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Australia Wind Energy Webinar

**Turning Points: What's
Working, What's Next for
Australia's Wind Energy
Pathway**

WED 18 June 2025

Global Cleantech Investment Dominance

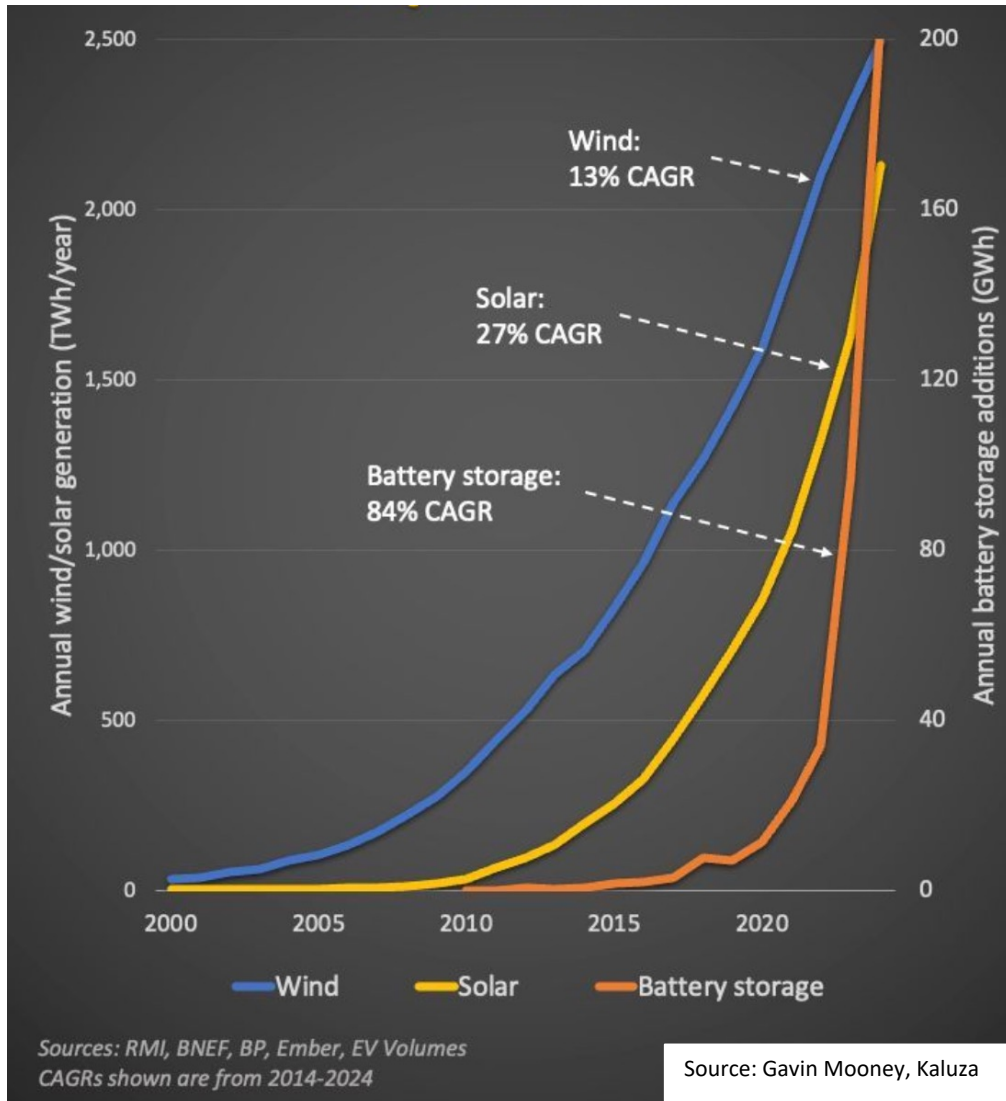
The world invested US\$2.1 trillion in cleantech in 2024, +11% yoy



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.

Renewables + Batteries => Disruption!

As Battery Prices fell 50% in 2 years, global Installations have Taken Off
Solar + BESS + V2G => Accelerated Energy System Transformation



Capex cost A\$m per MW, FY2025

- Offshore floating \$8.5m, ~55% CF
- Offshore wind \$4.5m, ~50% CF
- Onshore wind \$3.0m, ~35% CF
- Utility solar \$1.3m, ~25% CF
- Rooftop solar * \$0.9m, ~13% CF

CSIRO CostGen, Dec'2024 – generalized for Australia, noting capacity factor (CF) differs significantly by region.
* Behind the meter avoids grid T&D and retailer costs

China is Moving in Decarbonisation, Rapidly

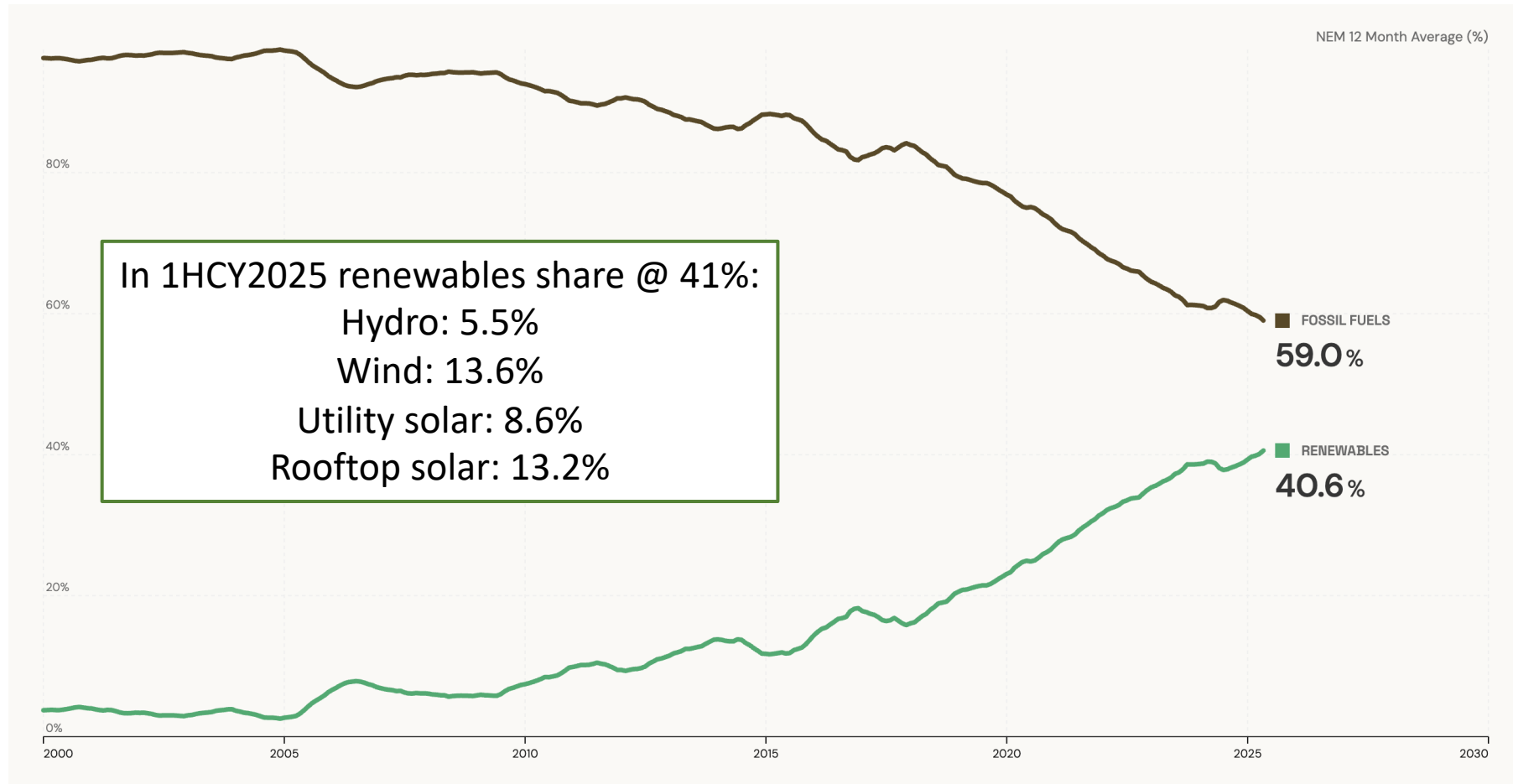
China is still adding flexible coal power plants (too much!), but utilization rates are down to average just 46% in 4MCY2025, balancing ever more VRE! China deployed 127GW of renewable energy capacity in 4M to-date CY2025. China deploys as much wind each week as Australia does each year.

New Capacity Installed in China in Jan-Apr 2025						
		Jan-Apr 2025	% Share of new adds	% yoy change	Apr-25	% Share of new adds
Thermal Power	GW	13.0	9%	42%	3.7	7%
Hydropower	GW	2.7	2%	-3%	0.5	1%
Nuclear Power	GW	-	0%	0%	-	0%
Wind Power	GW	20.0	14%	19%	5.3	10%
Solar Power	GW	104.9	75%	75%	45.2	83%
Total capacity added	GW	140.5	100%	58%	54.8	100%
Renewable Energy adds	GW	127.5	91%	60%	51.1	93%
Zero Emissions Capacity Adds	GW	127.5	91%	60%	51.1	93%
YTD power grid investment	US\$bn	20		15%		

Source: National Energy Administration

Australia is Half-way to 82% Renewables by 2030

Australia has exceeded 40% renewable share on a 12-month rolling average, 46% in 4QCY2024, 41% in 1HCY2025

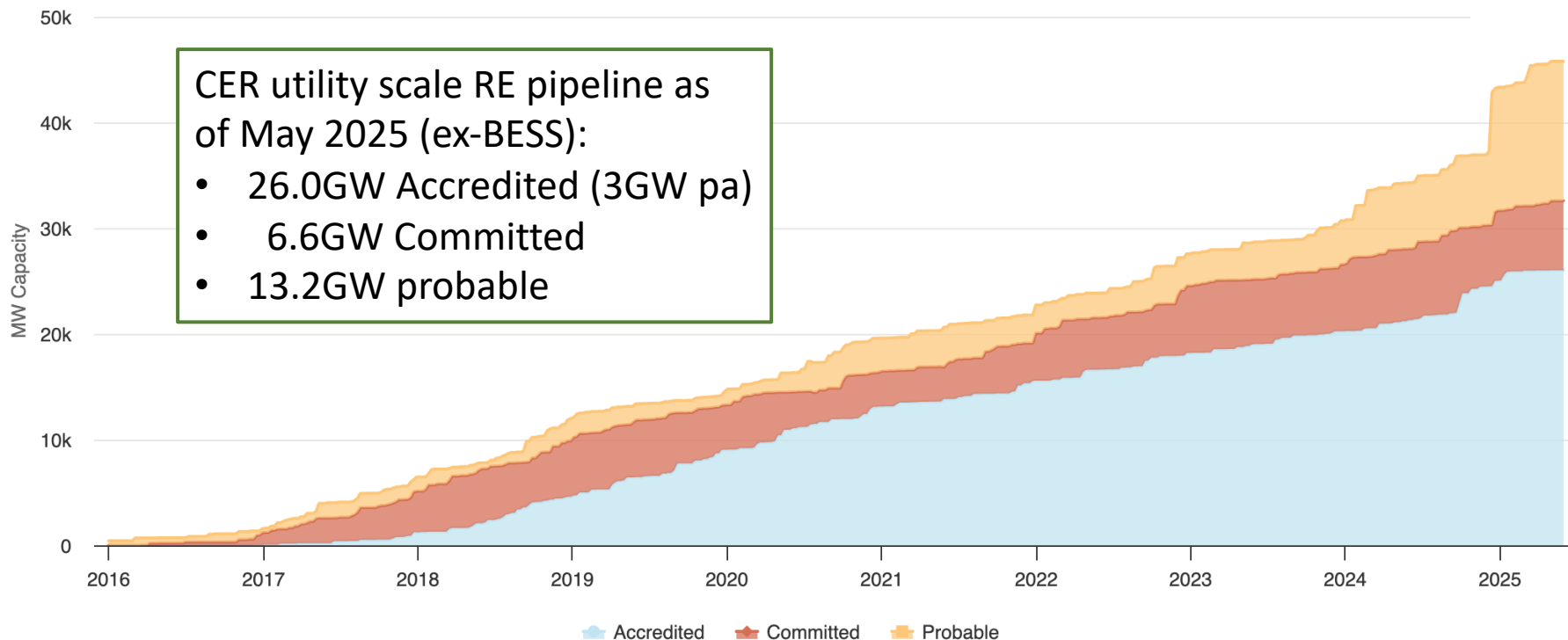


Australian Utility-scale Renewables Investment

The Clean Energy Regulator notes the sustained growth in large scale renewable energy pipeline of projects

Renewable energy project pipeline progress

January 2016 to May 2025



Open Electricity puts June 2025 capacity at: 12.6GW solar, 14.0GW wind and 6.1GW/10.3GWh BESS operational, plus 21.8GW of rooftop solar.

Source: Australian Government, Clean Energy Regulator, 16 June 2025

https://cer.gov.au/markets/reports-and-data/large-scale-renewable-energy-data?utm_source=Clean+Energy+Regulator+-+Update&utm_campaign=b393bae0fa-LRET_May_monthly_data&utm_medium=email&utm_term=0_-b393bae0fa-73688735

Australian Wind Investment

2.2GW of wind projects under construction

Major New Wind farms on-grid committed since Jan'2024

<u>Project, State</u>	<u>MW</u>	<u>Date</u> <u>Commenced</u>	<u>Proponents</u>
Uungula, NSW	414	Jan'2024	Squadron Energy
Golden Plains - stage 2, Vic	574	Jun'2024	TagEnergy
Lotus Creek, Qld	285	Aug'2024	CS Energy
Boulder Creek, Qld	228	Sep'2024	Aula Energy and CS Energy
Wambo - stages 1&2, Qld	504	Dec'2024	Cubico Sustainable & Stanwell
Warradarge - Stage 2, WA	180	Dec'2024	Potentia and Synergy
Port Latta, TAS	21	Apr'2025	Aquila Clean Energy
Total (MW)	2,206		

Australian Wind Farm Investment

**5.4GW of wind projects Considered Probable by CER;
With another 5.1GW in NSW awarded REZ access**

Major New Wind farms on-grid judged Probable by CER

Project, State	Probable		Proponent	
	MW	MW		
Bungaban, Qld for Rio Tinto (1) *		1,400	Windlab	
Moonlight Range, Qld (2) *	450		Brookfield/Greenleaf	
Coppabella, NSW		284	Goldwind	
Kentbruck Green Hub, Vic #		600	HMC Capital	
Kidston Stage 3, Qld *		120	J-Power	
Lakeland, Qld		100	Windlab	
Mt Hopeful, Qld *		350	Neoen	
Palmer, SA #		288	Tilt Renewables	
Spicers Creek, NSW (3) #		700	Squadron Energy	
Valley of the Winds, NSW (3) #		936	ACEN	
Liverpool Range, NSW (3)	1,350		Tilt Renewables	
Woolsthorpe, Vic		70	Elecnor	
Goyder North - stage 1, SA * #		300	Neoen	
Thunderbolt - stage 1, NSW #		230	Neoen	
Yanco Delta, NSW (4) *	1,450		Origin Energy	
Pottinger Energy Park, NSW (4) *	832		Someva / AGL	
Dinawan, NSW (4) *	1,200		Spark, Malaysia TNB	
Bullawah, NSW (4)	263		BayWa r.e.	
Junction Rivers, NSW (5) * #		585	Windlab	
Total (MW)	5,095	5,378		

Notes:

1 Temporarily paused by Qld LNP

2 Cancelled by Qld LNP May 2025

3 Winners in NSW CW Orana REZ, May 2025

4 Winners in NSW South West REZ, April 2025

5 Loser in NSW South West REZ in April 2025,
despite winning CIS in Dec'2024

* Plus a proposed BESS

Federal CIS winner Dec'2024

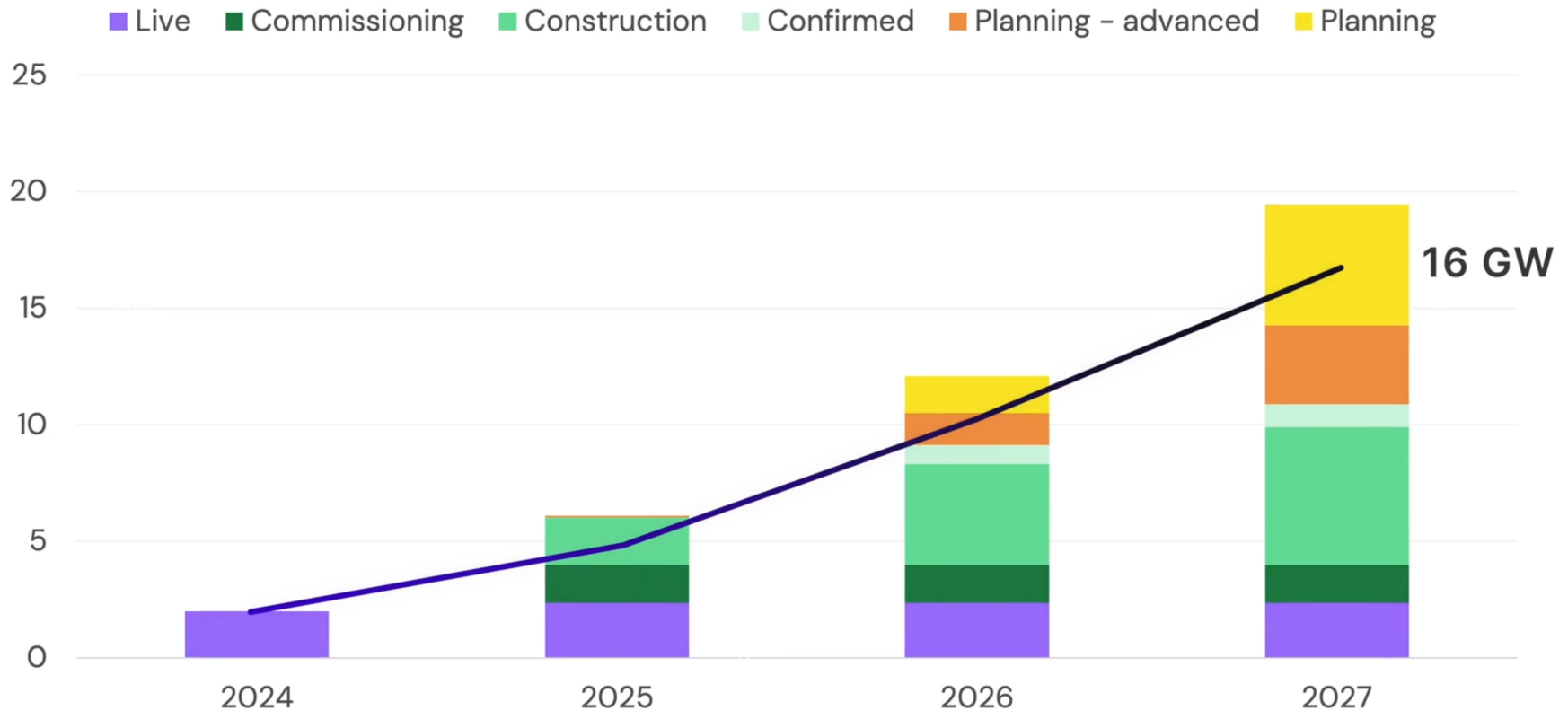
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Australian BESS Investment

Australian Utility scale BESS uptake is at record levels, 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

Australia is Responding to China's Challenge

Strategic public capital is a key facilitator, in the absence of a CO₂ price signal

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

But we need to double the pace of renewables capacity deployment

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.

Australian Offshore Wind Investment

Australia needs a critical mass in offshore wind project proposals to justify the supply chain investment

Minister says no to more offshore wind projects in Hunter zone

By Matthew Kelly Newcastle Herald 17 June 2025



Chris Bowen discusses the Hunter Offshore Wind Zone with Newcastle MP Sharon Claydon

Climate Change and Energy Minister Chris Bowen has ruled out adding more projects to the **Hunter Offshore Wind Zone**, a move that reflects growing uncertainty about the offshore wind industry's future.

It comes as Norwegian Energy Giant **Equinor** continues to deliberate on whether to take up a feasibility licence for the 2GW Novocastrian Wind Project.

A coalition of 25 Hunter groups has written to Mr Bowen urging him to scale from 2GW to fully realise the Hunter zone's 5GW capacity.

Onshore wind and solar will deliver Australia's 82% target, enabled by BESS, PHS, DRM, VPPs, V2G and interstate grid transmission enhancements.

Offshore wind could play a significant role in Australia in solving the decarbonisation of the last 18% of our electricity grid

But this will require a public value recognition and deployment scale, given the high cost of offshore wind, like methane peakers, PHS and industrial plant flexibility (e.g. Tomago).

BESS: Battery energy storage systems
PHS: Pumped hydro storage,
DRM: Demand response management
VPP: Virtual power plants
V2G: Vehicle-to-Grid