%	87.0	83.1	4.7%
Nuclear Power	482	446	7.9%	4.6%	44.8	43.3	3.6%
Wind Power	1,128	993	13.6%	10.8%	114.4	100.4	13.9%
Solar Power	1,193	846	41.0%	11.4%	91.0	64.6	40.8%
Total power generation (TWh)	**10,436**	**9,914**	**5.3%**	**100.0%**	**920.5**	**891.8**	**3.2%**
Variable Renewable Energy	2,321	1839	26.2%	22.2%	205.4	165.0	24.4%
Zero Emissions	4,329	3761	15.1%	41.5%	356.0	310.1	14.8%

Source: Ember; CEF Estimates; Note - this includes distributed energy resource generation

China’s electrification leadership drives decarbonisation

China’s electrification is about energy security i.e. permanently reducing reliance on imported fossil fuels. Combined with lower steel and cement production => national emissions in China have plateaued.



Don’t underestimate China’s strategic ambitions: energy independence + dominance of key strategic zero emissions industries and technologies of the future.

Source: CarbonBrief; https://www.carbonbrief.org/analysis-record-solar-growth-keeps-chinas-co2-falling-in-first-half-of-2025/

China's Global Cleantech Investment Dominance

There's a Race to Power the Future. China Is Pulling Away

Beijing is selling clean energy to the world, Washington is pushing oil and gas. Both are driven by national security.

By David Gelles in New York; Somini Sengupta in Brasília and in Tirunelveli, India; Keith Bradsher in Beijing; and Brad Plumer in Washington June 30, 2025 The New York Times

In China, more wind turbines and solar panels were installed last year than in the rest of the world combined. And China's clean energy boom is going global. Chinese companies are building EV and battery factories in Brazil, Thailand, Morocco, Hungary and beyond.

New York Times 30 June 2025: https://www.nytimes.com/interactive/2025/06/30/climate/china-clean-energy-power.html?unlocked_article_code=1.S08.97P-.69ar3PZIzbe2&smid=url-share#

Climate Energy Finance's new report highlights China's Outbound Foreign Direct Investment in Cleantech has reached >US$200bn since the start of 2023 (up 80% yoy).

During Jan to Oct'2025, China secured 49.2GWh of new orders/projects in Australia, ranking #1 globally in overseas business.

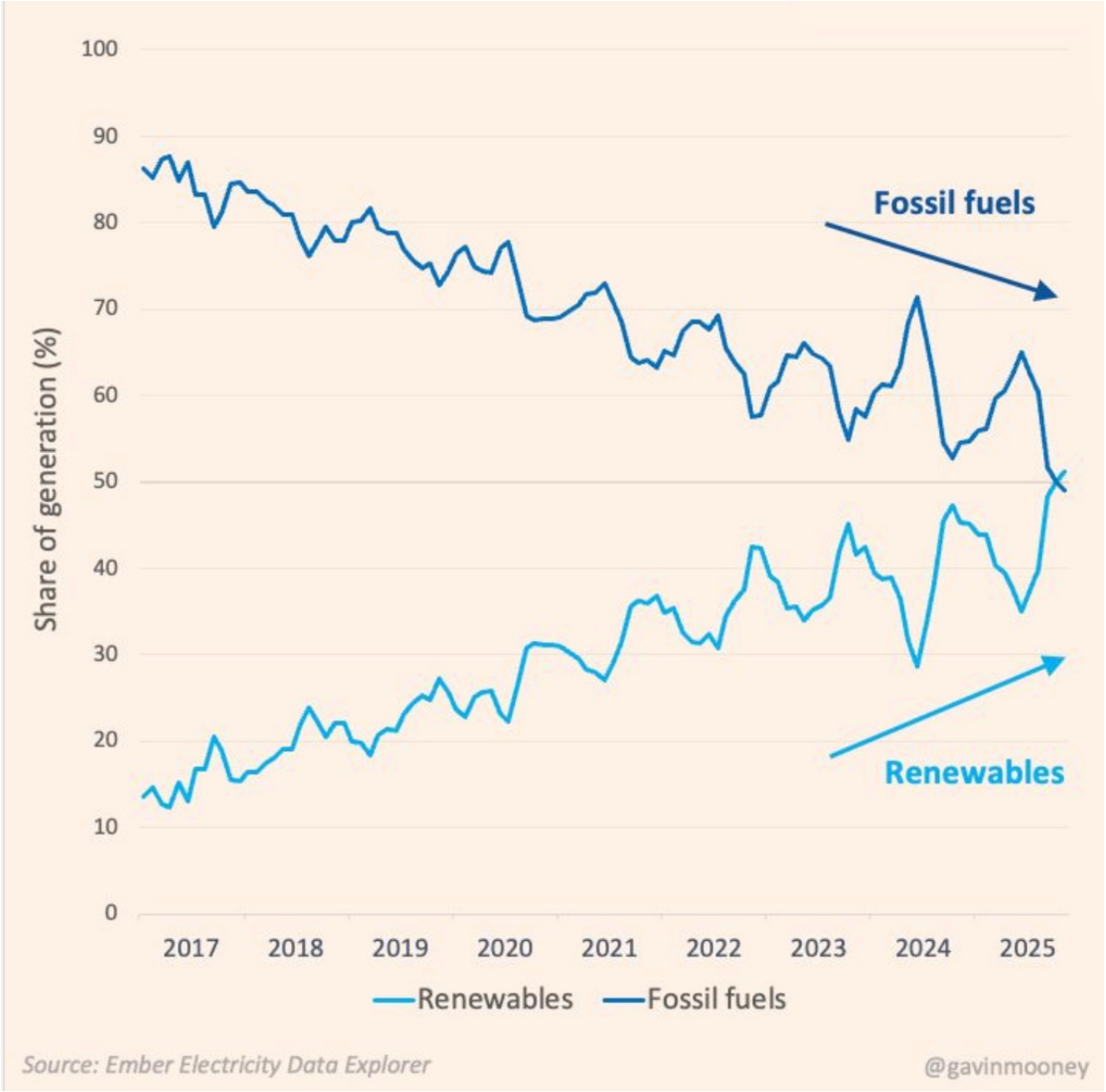
In Australia, Trina Solar is building 3 massive new BESS in WA & Vic, Goldwind is building a $2.5bn 1.4GW wind + BESS hybrid, and SPIC, Jinko Solar and Envision are all planning massive new solar + BESS proposals.

Dec'2025 saw ARENA & NSW Govt award $171m to Dr Zhengrong Shi's Sunman Group to build a 500MW lightweight module factory.

Sept'2025 saw Fortescue partner with China's Envision, LONGi & XCMG Group.

Australia is Half-way to 82% Renewables by 2030

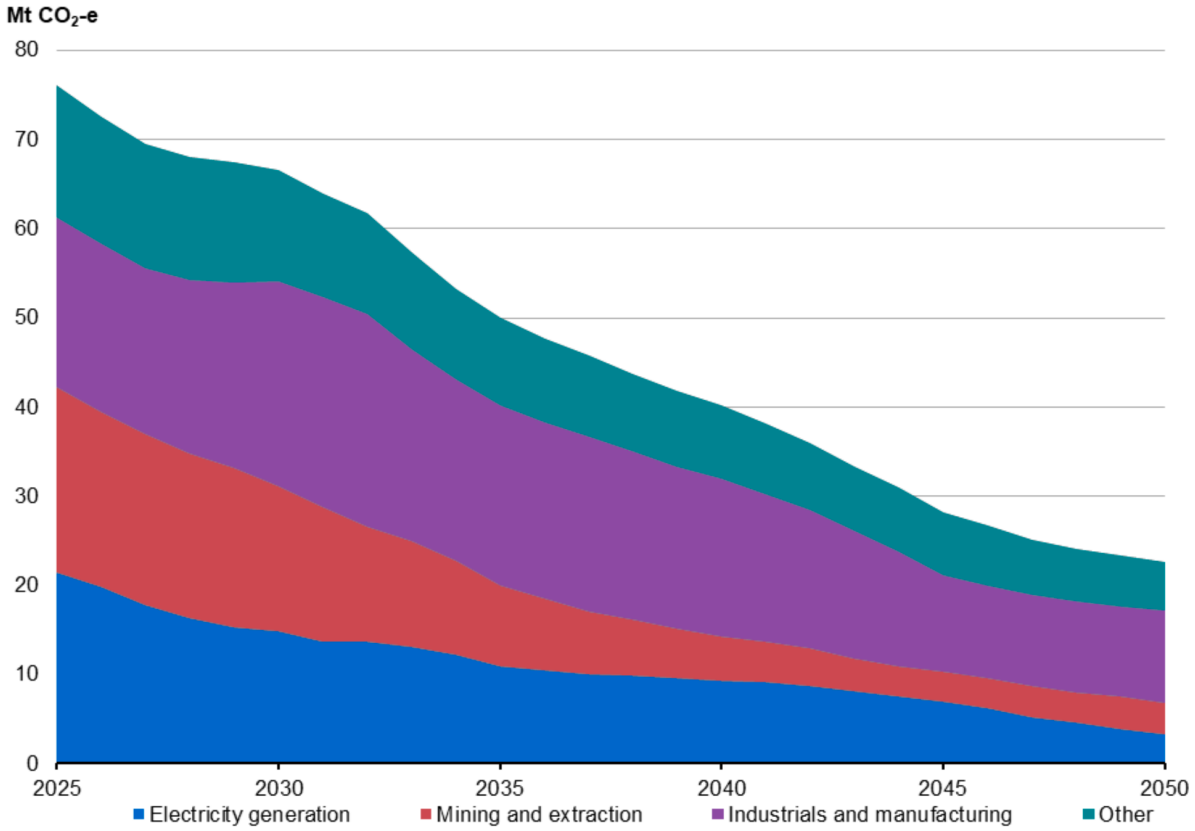
Australia averaged 50.1% renewable share in 4QCY2025



Pivoting from Petrostate to Electrostate

Methane is not a transition fuel – it is a fossil fuel, and in decline

Chart 3.12: Projected emissions from domestic gas use by industry grouping, Baseline Scenario



Note: 'Other' includes agriculture, built environment, and transport industries. Some emissions reduction from the use of gas is achieved via carbon capture and storage technologies.

Source: Federal Treasury, September 2025 https://treasury.gov.au/publication/p2025-700922

Coal Exports will cease when our trade partners stop importing

REPUBLIC OF KOREA AND BAHRAIN JOIN THE POWERING PAST COAL ALLIANCE AT COP30

17 NOV, 2025 | NEWS, PRESS RELEASES

PPCA Powering Past Coal Alliance

Belém, Brazil, 17th November 2025: Today at the UN Climate Summit COP30, the Republic of Korea (RoK) and Bahrain joined the Powering Past Coal Alliance (PPCA), a global coalition of over 180 national and subnational governments, businesses and organisations working to advance the transition from unabated coal power generation to clean energy. This announcement further demonstrates momentum in discussions on how to accelerate the transition away from fossil fuels at COP30.

The Republic of Korea currently operates the 7th largest coal fleet in the world. The share of coal generation has decreased from 42.5% in 2015 to 30.5% in 2024 but still represents a significant source of emissions, and several new coal units have only begun operation in the last few years.

By joining the PPCA, the Korean government has officially announced, for the first time, its commitment to stop building new unabated coal power plants and phasing out existing and unabated coal power plants. Out of 61 existing coal power plants, 40 coal power plants are confirmed to phase out by 2040. The phase out date for the remaining 21 coal power plants will be determined based on economic and environmental feasibility after public discussion, and a specific plan is scheduled to be established next year. The Alliance will support the Korean government in accelerating the phase-out of coal in a way that leaves no worker or community behind and increases economic growth and energy security.

The Korean government has also pledged to work with other members of the PPCA to advance the coal-to-clean transition globally. The Republic of Korea is the second country in Asia to join the PPCA and will play a key role in supporting the transition away from coal power in the Asia-Pacific region.

https://poweringpastcoal.org/news/republic-of-korea-and-bahrain-join-the-powering-past-coal-alliance-at-cop30/

CEF's Report Advocating for Carbon Pricing

Climate Energy Finance
05 June 2025

CLIMATE ENERGY FINANCE

EU ETS carbon price reached €88/t in Jan'2026 as the EU CBAM takes effect.

China is extending its national ETS by 50% to cover heavy industry over 2026-2027.

A Price on Carbon: Building Towards an Asian CBAM

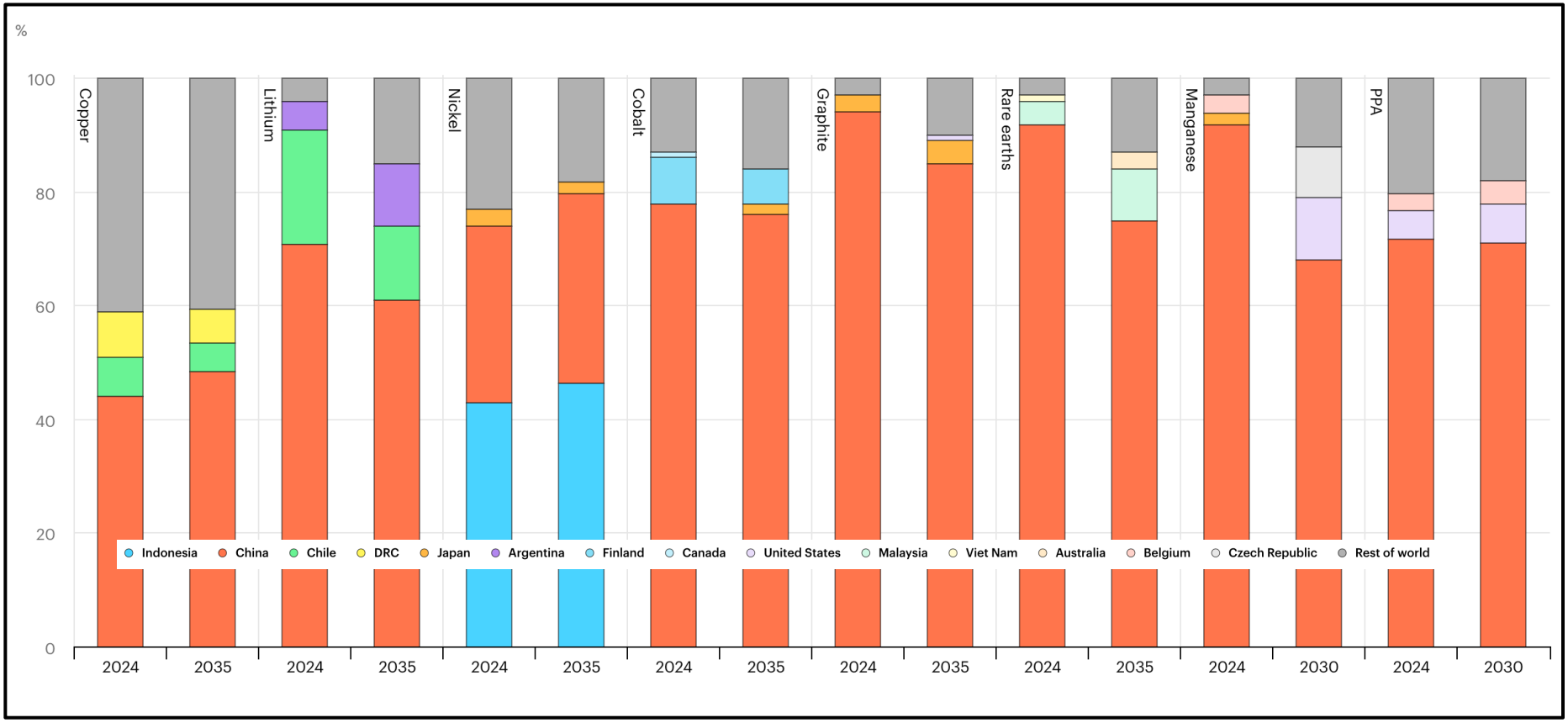
A focus on the harmonisation and integration of carbon pricing mechanisms in Asia-Pacific for the steel, aluminium and cement value chains.

Authors:
Matt Pollard, Net Zero Transformation Analyst, CEF
Tim Buckley, Director, CEF

Source: Climate Energy Finance,
https://climateenergyfinance.org/wp-content/uploads/2025/06/CEF_A-Price-on-Carbon-Building-Towards-an-Asian-CBAM-Report_05June2025.pdf

CEF's Next Report Looks at China's "Going Global" in Critical Minerals and Strategic Metals

China's Growing Dominance of Metals Processing, 2024 vs 2035



Source: *IEA Global Critical Minerals Outlook 2025*