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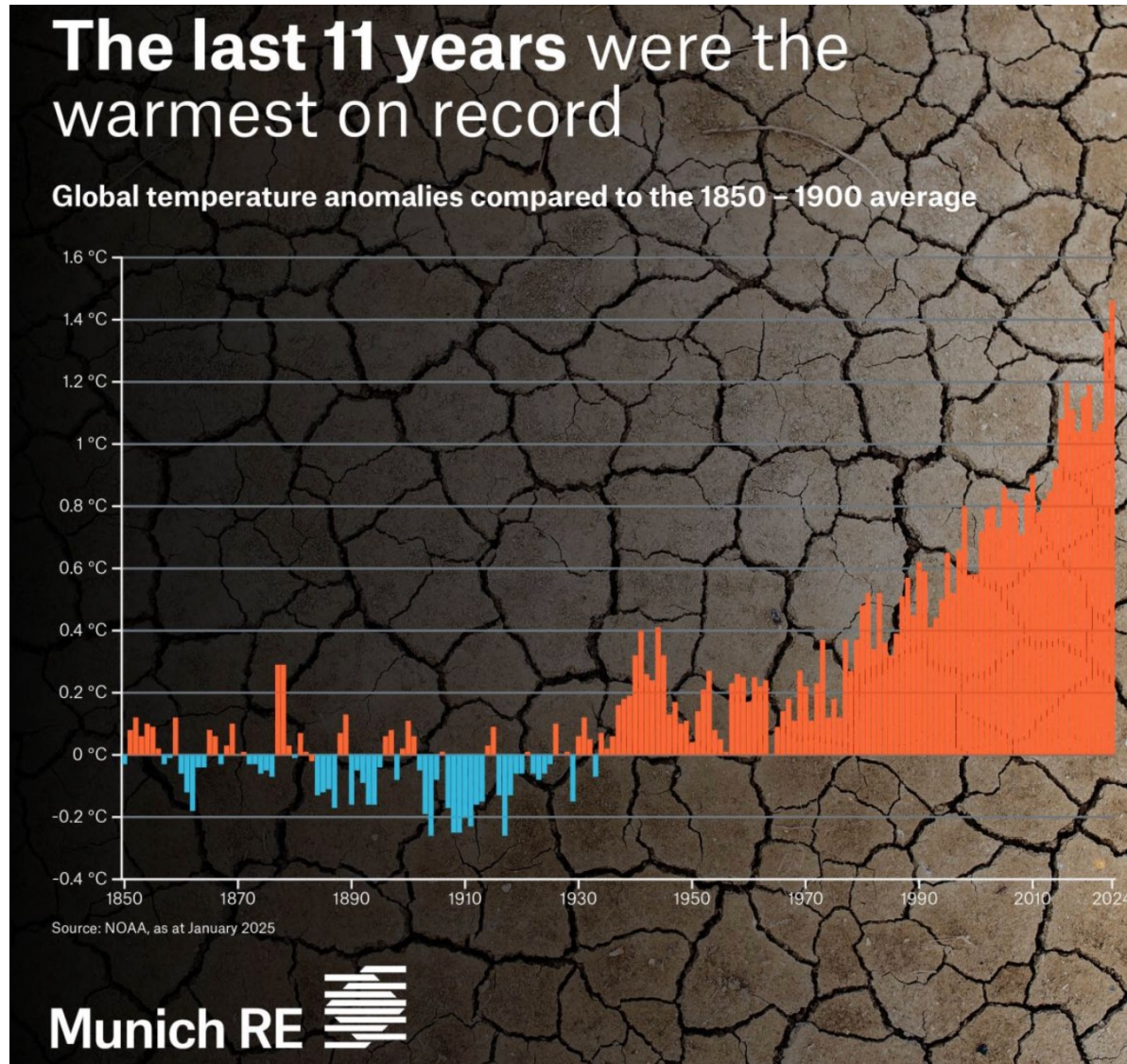
**RIAA Conference**

**Climate transition  
opportunities for Financial  
Advisers**

**28 May 2025**

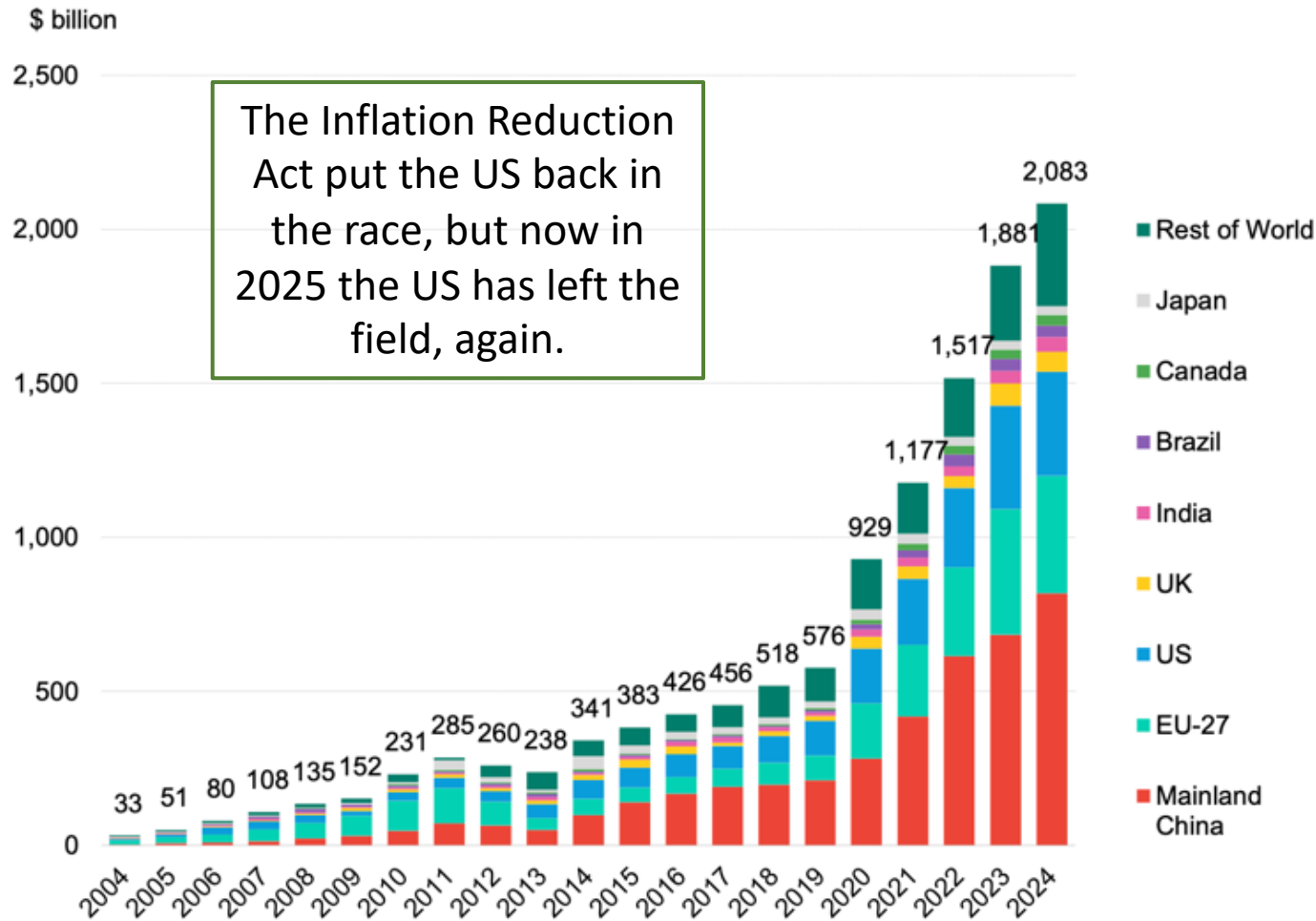
# CEF accepts the climate science

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



# Global Cleantech Investment Dominance

The world invested US\$2.1 trillion in cleantech in 2024, +11% yoy

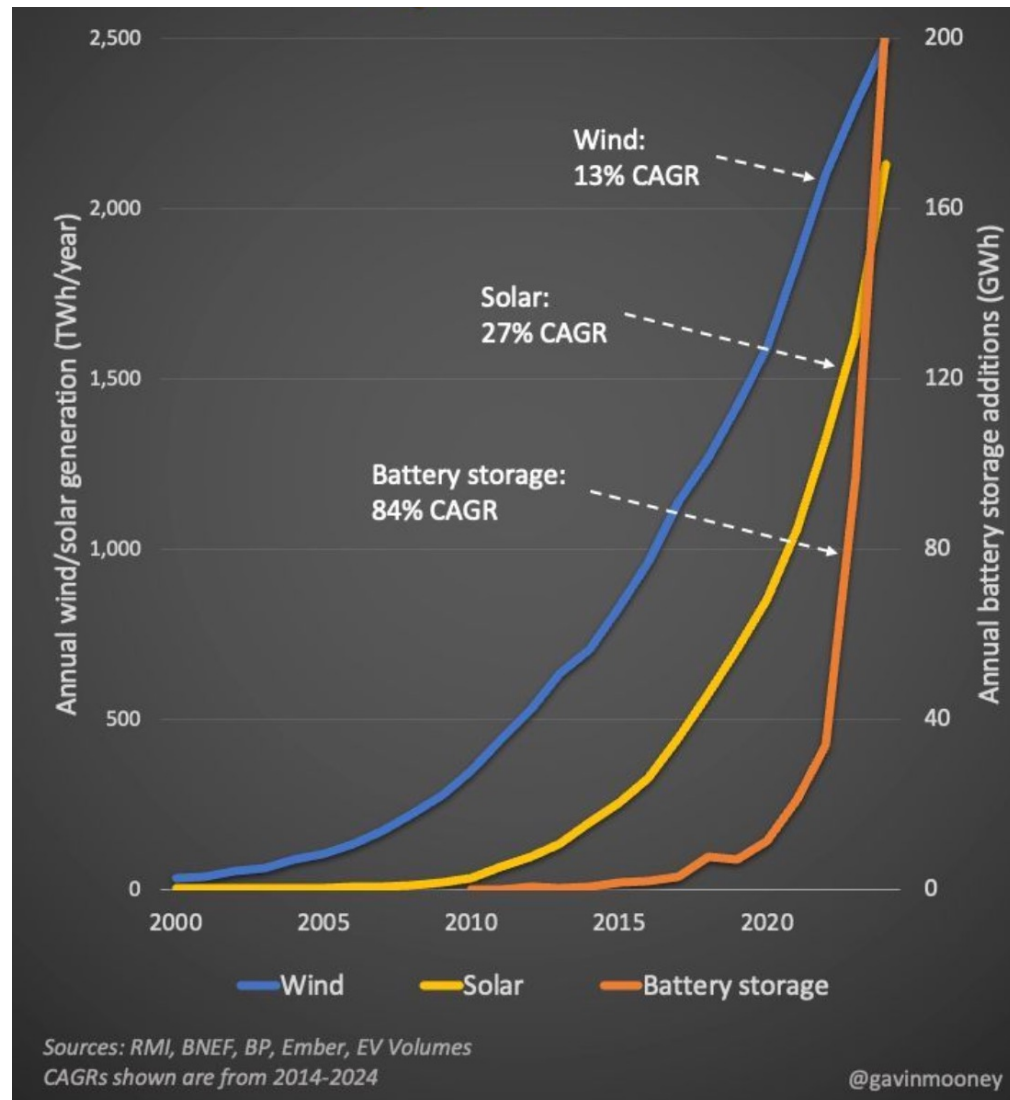


Source: BloombergNEF. Note: Start-years differ by sector, but all sectors are present by 2020. The step-change in 2020 is caused in part by the addition of power grids into the scope from that year onward.






# 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**





# New Energy Vehicles & BESS

## NEV & BESS momentum has accelerated to-date in 2025

- Global EV sales were  29% yoy in 4M CY2025
- EU EV sales were  25% yoy in 4M CY2025
- China EV sales were  35% yoy in 4M CY2025
- North American EV sales were +5% yoy in 4M CY2025

- BYD global NEV sales in 1QCY2025 were 1,000,804 vehicles, +60% yoy.
- Tesla's global sales were -13% yoy 1QCY2025, delivering 336,000 vehicles

- BYD global BESS sales in 1QCY2025 were a record 52.6GWh, up  77% yoy.
- Tesla 1QCY2025 deployed 10.4 GWh of energy storage products,  157% yoy

# China is Moving in Decarbonisation, Rapidly

China is still adding flexible coal power plants (too much!), but utilization rates are down to average just 46% in 4MCY2025, balancing ever more VRE! China deployed 127GW of renewable energy capacity in 1QCY2025.

China's Electricity Generation Mix in Jan-Apr 2025

		Jan-Apr 25	% Change yoy	Share of generation	Apr-25	% Change yoy
<b>Thermal Power</b>	TWh	1,931	-3.6%	60%	438	-1.7%
<i>Coal</i>	TWh	1,837	-3.6%	57%	416	-1.7%
<i>Gas</i>	TWh	89	-3.6%	3%	20	-1.8%
<i>Other Thermal</i>	TWh	5	-3.7%	0%	1	-1.7%
<b>Bioenergy</b>	TWh	61	-3.6%	2%	16	8.4%
<b>Hydropower</b>	TWh	306	3.5%	9%	79	-5.7%
<b>Nuclear Power</b>	TWh	159	12.7%	5%	41	12.4%
<b>Wind Power</b>	TWh	412	16.0%	13%	105	19.5%
<b>Solar Power</b>	TWh	350	42.9%	11%	96	38.4%
<b>TOTAL POWER GENERATION</b>	<b>TWh</b>	<b>3,218</b>	<b>3.8%</b>	<b>100%</b>	<b>775</b>	<b>5.0%</b>
Variable Renewable Generation	TWh	762	27.0%	24%	201	27.8%
Zero Emissions Power Generation	TWh	1,287	17.1%	40%	337	15.3%

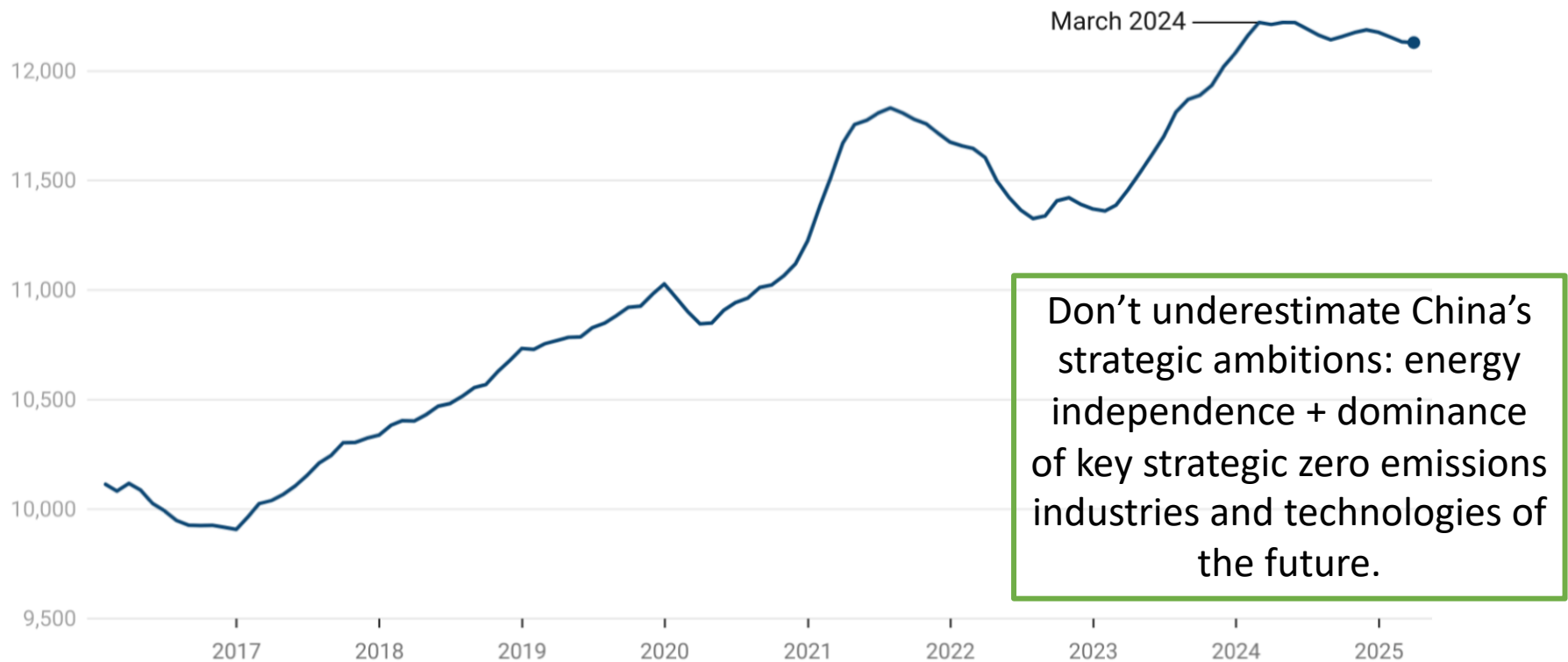
Source: National Bureau of Statistics, Ember, CEF Estimates

# China's electrification leadership drives decarbonisation

**China's electrification is about energy security i.e. permanently reducing reliance on imported fossil fuels.**

## China's CO2 emissions drop due to clean energy for first time

Emissions from fossil fuels and cement, MtCO<sub>2</sub>, rolling 12-month totals



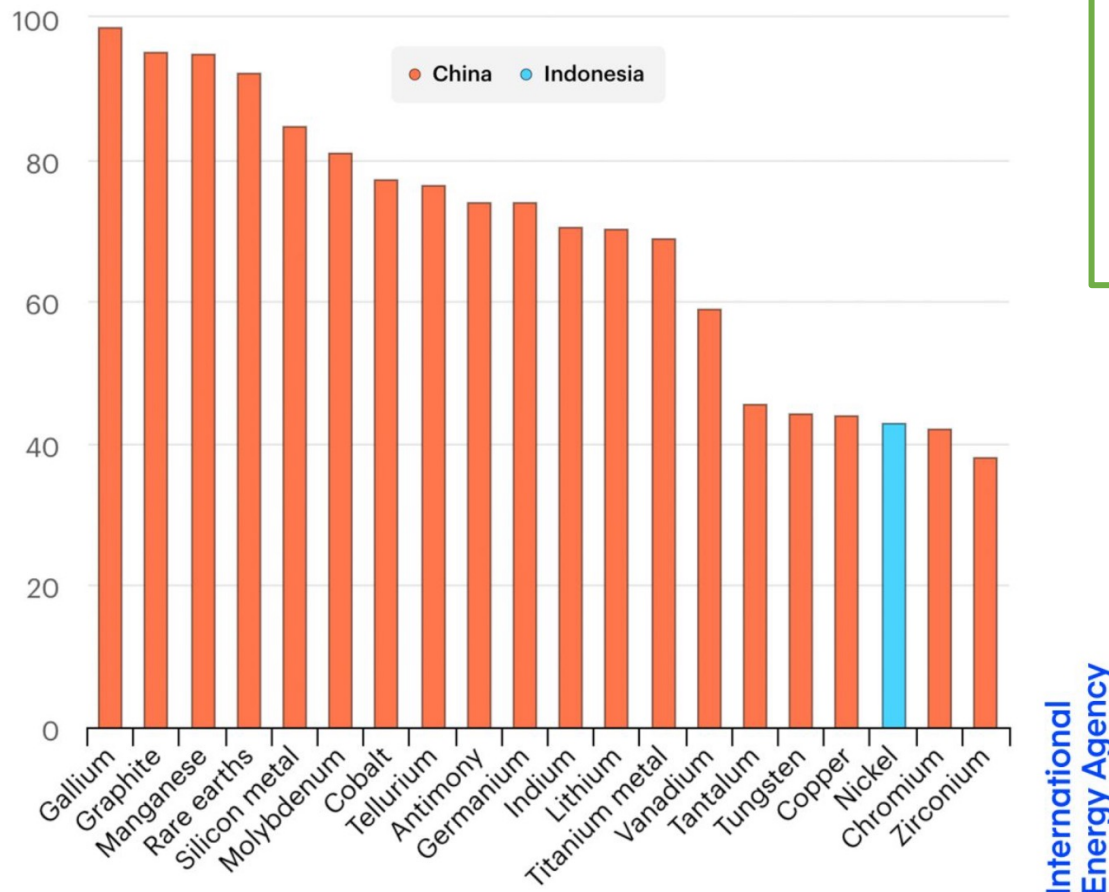
Source: Analysis by Lauri Myllyvirta for Carbon Brief

**CarbonBrief**  
CLEAR ON CLIMATE

# Australia Can't Afford to be Complacent re China

A high degree of **geographical concentration** is visible across all key strategic minerals

Percentage share of top refining country



China is the biggest buyer of strategic minerals globally, by far. China benefits from increased supply via sustained lower prices.

International  
Energy Agency

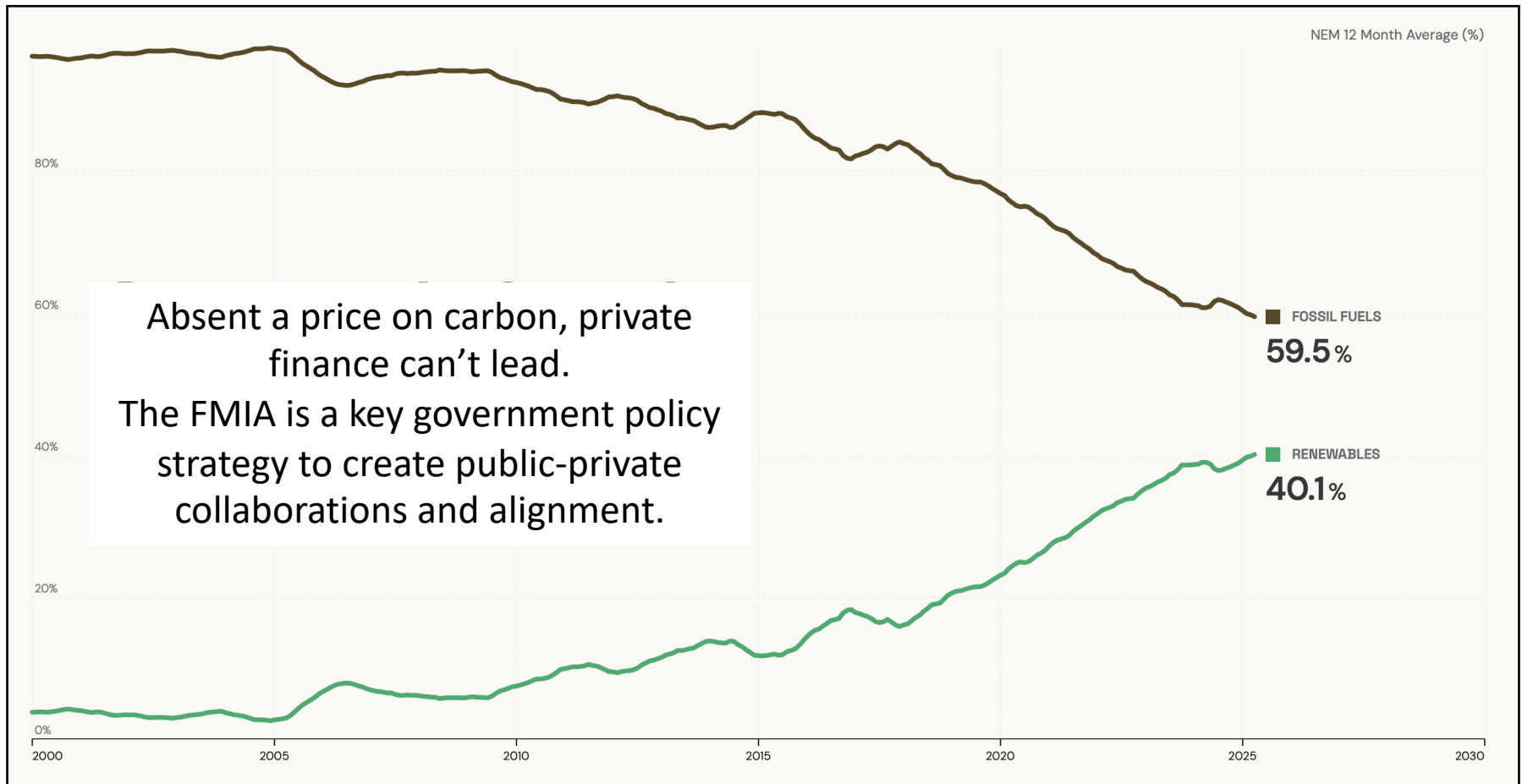
Source: IEA Critical Minerals Report, May 2025

[https://www.iea.org/reports/global-critical-minerals-outlook-2025?utm\\_content=bufferf2bbd&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](https://www.iea.org/reports/global-critical-minerals-outlook-2025?utm_content=bufferf2bbd&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)



# Australia must embrace decarbonisation

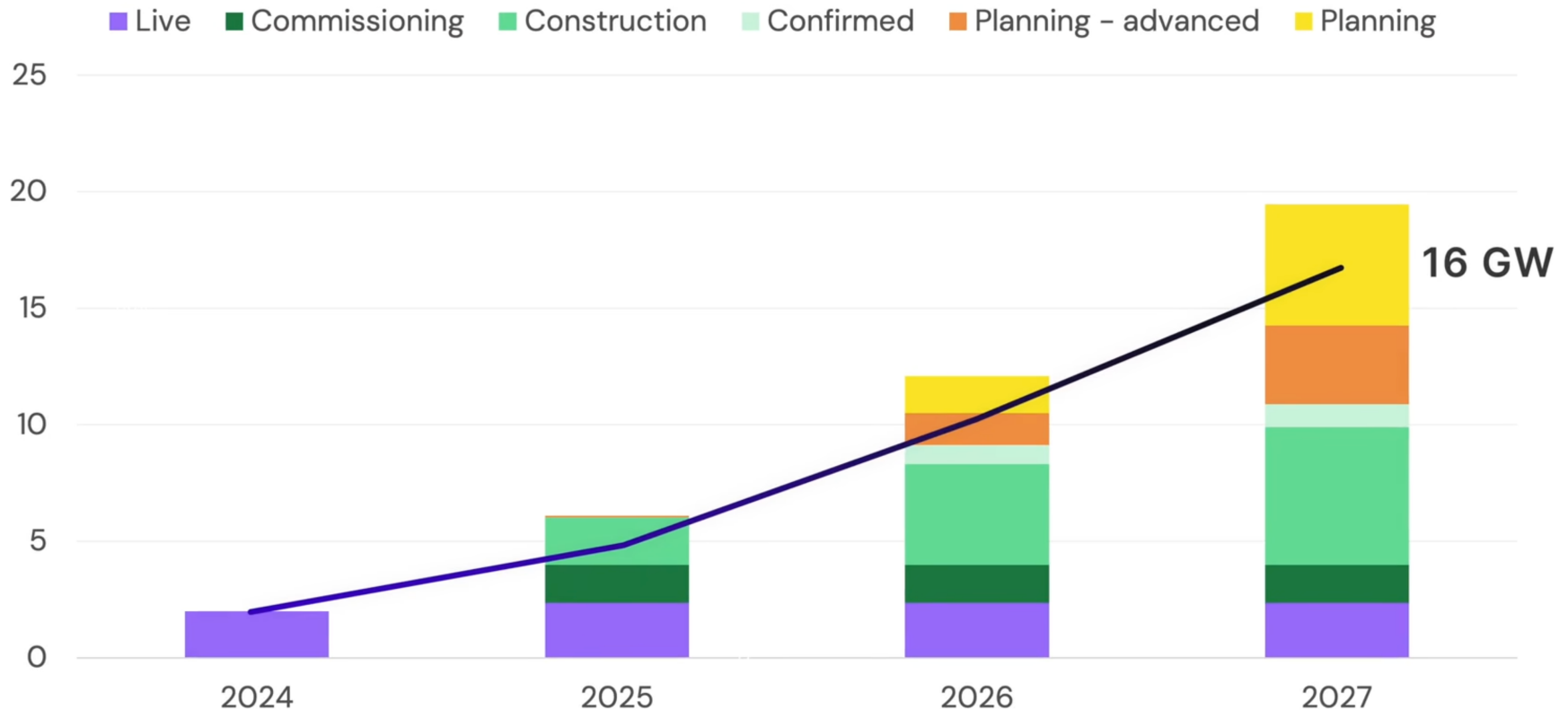
Australia has exceeded 40% renewable share on a 12-month rolling average, 46% in 4Q CY2024



# Cleantech Investment

**Australian BESS uptake is at record levels, soon to be boosted again by the Federal government's \$2.3bn 30% battery rebate**

Cumulative operational and pipeline battery energy storage capacity by current status (GW)



**MODOENERGY**

Source: Wendel Hortop, Modo Energy 8 May 2025

[https://www.linkedin.com/posts/wendel-rhys-hortop\\_355-mw-of-new-bess-capacity-coming-online-activity-7325278123048984577-91bO?utm\\_source=share&utm\\_medium=member\\_desktop&rcm=ACoAAAK\\_xL4BN5TFIx7F-X4g0YfwtHJ1QLTvZoQ](https://www.linkedin.com/posts/wendel-rhys-hortop_355-mw-of-new-bess-capacity-coming-online-activity-7325278123048984577-91bO?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAK_xL4BN5TFIx7F-X4g0YfwtHJ1QLTvZoQ)

# Australia is Responding to China's Challenge

**Strategic public capital is a key facilitator, in the absence of a CO<sub>2</sub> price signal**

**FMIA, CIS, RTN, NRF, Future Fund, CEFC, ARENA, EFA, NAIF**

## Capacity Investment Scheme

The Capacity Investment Scheme (CIS) is an Australian Government revenue underwriting scheme to accelerate investment in:

- 23 GW of renewable capacity representing \$52 billion in investment
- 9 GW of clean dispatchable capacity representing \$15 billion in investment.

South Australia

Australian  
Associated Press

20 Feb 2025

**Troubled Whyalla steelworks gets \$2.4bn government bailout as hunt for new owner begins**

**“Crucial support:” Federal Labor launches \$2bn green aluminium production credit scheme**



RENEW ECONOMY

Andrew Brown

Jan 20, 2025

**Rio Tinto says aluminium could run on renewables and batteries**

FINANCIAL REVIEW

Feb 6, 2025

**\$19bn Rewiring the Nation Fund**

The \$19 billion Rewiring the Nation (RTN) Fund is a significant expansion of CEFC investment capacity, with a particular focus on facilitating the timely delivery of grid and transmission projects, using CEFC capital to accelerate the benefits of grid transformation to consumers, including helping to lower consumer energy costs.

**\$200 million investment in critical minerals to build Australia's future**

15 January 2025

The Hon Ed Husic MP

Minister for Industry and Science

The Albanese Government's National Reconstruction Fund Corporation (NRFC) will invest \$200 million in Arafura Rare Earths to help build Australia's Future.