



Tim Buckley, Director CEF  
[tim@climateenergyfinance.org](mailto:tim@climateenergyfinance.org)

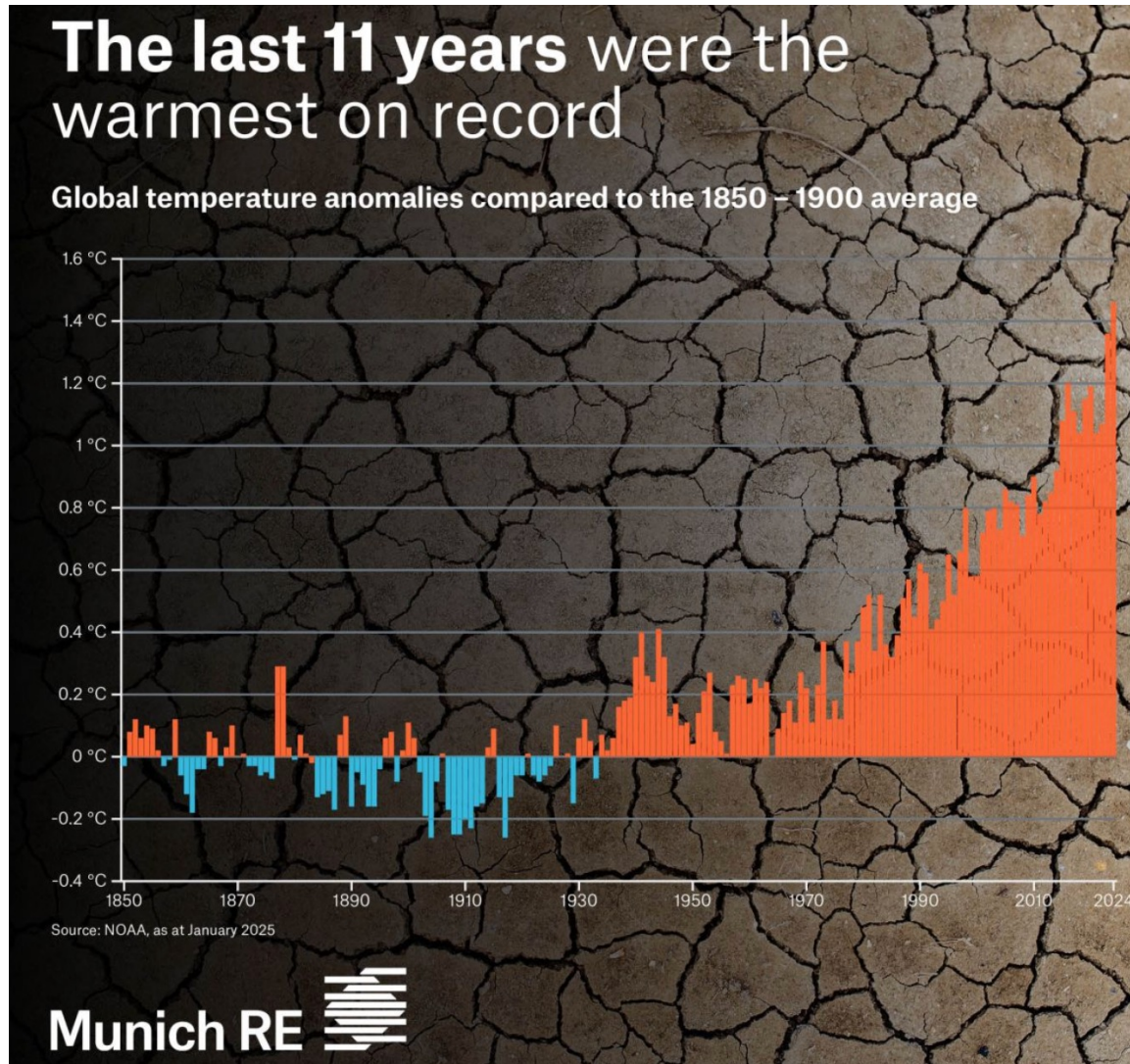
**2026: Energy System  
Transformation & China's  
leadership.  
Australian Implications.**

**Bank of China Sydney  
Branch: Webinar**

**10 April 2026**

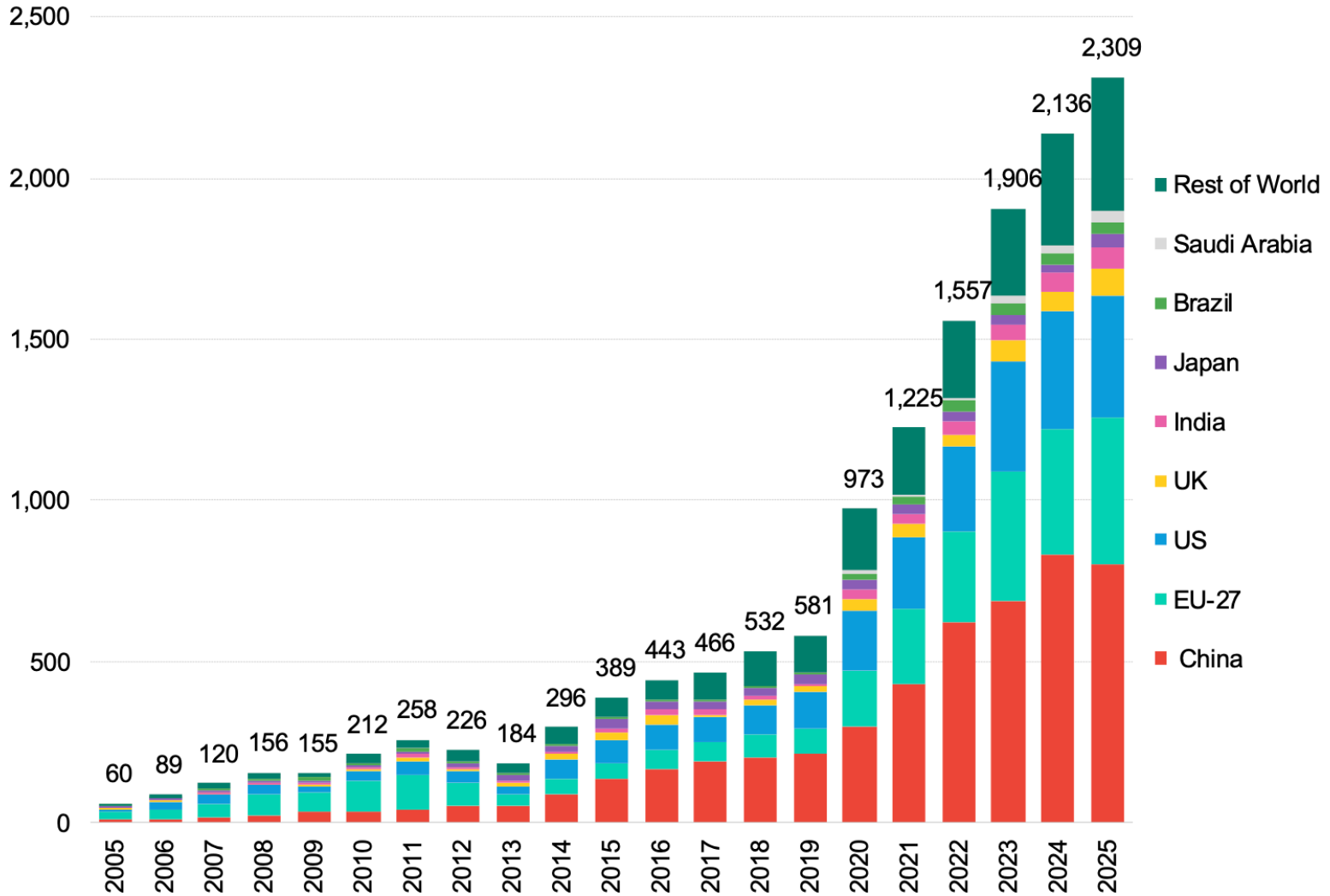
# CEF accepts the climate science

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



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

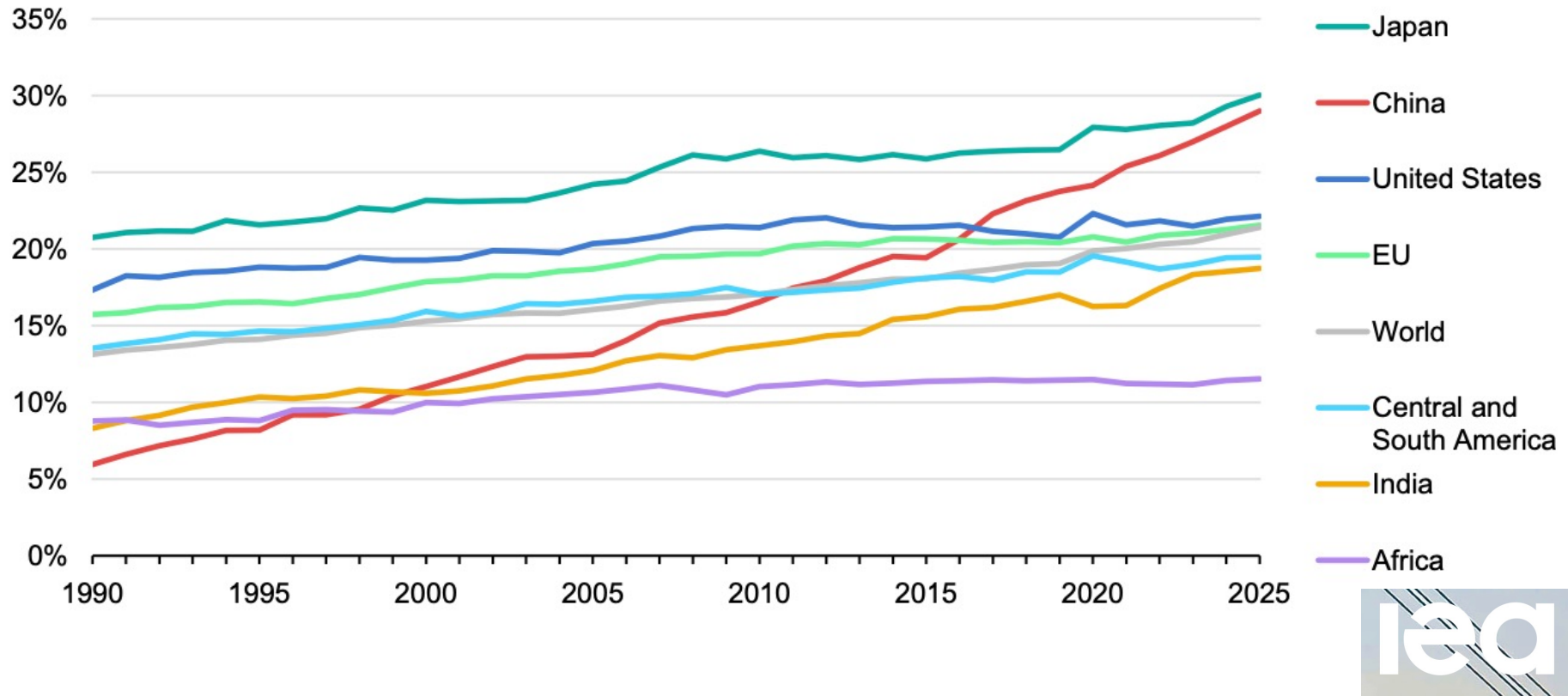
\$ billion **Global Energy Transition Investment, by Country, US\$bn: 2025 +8% yoy**



Source: BloombergNEF, Energy Transition Investment Trends, January 2026

# China is Moving in Electrification of Everything, Rapidly

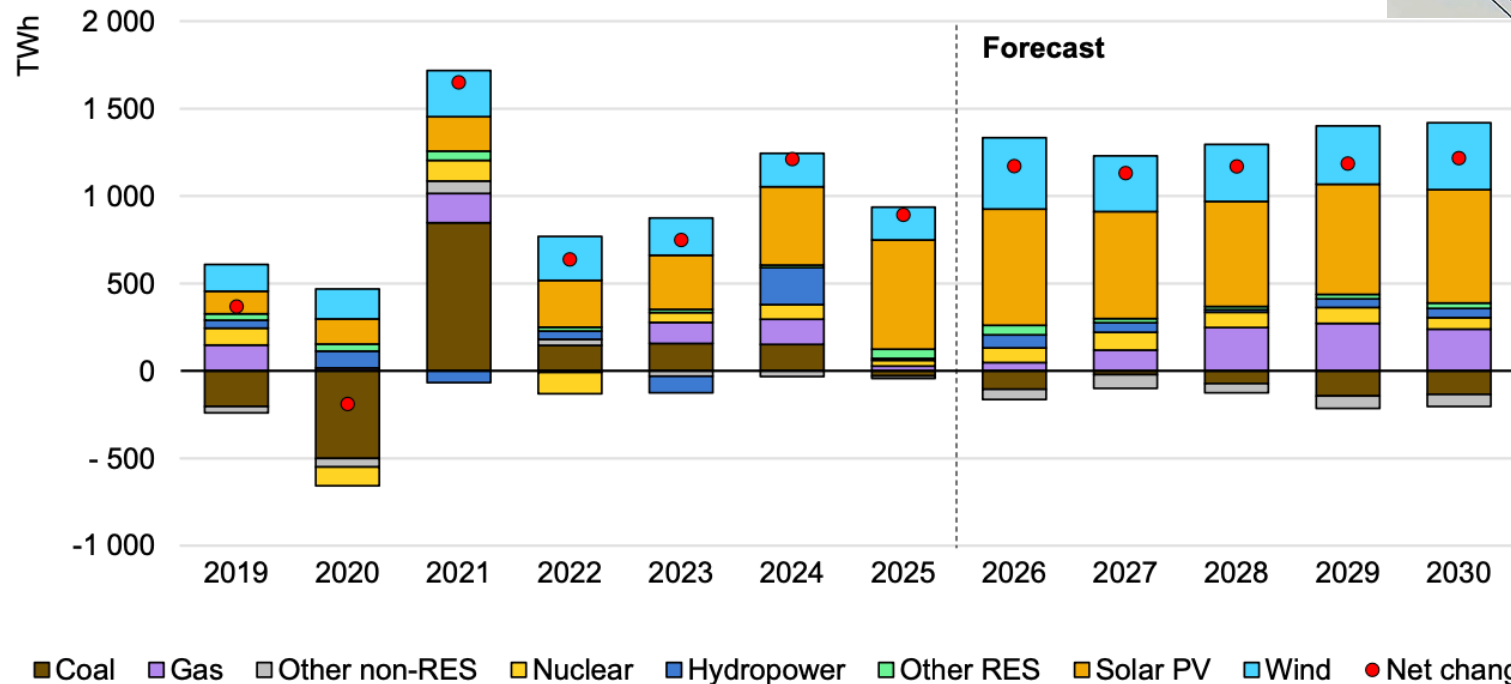
Share of electricity in total final consumption in select countries and regions, 1990-2025



# China is Moving in Electrification of Everything, Rapidly

- China added 95GW of new thermal capacity in CY2025, yet thermal power generation in CY2025 was -0.7% yoy.
- China added 446GW of new renewables capacity in CY2025, RE generation in CY2025 was +26% yoy.
- China added 2GW of nuclear.

Year-on-year global change in electricity generation by source, 2019-2030



IEA. CC BY 4.0.

Notes: RES = renewable energy sources. 'Other non-RES' includes oil, waste and other non-renewable sources. 'Other RES' includes geothermal, bioenergy, concentrated solar power (CSP), and ocean energy. Data for 2026-2030 are forecast values.

# 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
<b>Total capacity</b>	<b>3,891.3</b>	<b>543</b>	<b>100%</b>	<b>27%</b>	<b>97.8</b>
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: 2M CY2026

China's thermal power generation was +2.6% yoy in 2MCY2026 to-date, vs total electricity demand growth of +5.5% yoy; variable renewable energy +13.7% yoy.

### China's Power Generation Year-to-date February 2026 (TWh)

	Jan-Feb 26 TWh	Jan-Feb 25 TWh	% change yoy	Share of YTD26 Generation
<i>Coal</i>	967	948	2.0%	57.1%
<i>Gas</i>	53	46	15.1%	3.1%
<i>Other fossil</i>	3	3	11.0%	0.2%
<b>Thermal</b>	<b>1,023</b>	<b>996</b>	<b>2.6%</b>	<b>60.4%</b>
Bioenergy	35	31	12.8%	2.1%
Hydropower	157	148	6.3%	9.3%
Nuclear Power	76	75	1.3%	4.5%
Wind Power	212	193	10.0%	12.5%
Solar Power	191	161	18.1%	11.3%
<b>Total power generation (TWh)</b>	<b>1,693</b>	<b>1,604</b>	<b>5.5%</b>	<b>100.0%</b>
Variable Renewable Energy	402	354	13.7%	23.8%
Zero Emissions	670	607	10.3%	39.6%

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

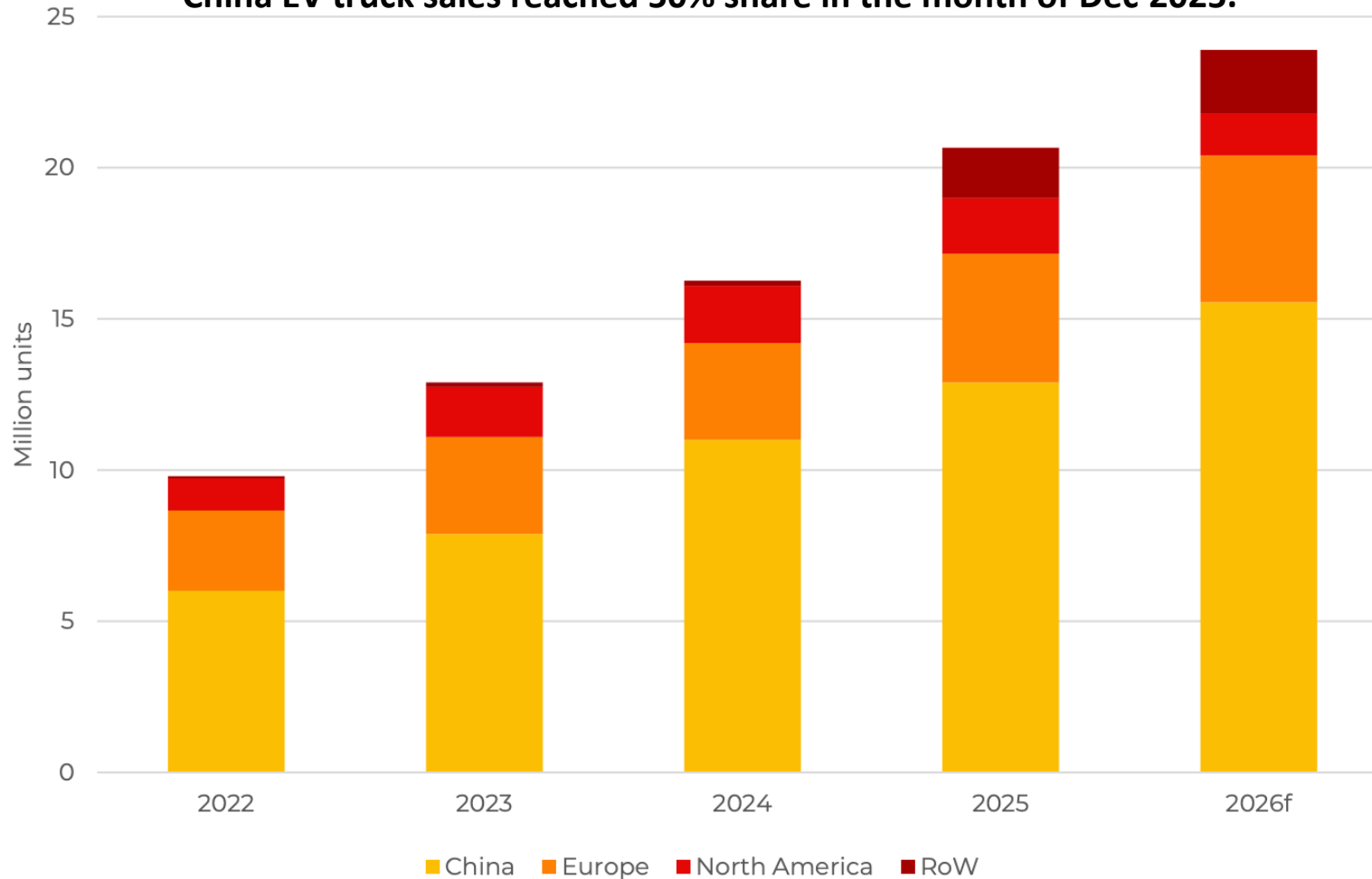
# Electric Vehicle Boom Continues Globally, But China Led

Overall passenger EV sales in 2025 totaled 20.7 million units, +20% yoy.

BMI forecasts 2026 growth to 23.9 million units, +15% yoy.

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.



# Electric Vehicle Uptake in Australia

## RECORD EV SALES AS AUSTRALIANS SWITCH TO CHEAPER DRIVING

### OVERALL NEW CAR MARKET



YEAR TO DATE VS 2025

### EV SALES GROWTH



YEAR TO DATE VS 2025

### EV SHARE OF NEW CAR SALES

22.9%

HIGHEST EVER RECORDED

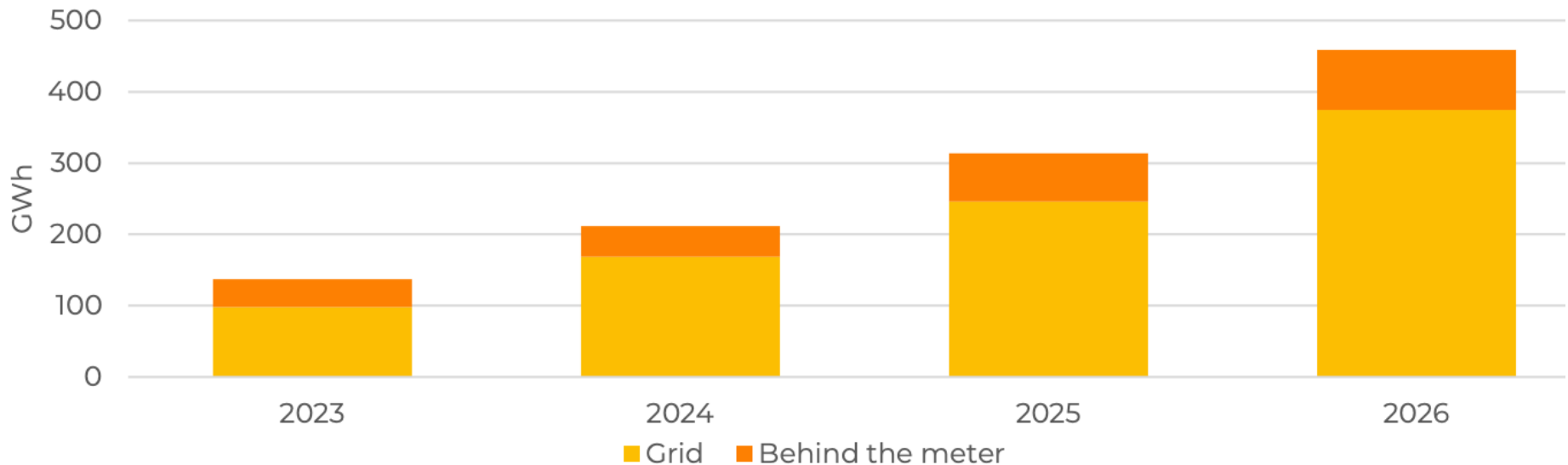
### WHY THE RISE?

1. **Petrol prices:** Fuel costs are stinging household budgets — EVs are the cheaper alternative
2. **Effective policy:** NVES and the Electric Car Discount have put EVs within reach for more buyers

BEV sales were 14.6% share in March 2026.  
PHEV's share was 7.6%, giving the 22.9%  
combined total.

# Battery Boom Accelerates Globally, But China Led

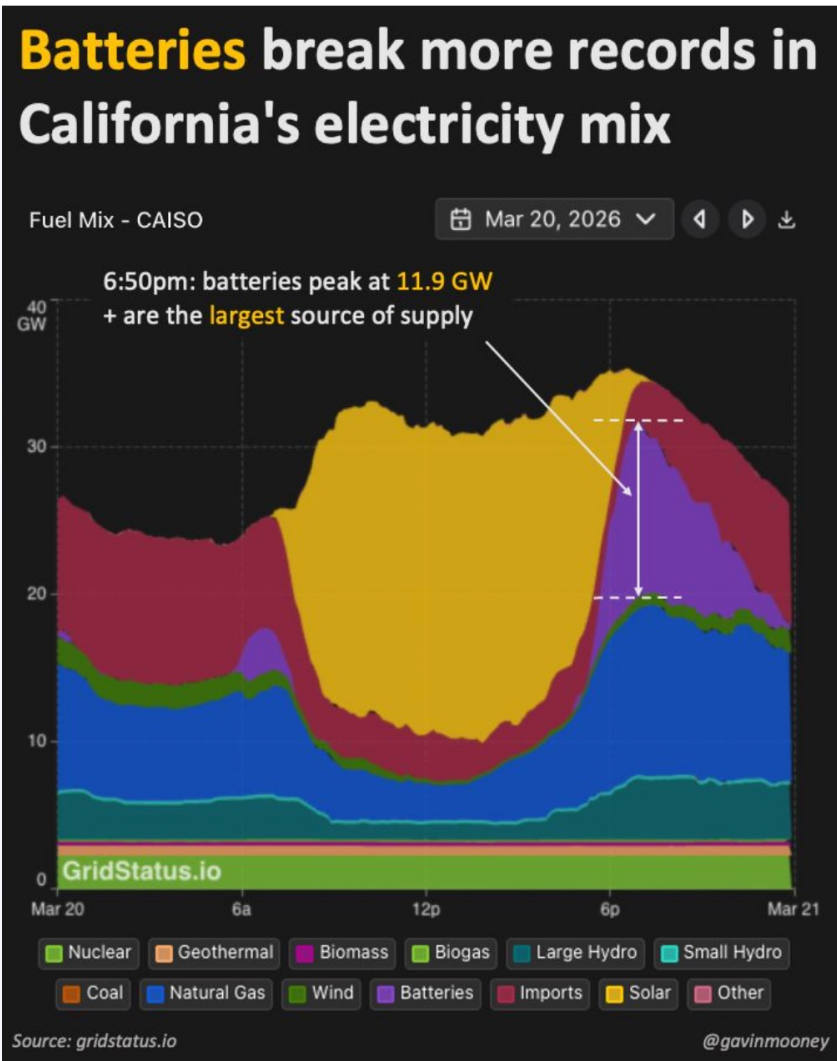
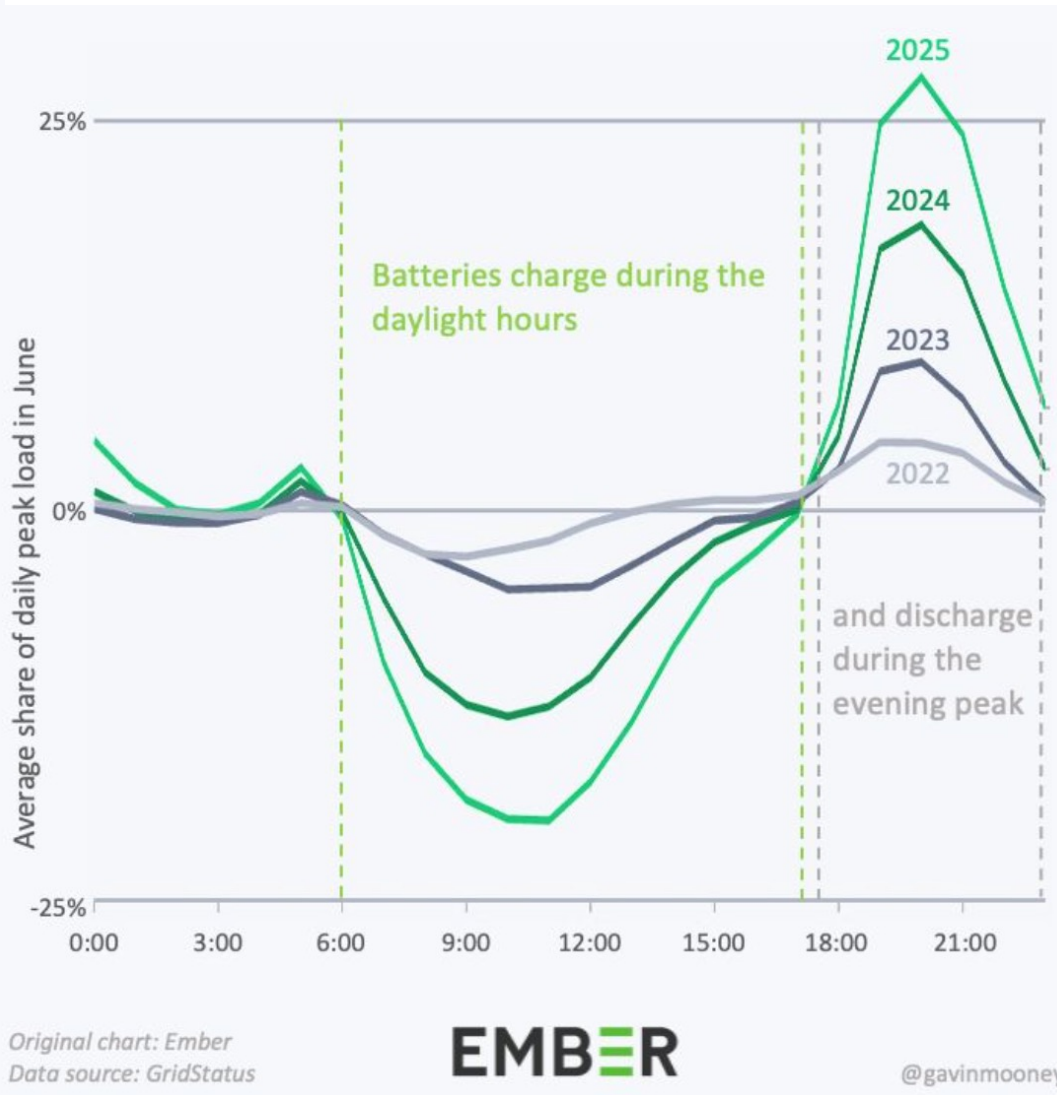
**In 2025, BESS was the fastest growing battery demand market, with 315GWh installed across the grid and behind the meter (BTM) markets. In 2026, BESS is set for another record year, with BMI forecasting 450GWh set to enter operation globally (+42% yoy). BESS system pricing hit new lows with project tenders in China hitting US\$63/kWh**



Source: Benchmark BESS Forecast

# Global Cleantech Investment is Accelerating

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



Source: Gavin Mooney, Kaluza via LinkedIn

# India is adopting Zero Emissions Solutions, Fast

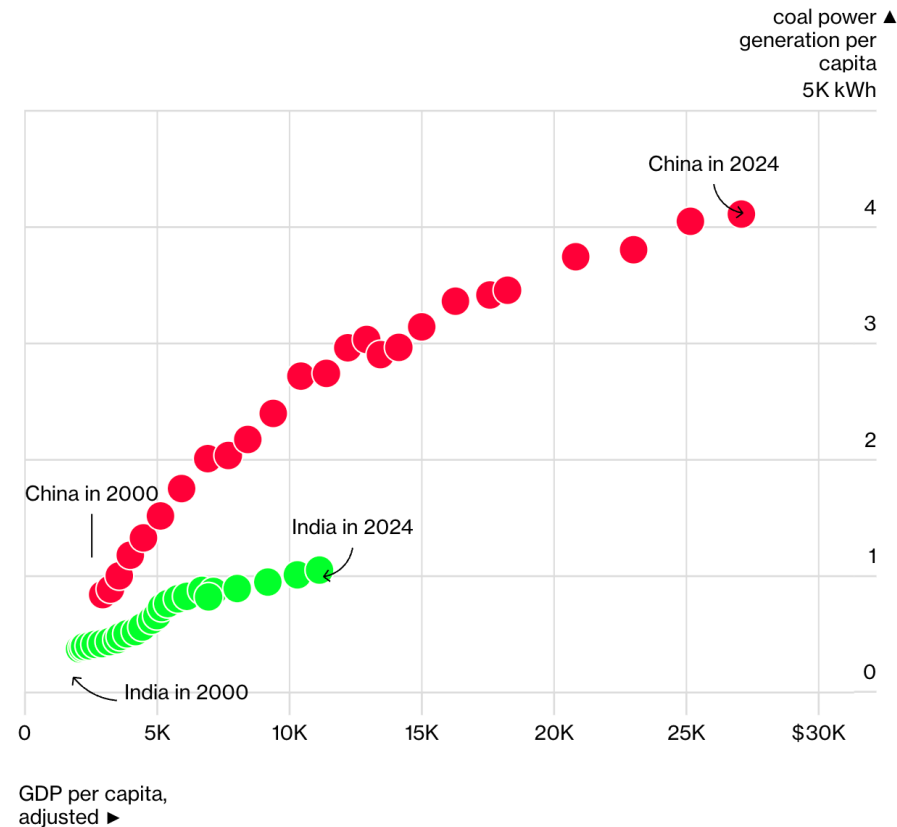
India is well behind China in terms of economic development, but the path is very different, and less energy / emissions intensive.

India added 48GW of RE in CY2025 (+70% yoy)

## Coal Giants

India crossed the 1,000 kilowatt-hours of coal power generation threshold at three times China's gross domestic product

● India ● China

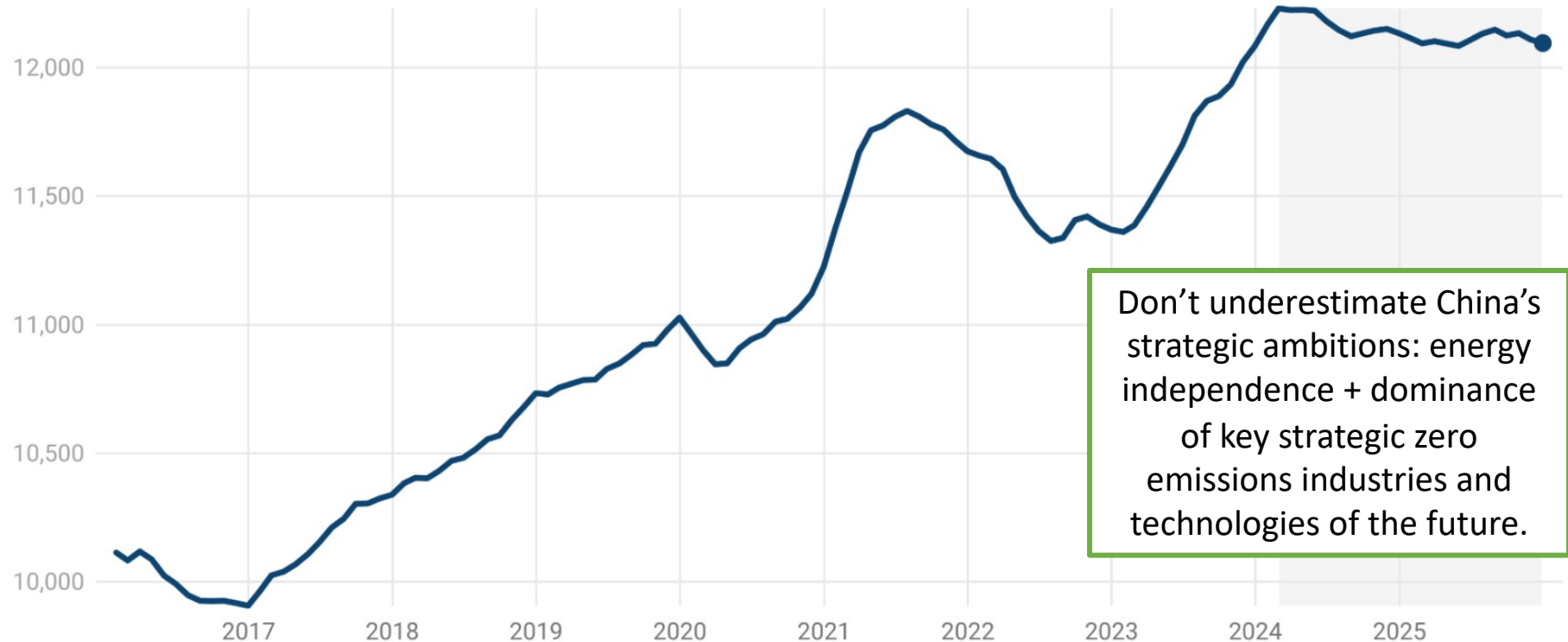


# China's electrification leadership drives decarbonisation

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 21 months

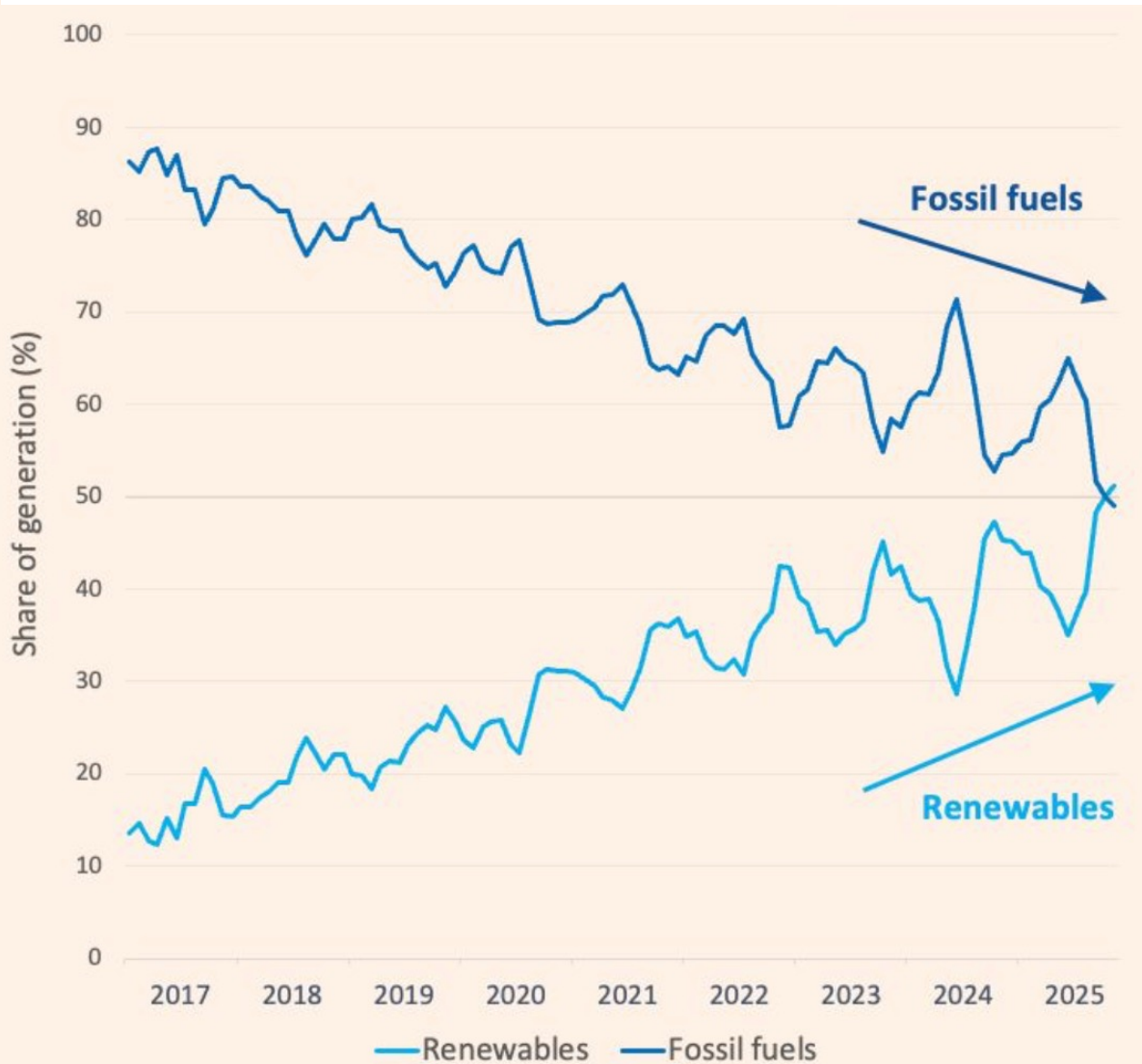
CO2 emissions from fossil fuels and cement, million tonnes of CO2, rolling 12-month totals



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

# Australia is Half-way to 82% Renewables by 2030

Australia averaged 50.1% renewable share in 4QCY2025



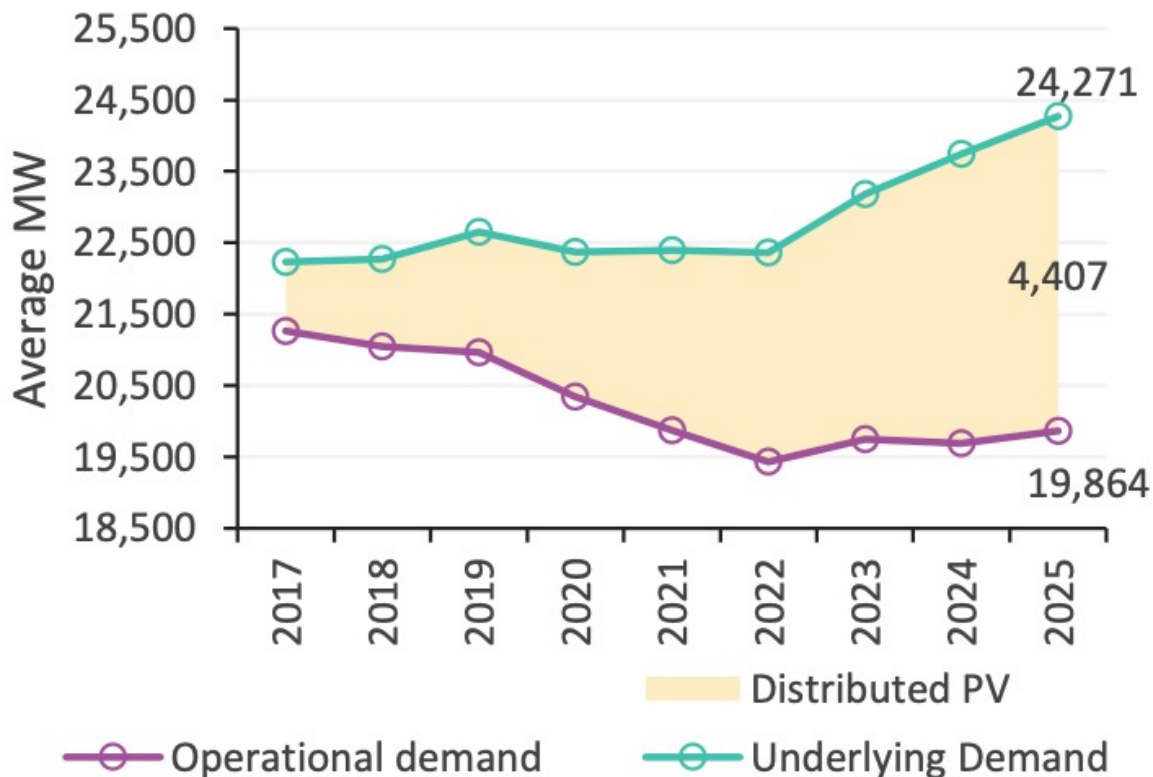
For the NEM, the month of Jan'2026 was 'only' 49.1% renewables share, a slight decline vs the 49.9% average for the 4QCY2025 (and 50.1% average nationally).

But then January 2024 was only 39.3% renewables share – so a near 10% share increase yoy for the month. Not bad in that context!!!

# Australia is Half-way to 82% Renewables by 2030

**Figure 3 Underlying demand grew to a new Q4 high**

NEM average underlying and operational demand – Q4s



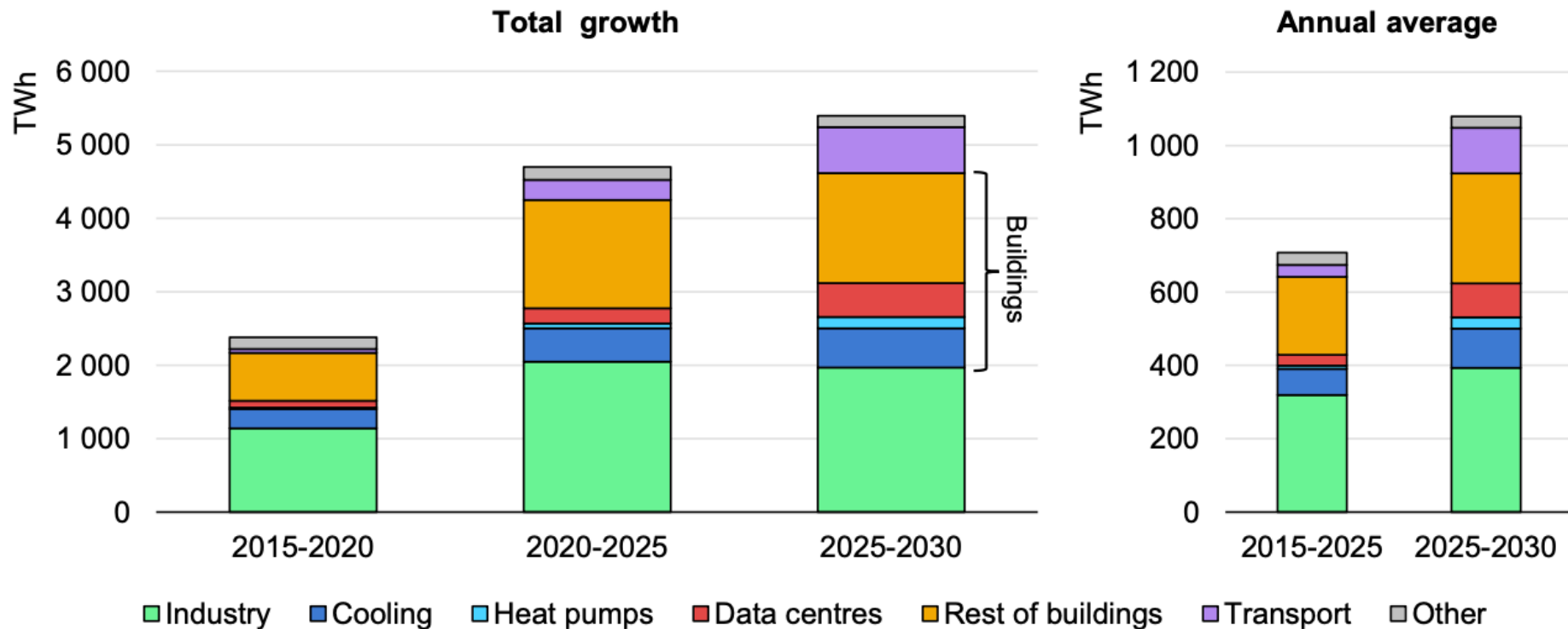
AEMO: Total 4QCY2025 NEM generation averaged 25,064MW (+3.1%), with renewables (incl. storage) exceeding 50% of the quarterly energy mix for the first time (51% up from 46% in 4Q2024).

Wholesale electricity prices across the NEM averaged \$50/MWh in 4QCY2025, a \$39/MWh (-44%) reduction from 3Q2024.

# Datacentres are Incremental to Electrification



## Global electricity demand growth by sector and end-use, 2015-2030

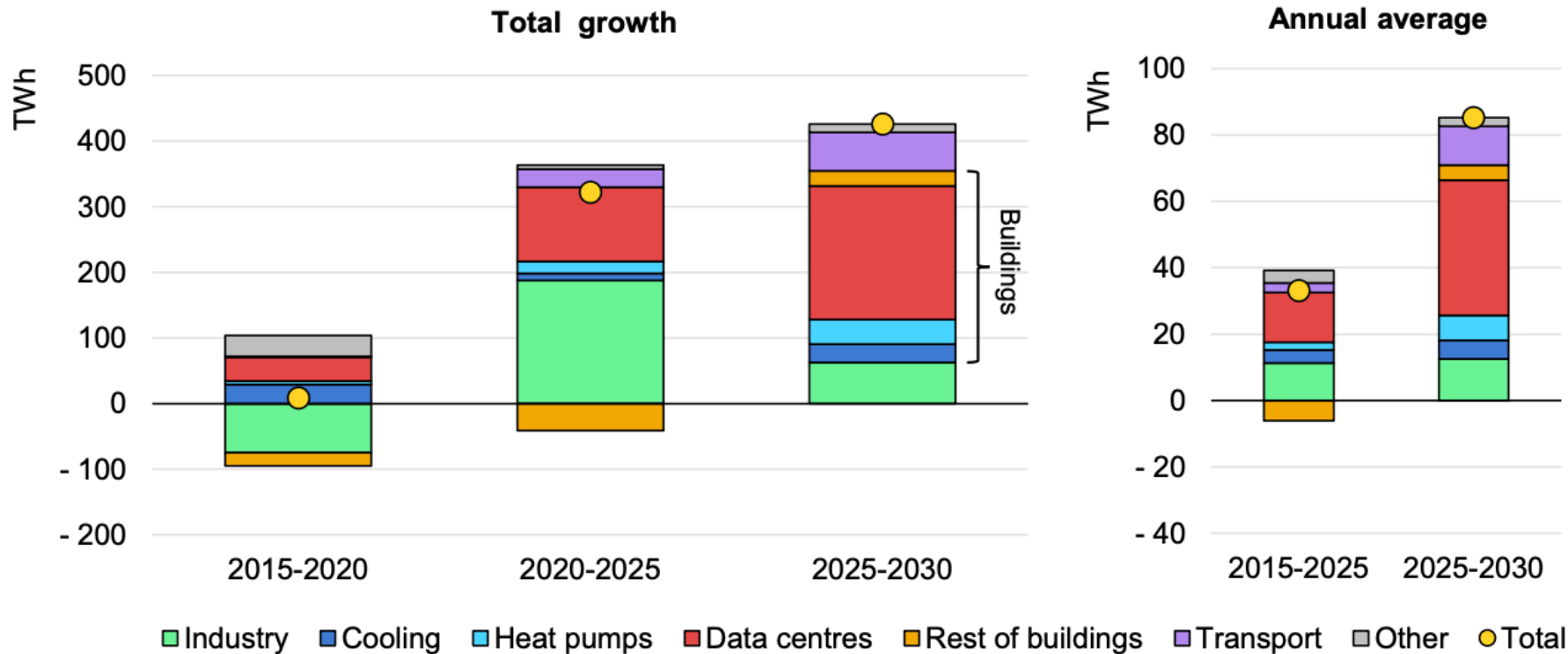


Data centres are all the buzz in 2026 in capital markets. Data centres add to the electrification of everything, but they are part of the story. EVs are a far bigger impact. It is important we ensure data centres enable more firmed renewables, rather than absorb existing capacity and drive energy prices up.

# Datacentres and Electrification

## But the US is illustrative of Impact

### Electricity demand growth by sector and end-use in the United States, 2015-2030



# 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.

Authors:

**Matt Pollard**, Net Zero Transformation Analyst, CEF

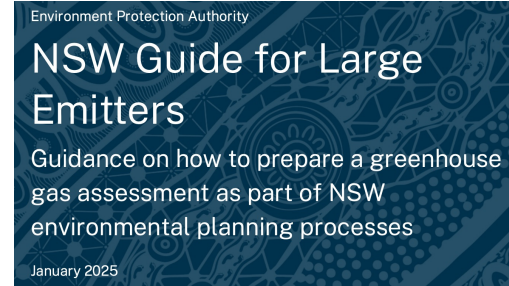
**Tim Buckley**, Director, CEF

The Safeguard Mechanism was reformed in 2023. It will be reviewed by the Department of Climate Change, Energy, the Environment and Water in FY2026–27.

Australia's #1 trade partner, China will expand its national ETS by 50% by 2027.

Australia needs to leverage the EU / UK ETS & CBAM to provide finance the price signal required.

# Pricing Carbon Pollution – Safeguard Mechanism Enhancements



## Safeguard Mechanism overview

**Last updated:** 01 October 2025

The Safeguard Mechanism applies to facilities that emit more than 100,000 tonnes of carbon dioxide equivalent (CO<sub>2</sub>-e) in a year. It sets legislated limits, known as baselines, on the net greenhouse gas emissions of covered Safeguard facilities.

In 2023–24, there were 219 Safeguard facilities covered across the mining, manufacturing, transport, oil, gas and waste sectors. These facilities produced around 31% of Australia's greenhouse gas emissions.

The Safeguard Mechanism was first legislated in 2014 and has been in place since 2016. The Australian Government reformed the Safeguard Mechanism to reduce emissions at Australia's largest industrial facilities, help Australia meet its climate targets and ensure Australia remains competitive in a decarbonising world.

The reformed Safeguard Mechanism commenced on 1 July 2023. The reforms apply a decline rate to facilities' baselines so that they are reduced predictably and gradually over time on a trajectory consistent with achieving Australia's emission reduction targets of 43% below 2005 levels by 2030 and net zero by 2050.

The 25,000 tonne CO<sub>2</sub>-e threshold applies to ongoing operational emissions. This is to ensure that the GHG assessment requirements do not create a barrier for projects that will have low ongoing operational emissions but large construction emissions in the short-term. The requirements do not apply to projects for activities listed under Schedule 1 of the POEO Act that involve only construction activities, or pilot plants.

### Box 1. NSW emission reduction targets

The NSW *Climate Change (Net Zero Future) Act 2023* legislates the following targets for reducing net GHG emissions in the state:

- a reduction of at least 50% of 2005 emissions levels by 30 June 2030,
- a reduction of at least 70% of 2005 emissions levels by 30 June 2035, and
- net zero emissions by 30 June 2050.

## Carbon emissions in the Investment Framework

TPG24-34

NSW Treasury

December 2024

Source: NSW Treasury, December 2024

<https://www.nsw.gov.au/sites/default/files/noindex/2025-03/tpg24-34-carbon-emissions-in-the-investment-framework.pdf>

# Government Budget & Capital Allocations: \$81bn Federally and another \$6bn from the States since 2023 \*

Speed and scale of deployments is key:

- CY2025 saw allocations to projects reaching Fid or thereabouts totalling \$15bn.
- 3MCY2026 saw allocations of \$4bn (a \$16bn run-rate annualised)
- ARIA has not lobbied for any new funding, focussing in stead on getting the existing allocations off the table and out the door.
- BCG estimates Australia needs ~\$500bn new investment by 2035, >80% of this needs to come from private investment.

## Red light for new green investment slows race to renewable target

Mike Foley March 8, 2026 — Sydney Morning Herald

No extra money will be spent on the Albanese government's ambitious rollout of renewables across the electricity grid next year, in an attempt to claw back savings in the next federal budget, even as Australia falls short of its target to reach 82% green energy by 2030.

The push to halt spending on the nation's net zero agenda will reverse the trend since Labor came to power in 2022, as successive federal budgets have injected billions of dollars into wind and solar farms, including \$2bn for the nation's green bank in 2025.

Renewable energy projects – and the poles and wires to connect them to the grid – must be rolled out at speed and scale to reduce greenhouse gases to reach Australia's commitment under the Paris Agreement to cut emissions at least 62% by 2035.

This masthead has confirmed via several sources, speaking on the condition of anonymity, that new spending measures on the renewable rollout have been ruled out in the federal budget, due to be handed down on May 12.

Greenhouse / CEF Capital Deployment Tracker available real time here:

<https://docs.google.com/spreadsheets/d/1Q--r4->

<https://docs.google.com/spreadsheets/d/1Q--r4-VxoMik5fJlRV93WmkP4E5EY99ntbY4oO3YXl0/edit?userstoinvite=h.guinness%40gmail.com&sharingaction=manageaccess&role=writer&gid=1421320925#gid=1421320925>

## Government Budget & Capital Allocations: \$81bn Federally and another \$6bn from the States since 2023 \*

New government funding since 2023	A\$m	A\$m
Federal	87,760	
Non-cleantech R&D	800	
Non-cleantech - NRFC	5,305	81,655
State	6,551	
Non-cleantech	600	5,951
<b>Total since 2023</b>		<b>87,606</b>

This includes:

- \$19bn Rewiring the Nation (administered by CEFC)
- \$15bn National Reconstruction Fund Corp, including the \$5bn Net Zero Fund
- \$4.0bn extra capital for the CEFC general fund
- \$5.0bn EFA Critical Minerals Facility
- \$7.0bn FMIA - Critical Minerals PTI & \$2bn Green Aluminium & \$4bn Hydrogen Headstart
- \$1.9bn ARENA Powering The Regions Fund
- \$2.0bn Southeast Asia Investment Financing Facility (administered by EFA)
- \$7.2bn Home Battery Program
- \$1.6bn Australia's Economic Accelerator (AEA) Ignite R&D funding
- \$1.1bn Cleaner Fuels Program
- \$2.4bn Green Steel Whyalla funding

\* This includes Rewiring the Nation, Cleantech, Decarbonisation and Resource Value-add.

# Approvals for the Energy System Transformation

## NSW Government endorses 16 projects through Investment Delivery Authority

*Published: 4 March 2026 Ministerial media release by: Treasurer, Minister for Energy and Climate Change, Minister for Industry and Trade, Minister for Jobs, Minister for Planning and Public Spaces, Minister for Tourism*

The Minns Labor Government has endorsed the first tranche of projects through the **Investment Delivery Authority (IDA)**, marking a major milestone in supporting the delivery of high-value private sector investment across the state.

The IDA will support 16 projects collectively worth \$34.4bn in potential investment, following evaluation of proposals submitted through the opening round of EOI.

The endorsed projects include 14 energy projects, valued at \$34 billion, bringing more jobs and investment in the renewable energy sector right across NSW.

Delivering the energy transformation is a key priority for the NSW Government. Through the IDA, the Government is supporting high-value renewable energy projects by helping them move from proposal to delivery.

This builds on the Minns Labor Government's approval of 43 renewable energy projects since 2023.

Two hotel projects valued at \$482m have also been endorsed to proceed to the next stage. These projects will contribute to the Minns Labor Government's Visitor Economy Strategy, which aims to reach \$91bn in annual visitor expenditure by 2035.

The first EOI round also included proposals related to data centres and technology. The evaluation of these projects is being finalised and will be announced separately, recognising the scale of the energy, water and infrastructure coordination associated with the sector.

The IDA was established by the NSW Government to support the delivery of major projects and boost investment by cutting through red tape.

IDA endorsed projects will now receive specialist Government support from a dedicated concierge service, a planning assessments team within the Department of Planning, Housing and Infrastructure and from a multi-agency Investment Taskforce based in the Premier's Department.

This complements the Investor Front Door established by the Federal Treasurer 4QCY2025

The IDA EOI opening round attracted 48 investment proposals worth \$136bn: 22 projects related to energy (\$63bn), and 23 related to data centres and technology (\$72bn).

# CEF Chinese FDI reports: Rising Tide and Raw Power

Climate Energy Finance

08 December 2025



## Rising Tide:

### China's Outbound Cleantech Capital Surge Drives Global Collaboration Toward Net Zero

Authors:

**Caroline Wang**, China Analyst, CEF

Contributing editor:

**Dr AM Jonson**, Editorial director CEF

Climate Energy Finance

19 March 2026



## Raw Power:

### China locks-in global dominance of critical minerals and metals with \$120bn outbound investment surge

China's 'going global' strategy to secure value chains in zero-emissions industries is also boosting its partner economies, with lessons for Australia.

Authors:

**Tim Buckley**, Director, CEF

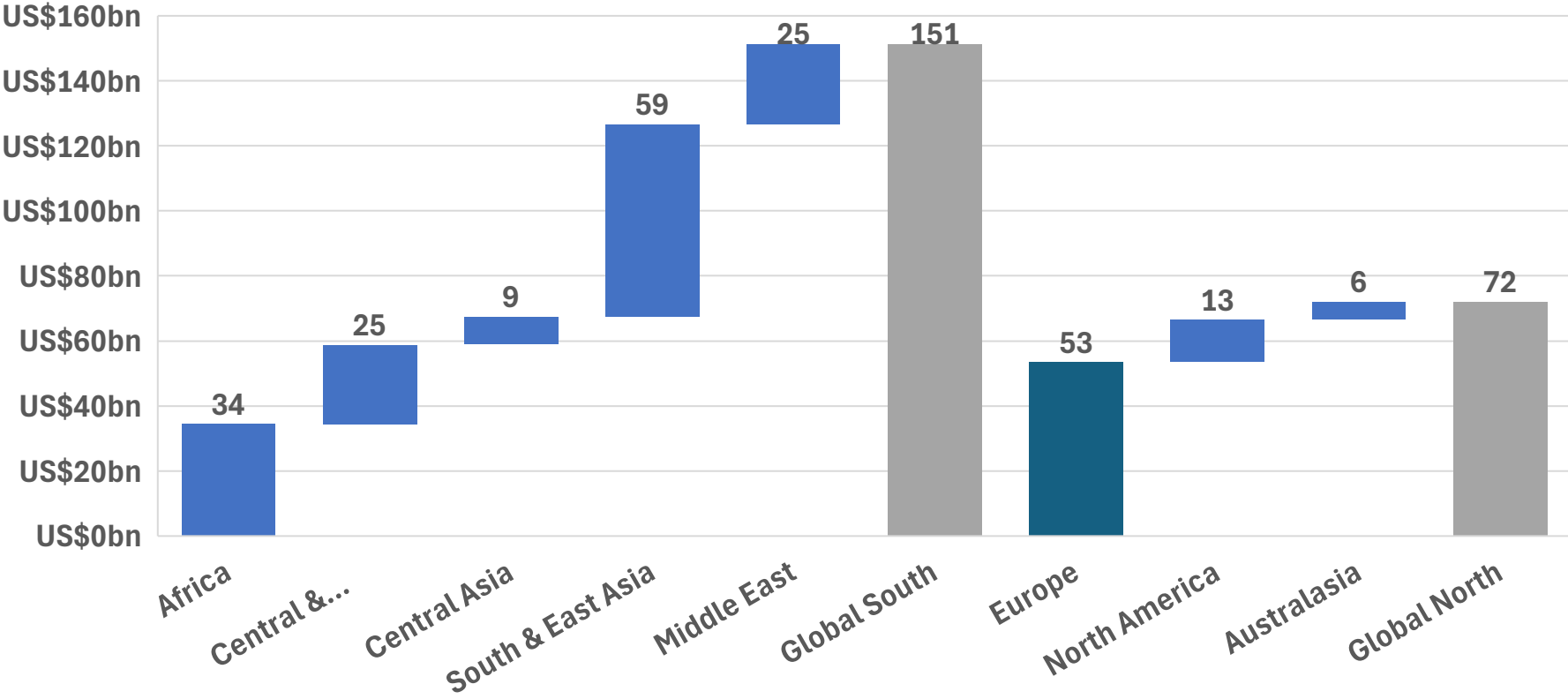
**Matt Pollard**, Net Zero Transformation Analyst, CEF

Contributing editor:

**Dr AM Jonson**, Editorial director CEF

# Chinese FDI is flowing into the Global South

**But little to Australia**



# Chinese OFDI in Mining is flowing into the Global South

China's Mining Sector Market Capitalisation is now #1 globally



Source: LinkedIn, Saleh Almenawer, MD, April 2026

[https://www.linkedin.com/posts/salehalmenawer\\_canada-has-972-mining-companies-china-has-activity-7447410937432707073-AI-5?utm\\_source=share&utm\\_medium=member\\_desktop&rcm=ACoAAAK\\_xL4BN5TFix7F-X4q0YfwtHJ1QLTvZoQ](https://www.linkedin.com/posts/salehalmenawer_canada-has-972-mining-companies-china-has-activity-7447410937432707073-AI-5?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAK_xL4BN5TFix7F-X4q0YfwtHJ1QLTvZoQ)