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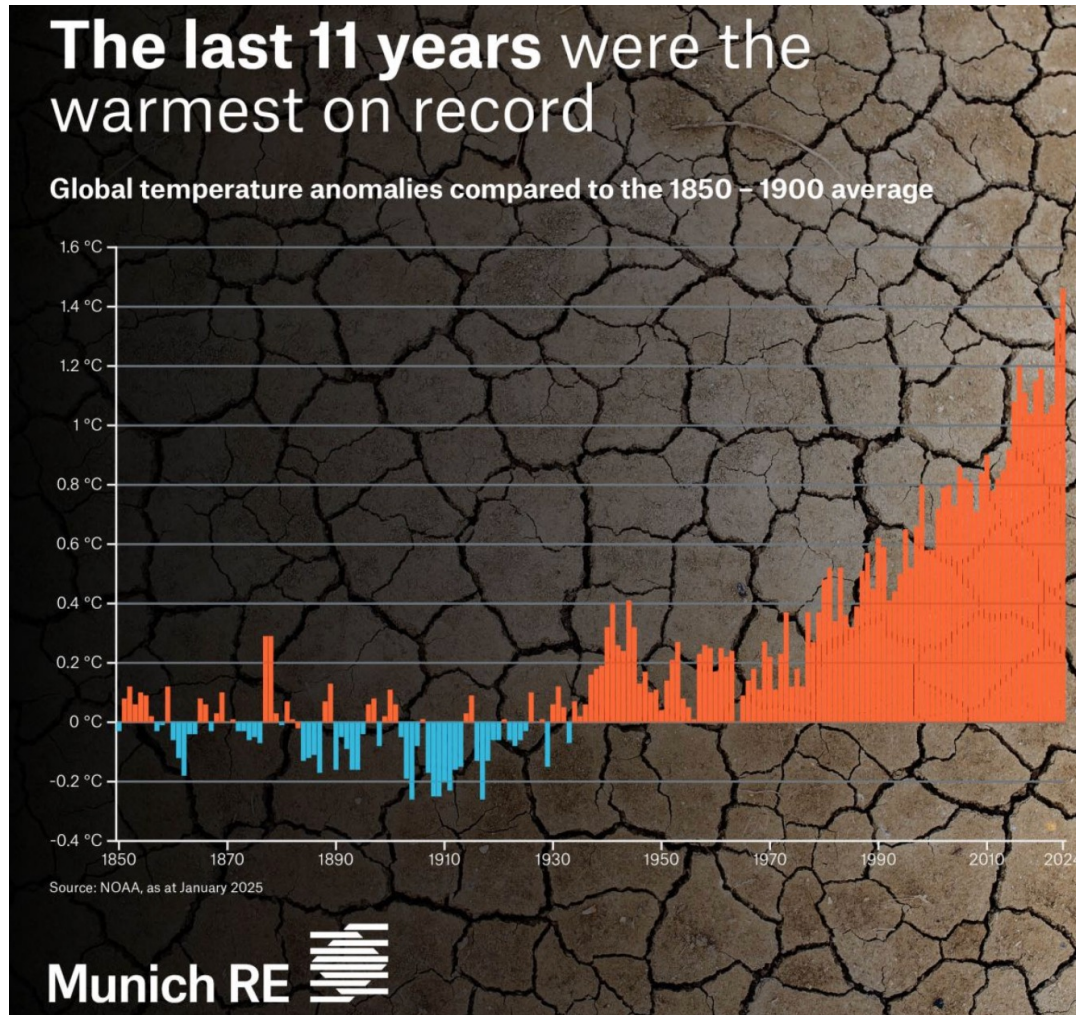
Lock the Gate

The Accelerating Technology Driven Global Energy System Transformation

13 November 2025

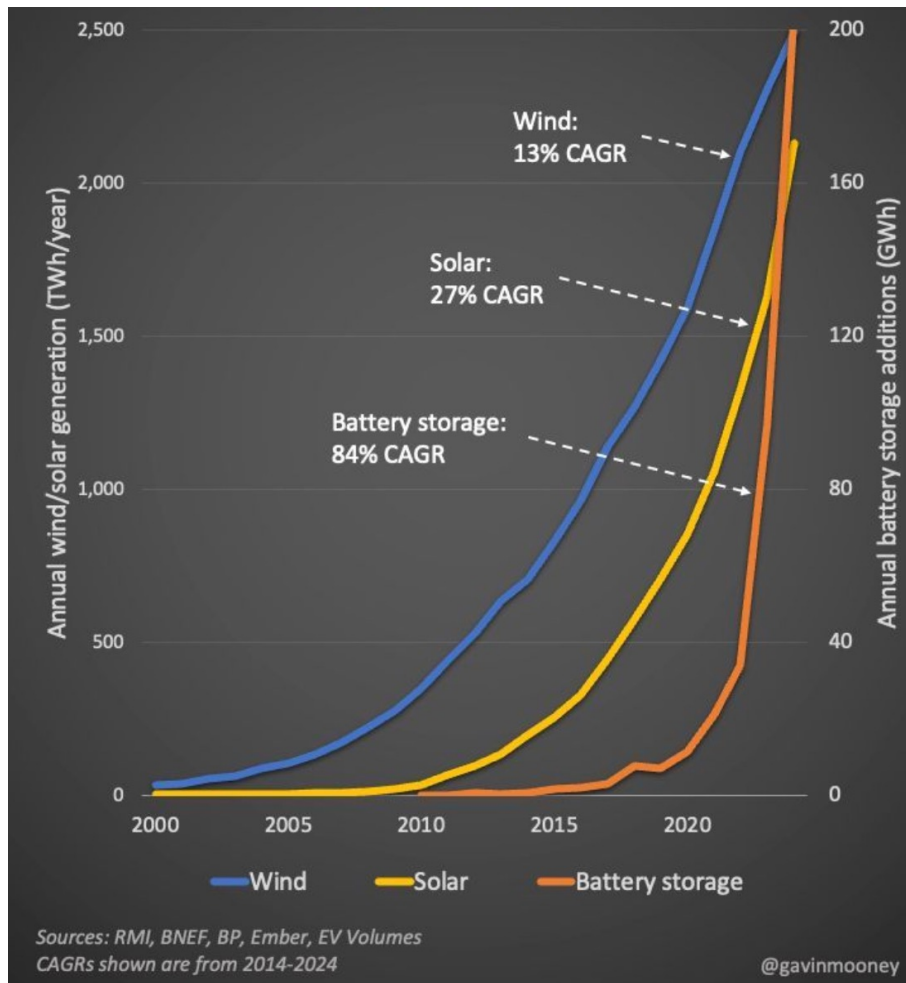
CEF accepts the climate science

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



Global Cleantech Investment is Accelerating

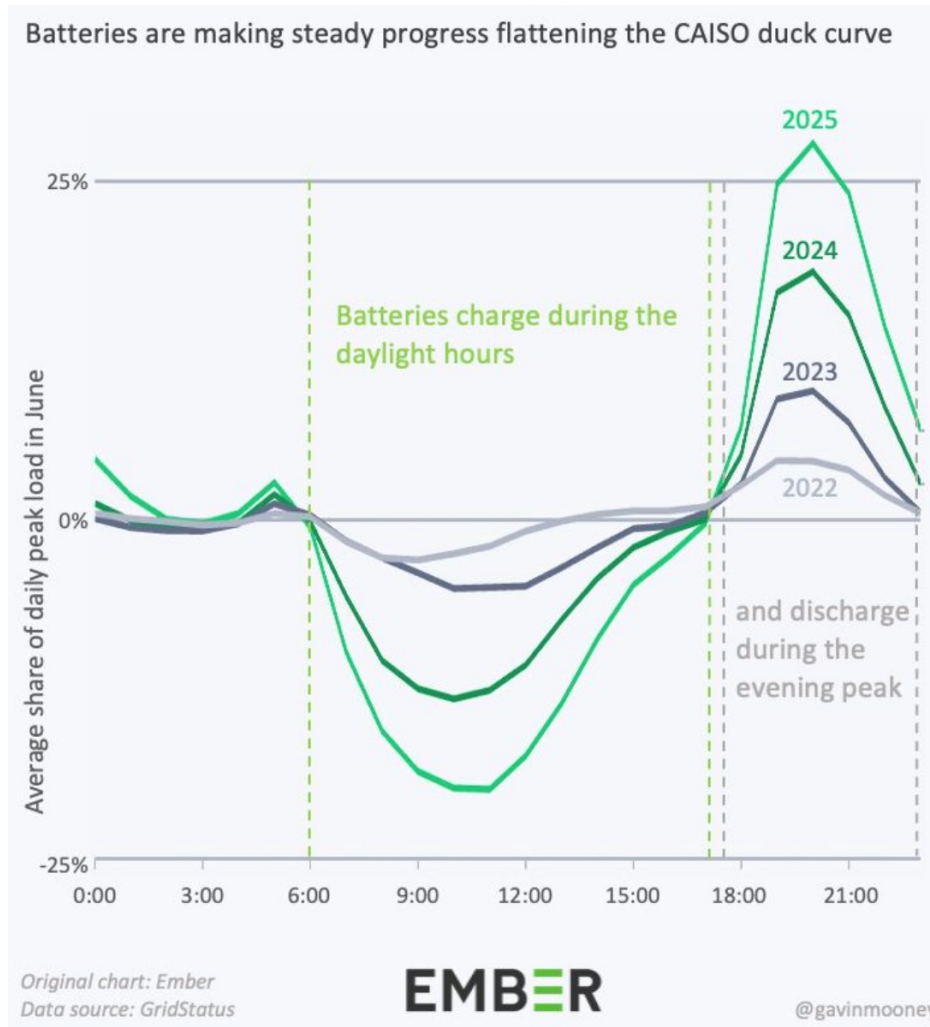
As Battery Prices fell 50% in 2 years, global installations have taken off
Solar + BESS + V2G => Accelerated Energy System Transformation US\$2TRN investment in 2025, double the expenditure on fossil fuels



IRENA 22 July 2025: In 2024, solar PV was, on average, 41% cheaper than the lowest-cost fossil fuel alternatives, while onshore wind projects was 53% cheaper. Onshore wind remained the most affordable source of new RE electricity at US\$34/MWh, followed by solar PV at US\$43/MWh.

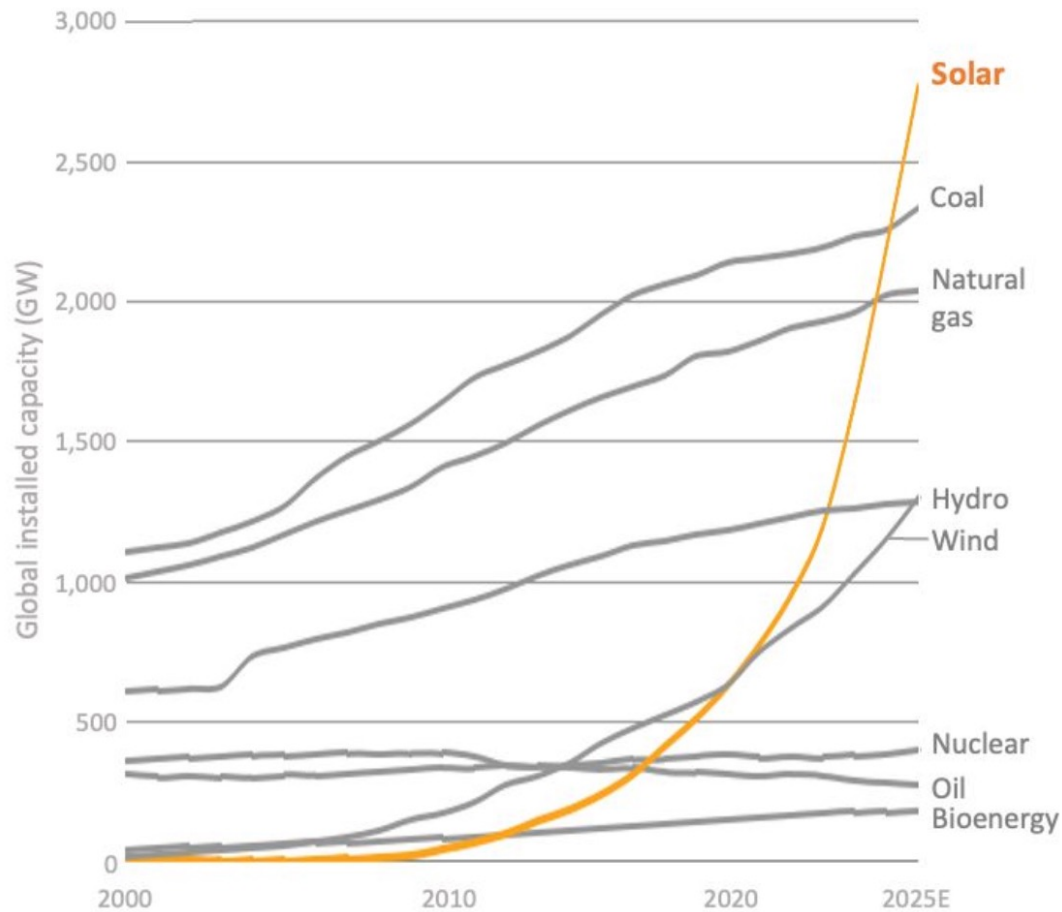
Global Cleantech Investment is Accelerating

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



Global Cleantech Investment is Accelerating

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



China is Moving in Decarbonisation, Rapidly

China is still adding flexible coal power plants (too much!), but utilization rates are down to average just 45% in 8MCY2025, balancing ever more VRE! China deployed 295GW of renewable energy capacity in 8M to-date CY2025.

China deploys as much wind 4 days as Australia does each year.

New Capacity Installed in China in Jan-Aug 2025

		Jan-Aug 25	% Share of new adds	% yoy change	Aug-25	% Share of new adds
Fossil Power	GW	50	14%	74%	7.9	39%
Hydropower	GW	7	2%	4%	1.0	5%
Nuclear Power	GW	-	0%	0%	-	0%
Wind Power	GW	58	17%	72%	4.2	20%
Solar Power	GW	231	67%	65%	7.4	36%
Total capacity added	GW	345	100%	64%	20.4	100%
Renewable Energy adds	GW	295	86%	64%	12.5	61%
Zero Emissions Capacity Adds	GW	295	86%	63%	12.5	61%
YTD power grid investment	US\$bn	53		14%		

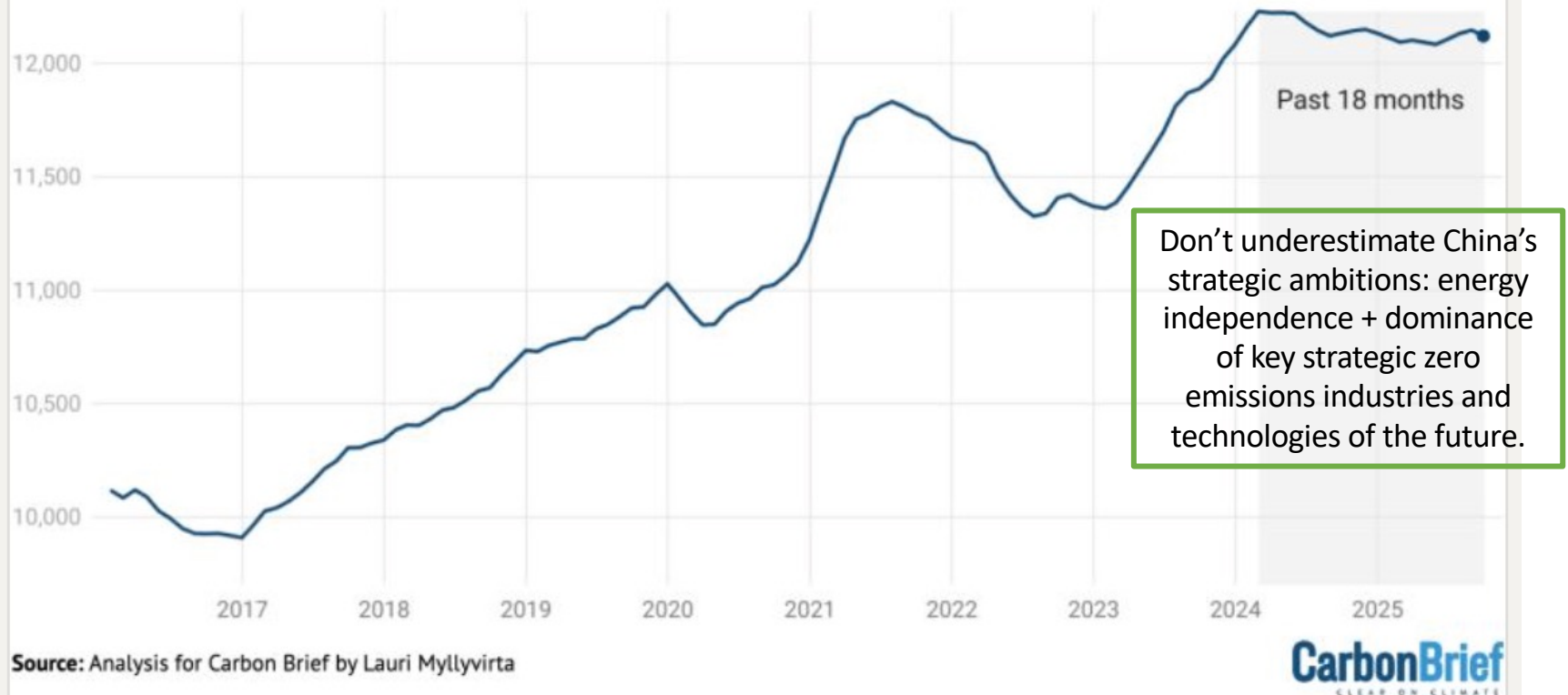
Source: National Energy Administration; CEF Estimates

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.

China's CO2 emissions have now been flat or falling for 18 months

Emissions from fossil fuels and cement, MtCO₂, rolling 12-month totals

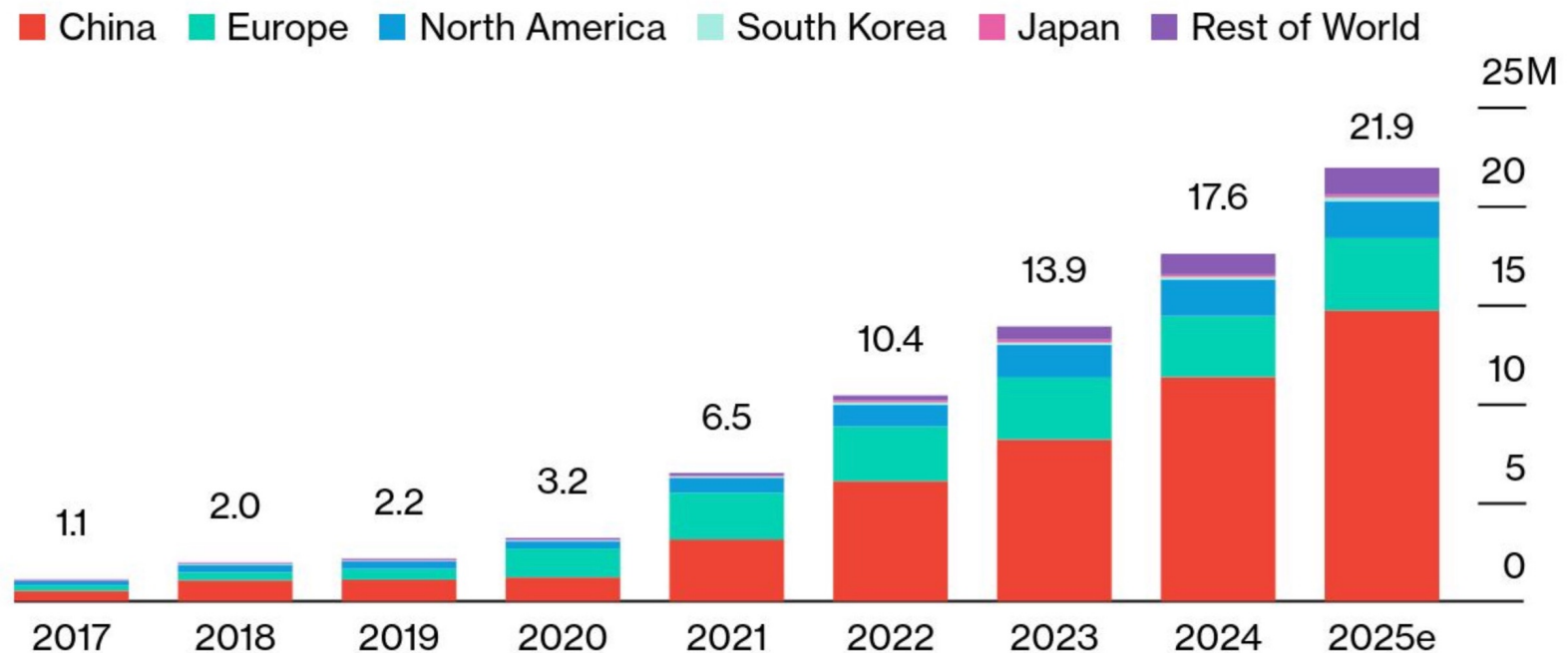


China's Global Cleantech Investment Dominance

Global EV Sales By Region
Rho Motion calculates global EV sales 9MCY2025 +26% yoy

Global Passenger EV Sales Set To Grow 25% in 2025

Number of new passenger electric vehicles sold annually



Source: BloombergNEF, MarkLines

Note: Includes battery-electric vehicles (BEV) and plug-in hybrid vehicles (PHEV).

BloombergNEF

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.

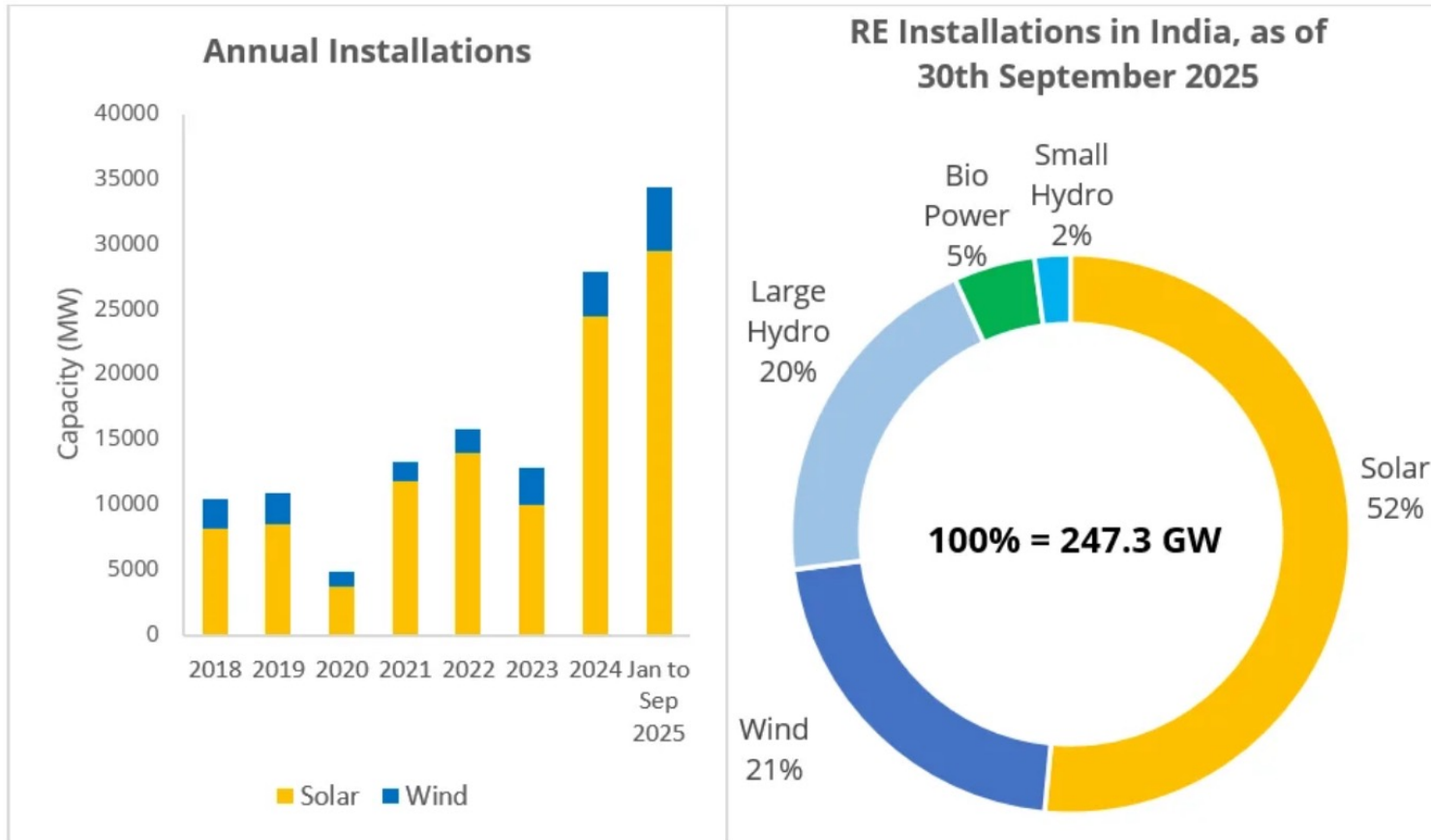


By David Gelles in New York; Somini Sengupta in Brasília and in Tirunelveli, India; Keith Bradsher in Beijing; and Brad Plumer in Washington June 30, 2025 The New York Times

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.

India

India Adds Record 34.4 GW of Solar and Wind Capacity in 9MCY2025



India generation share for Sept'2025:

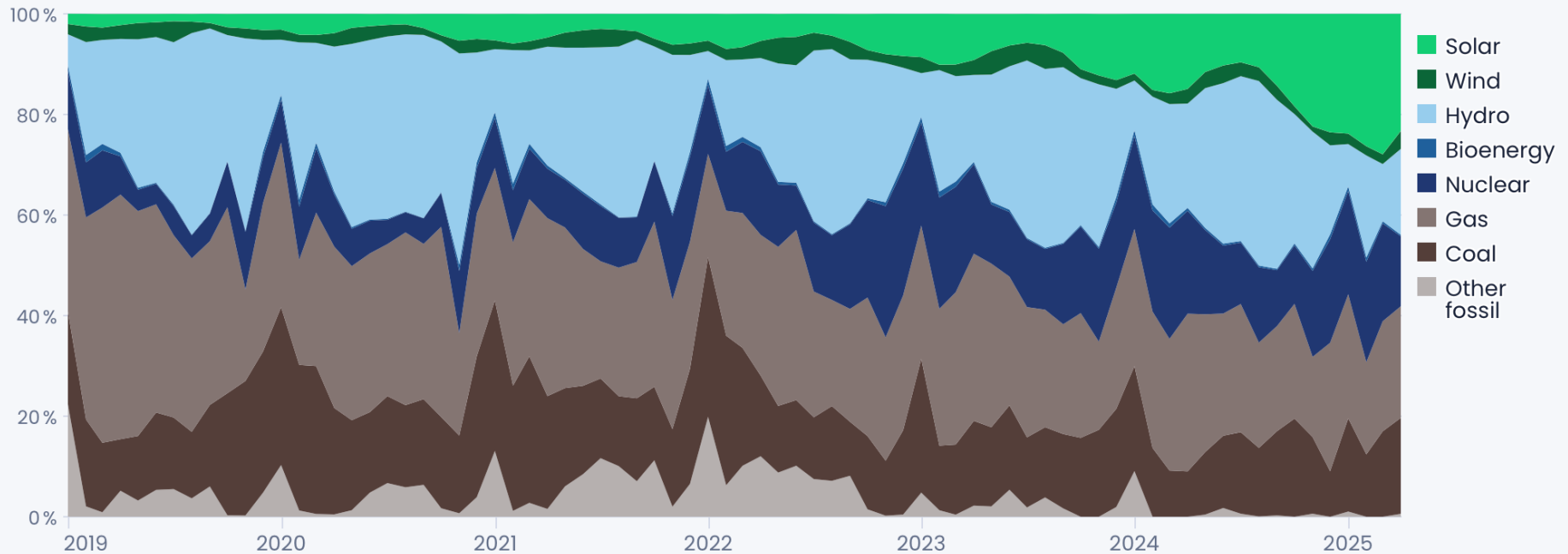
Solar:	9%
Wind:	6%
Hydro:	15%
Nuclear:	3%
Coal:	66%
Gas:	2%

Pakistan

Share of Pakistan's electricity by fuel type - Monthly

Share of electricity generation in Pakistan

Percentage share

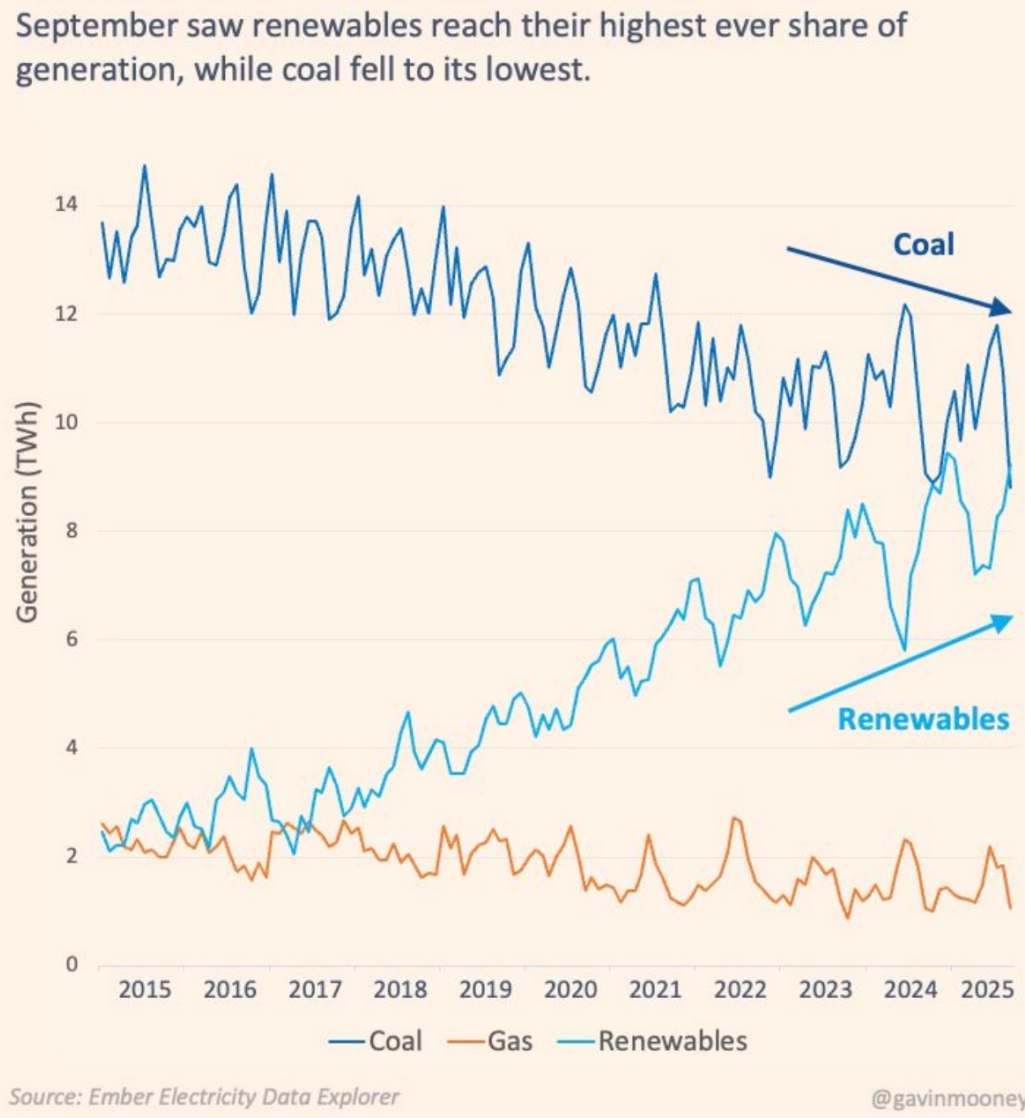


Data: Ember Electricity Data Explorer, ember-energy.org

EMBER

Australia is Half-way to 82% Renewables by 2030

Australia has reached 49.9% renewable share in Oct'2025



Australia is Half-way to 82% Renewables by 2030

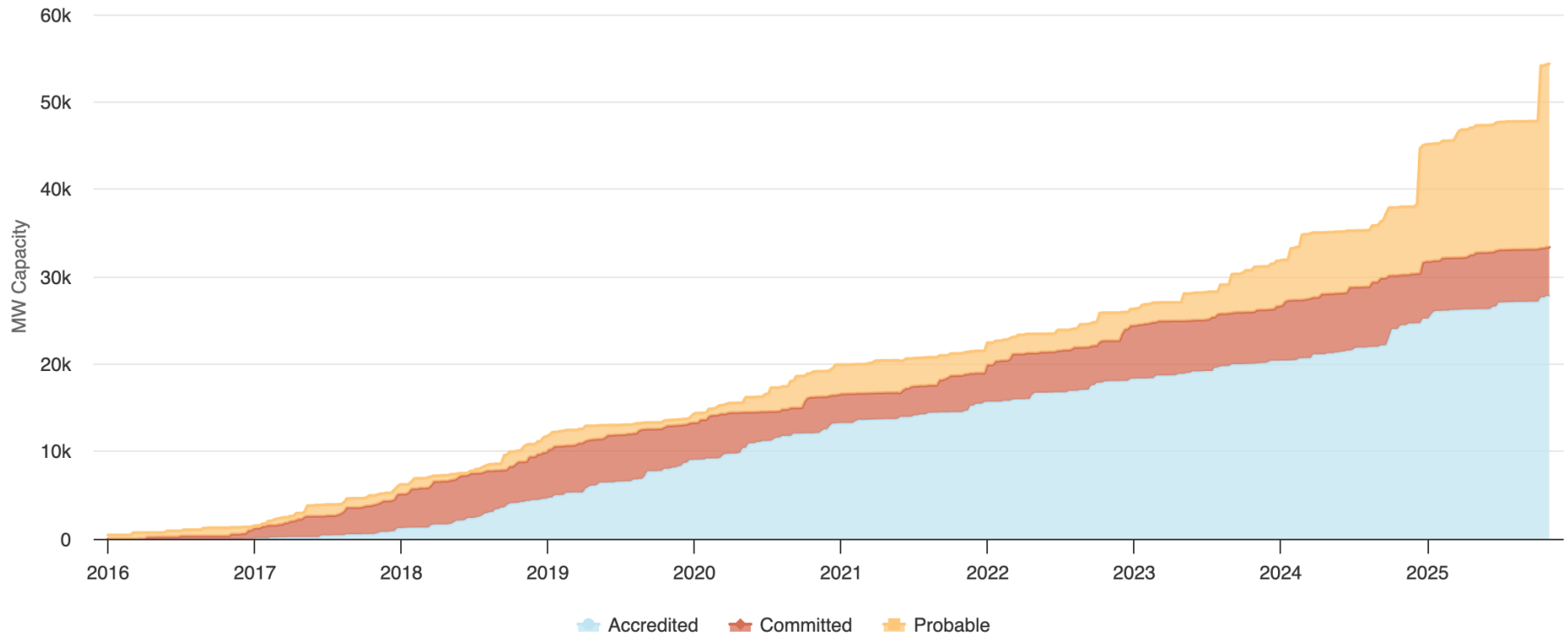
Australia has reached 49.9% renewable share in Oct'2025



Australian Government
Clean Energy Regulator

Renewable energy project pipeline progress

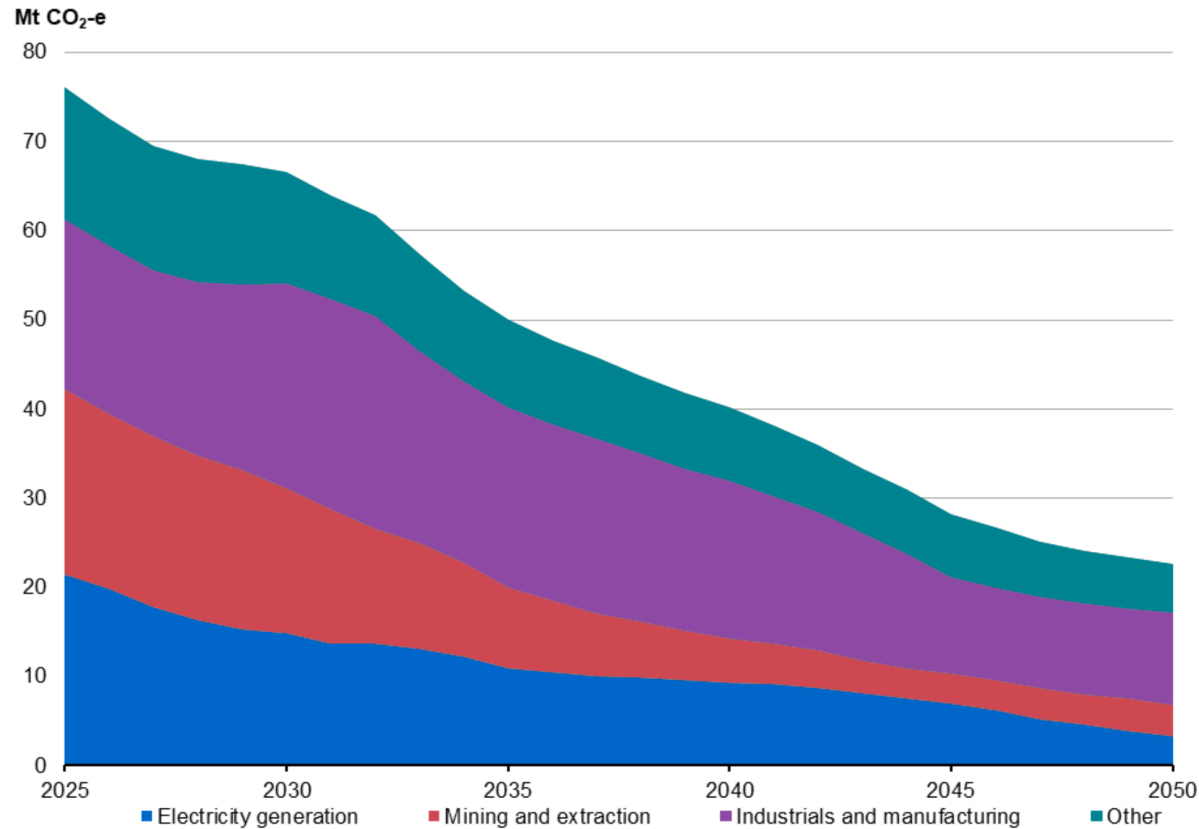
January 2016 to October 2025



Pivoting from Petrostate to Electorate

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>

CEF's Report Advocating for Carbon Pricing

Climate Energy Finance

05 June 2025



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.

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