



Australian Government

Australian Trade and Investment Commission

Towards a Green Economy: Opportunities for investment in Australia

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Highlights

- About the Australian Trade & Investment Commission (Austrade)
- Australia in Brief
- Australia's Net Zero Objective
- Key Sectors driving transition to net zero
 - Energy
 - Transport
- Critical Minerals as an enabler
- Conclusion

A woman with long dark hair is sitting on the edge of a large, dark rock formation on the left side of the frame. She is looking out over a vast, hazy landscape under a sunset sky. The sky is filled with soft, wispy clouds in shades of orange, pink, and blue. In the distance, there are rolling hills and a body of water. The foreground is a green, grassy field with some trees on the right. The overall mood is serene and contemplative.

The Australian Trade & Investment Commission

We foster exporter growth,
attract foreign direct investment
and stimulate recovery
in the visitor economy

Support in your market, in your language



- Austrade office or presence outside Australia
- Austrade presence outside Australia where consular services are also provided
- Austrade Landing Pad
- Australian Trade and Defence Office
- Austrade office in Australia

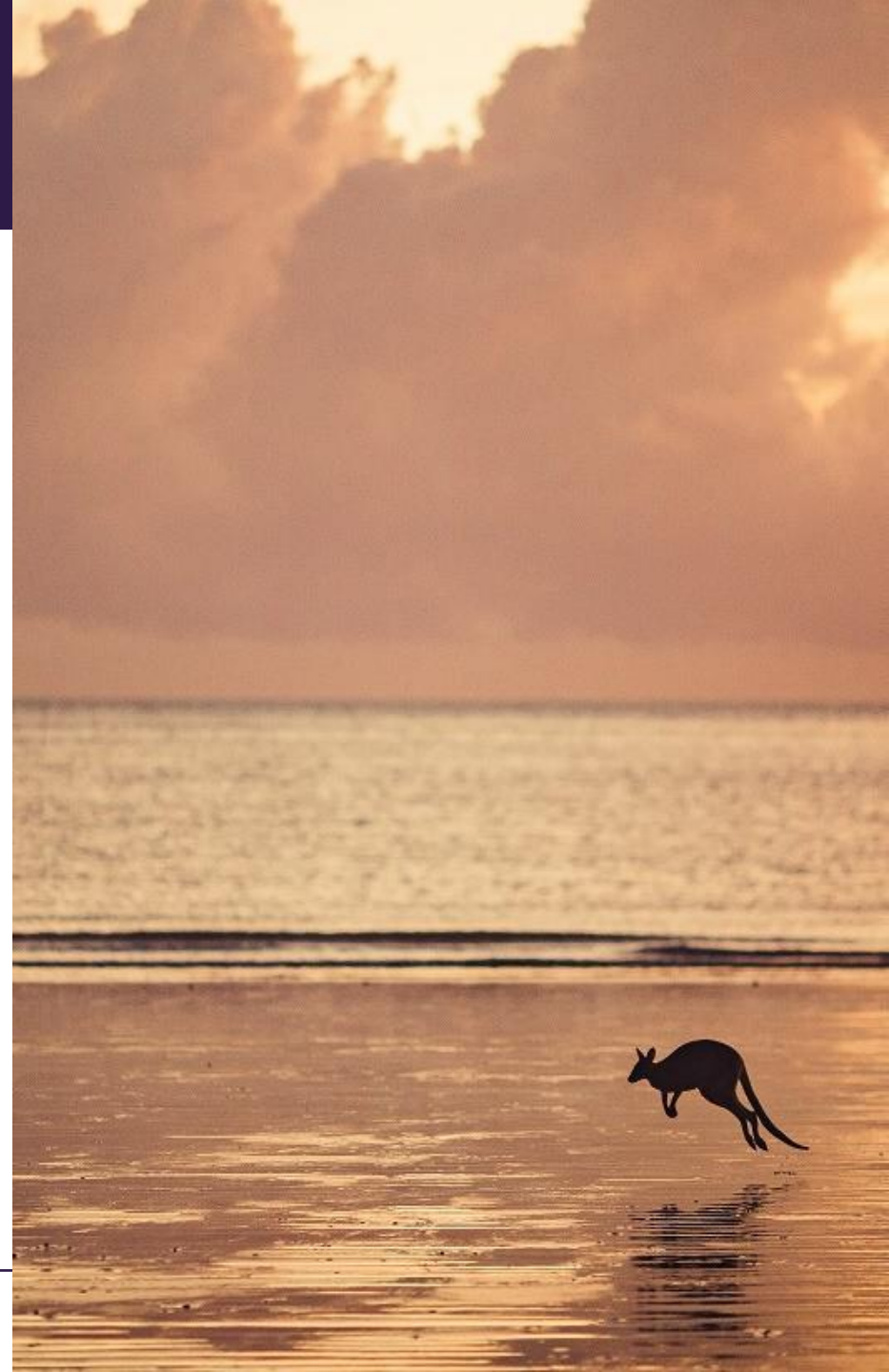
Why Australia

- Australia's economy will continue to grow by 1.6% in 2023, outperforming other advanced economies (1.2%). Success is built on low taxation and a dynamic workforce.
- We have a A\$167 billion tech sector and will shortly be a renewable energy superpower.
- We have US\$2.2 trillion of managed funds. Today, our dynamic economy and lifestyle cities draw global talent
- Our 17 FTAs anchor trade in fast-growing Asia Pacific, while 7% p.a. investment growth powers our primary export industries.



Economic fundamentals

- A federation of six states (New South Wales, Queensland, South Australia, Tasmania, Victoria and Western Australia) and two mainland territories, the Australian Capital Territory and the Northern Territory.
- A parliamentary monarchy with King Charles III of the United Kingdom as head of state.
- Growing population of 25.7 million 2022.
- High GDP USD 61,632 per capita in 2022
- The monthly Consumer Price Indicator rose 6.8% in the twelve months to April 2023.
- Unemployment rate at 3.6% in April 2023.



Attractive FDI destination

Australia's main sources of foreign direct investment stock, 2011-2021 (A\$ billion)[1]

Rank 2021	Economy	2011 \$ billion	2019 \$ billion	2020 \$ billion	2021 \$ billion	% Share 2021	% Change 2020 - 2021	% CAGR 2011-2021	% of Australian GDP, 2021
1	US	116	219	194	185	17.4	-4.8	4.8	8.5
2	Japan	55	116	132	134	12.6	1.2	9.3	6.2
3	UK	66	127	123	128	12.0	3.5	6.8	5.9
4	Canada	19	46	46	58	5.5	24.8	11.8	2.7
5	Netherlands	30	57	53	55	5.2	4.9	6.4	2.5
6	China	14	48	46	46	4.4	1.6	12.3	2.1
7	Singapore	20	35	40	46	4.4	16.6	8.8	2.1
8	Bermuda	6	42	40	40	3.8	0.6	21.3	1.9
9	Virgin Islands, British	np	22	22	22	2.1	0.4	np	1.0
10	Germany	14	23	22	20	1.9	-7.5	3.7	0.9
11	Hong Kong SAR	8	17	16	17	1.6	3.5	8.3	0.8
12	Malaysia	np	15	np	14	1.3	np	np	0.6
13	Switzerland	23	12	12	13	1.2	6.6	-5.7	0.6
14	France	7	13	12	12	1.1	-2.8	5.1	0.5
15	Luxembourg	3	10	11	10	0.9	-13.9	11.0	0.4
16	Korea	np	7	7	7	0.7	9.0	np	0.3
	Other economies	166	237	255	255	24.0	-0.3	4.3	11.7
	FDI stock – all economies	547	1,046	1,032	1,062	100.0	2.9	6.9	48.8
	<i>OECD</i>	359	654	640	650	61.3	1.7	6.1	29.9
	<i>APEC</i>	248	514	506	518	48.8	2.4	7.7	23.8
	<i>EU (plus UK)</i>	138	248	242	248	23.4	2.6	6.0	11.4
	<i>ASEAN</i>	28	55	58	66	6.2	12.6	8.9	3.0
	FDI stock as a percentage of GDP	37.3	52.4	52.4	48.8				

A group of five people are sitting on a rocky cliff edge, looking out over a vast, dark forest under a sunset sky. The scene is captured in a wide-angle shot, with the cliff face in the foreground and the forest extending to the horizon. The sky is a mix of orange, yellow, and blue, suggesting the time is either dawn or dusk. The people are dressed in casual outdoor attire. The overall mood is serene and contemplative.

Transitioning to a NetZero green economy

Australia Legislated Emissions Reduction Targets

08 September 2022 Climate Change Act 2022

- The act legislates Australia's updated Nationally Determined Contribution under the Paris Agreement.
- Targets GHG emissions reductions of 43% below 2005 levels by 2030 and net zero emissions by 2050
- Increased energy productivity by 40% by 2030 (Real GDP/primary energy consumption)
- Represents a 15 percentage point increase on the previous 2030 target
- Both targets are economy wide emission reduction commitments, covering all sectors and gases included in Australia's national inventory

State and Territory Net Zero Commitments

State or territory	Net zero commitments	Emissions reduction targets	Renewable energy targets
Australian Capital Territory	Yes by 2045	50-60% by 2025 65-75% by 2030 90-95% by 2040 compared to 1990 levels	100% electricity since 2020 Transition away from gas by 2045
New South Wales	Yes by 2050	50% by 2030 compared to 2005 levels	12 GW of renewable energy by 2030
Northern Territory	Yes by 2050	No interim targets	50% by 2030 70% renewable electricity for Indigenous Essential Services communities by 2030
Queensland	Yes by 2050	30% by 2030 compared to 2005 levels	50% by 2030 70% by 2032 80% by 2050

State or territory	Net zero commitments	Emissions reduction targets	Renewable energy targets
South Australia	Yes by 2050	50% by 2030 compared to 2005 levels	100% by 2030 500% by 2050
Tasmania	Yes by 2030	No interim targets	100% renewable electricity since 2020 150% by 2030 200% by 2040
Victoria	Yes by 2045	28-33% by 2025 45-50% by 2030 75-80% by 2035 compared to 2005 levels	65% and 2.6 GW of storage planned by 2030 90% and 6.3 GW of storage planned by 2025
Western Australia	Yes by 2050	80% emissions reduction target below 2020 levels for government operations No state-wide interim targets	State-owned coal-fired power stations, under Synergy, will be retired by 2030

Government Agencies To Drive Net Zero Initiatives

Embedded NET ZERO targets

- Australian Renewable Energy Agency
- Clean Energy Finance Corporation
- Infrastructure Australia
- Northern Australia Infrastructure Facility

Dedicated Net Zero Authority to be legislated

- A Net Zero Economy Agency as of 1 July 2023 in anticipation of the Net Zero Authority
- Support workers in emissions-intensive sectors to access new employment, skills and support
- Coordinate programs and policies across government to support regions and communities to attract and take advantage of new clean energy industries
- Help investors and companies to engage with net zero transformation opportunities.

An aerial photograph of a wind farm at dusk. A large white wind turbine is the central focus in the foreground. The landscape is a mix of brown and green fields. In the distance, several other wind turbines are visible against a purple and blue sky. At the bottom of the image, there is a decorative pattern of glowing yellow circles of varying sizes.

A Renewable Energy Superpower

Australian Government Energy Strategy

Updated Nationally Determined Contribution

- **43 per cent** below 2005 levels by 2030, and committed to net zero emissions for 2050

Rewiring the Nation

- **A\$20 billion** for urgent upgrade and modernisation of the electricity grid

National Reconstruction Fund

- **A\$3 billion** to support the uptake of clean energy and green technologies

Community Battery and Solar Banks

- **A\$300 million** to deliver community batteries and solar banks

Budget 2023-24 announced investments in Hydrogen, Transmission Grid, Net Zero Authority etc

Strong Credentials

A renewable energy superpower



#2
for solar
power
potential in the world



3 million+
households
(around 30%) have rooftop
solar PV power



#6
for solar
production
largest producer of solar
electricity in 2021



3rd
lowest cost
for generating solar
power among major
solar-power producers



Highest
ratios
of renewable energy patents
in the world – on par with the
US and Germany



1st
country
to export hydrogen



6th
most attractive
country
for renewable energy investment



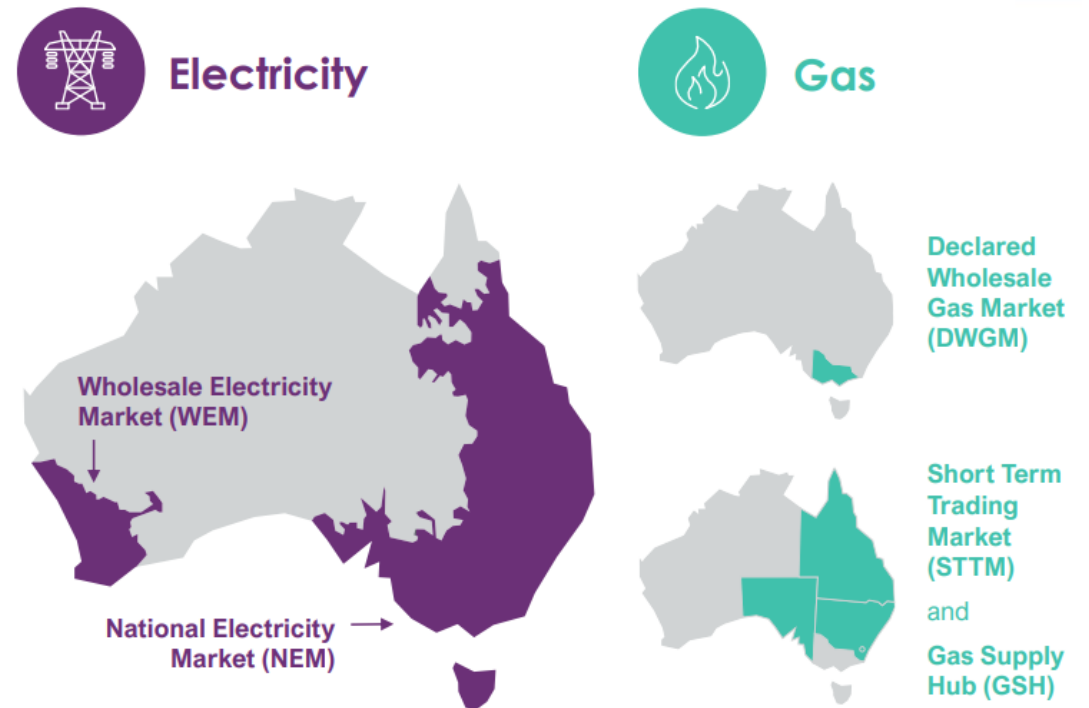
Largest
producer
of lithium in the world

Electricity Transmission

Priorities for the Australian Energy Market Operator

AN ENERGY FUTURE BUILT ON:

1. Low-cost renewable energy, taking advantage of the abundant wind, solar and hydro resources that Australia has to offer
2. Firming technology like pumped hydro, batteries, and gas generation, to smooth out the peaks and fill in the gaps from that variable renewable energy;
3. New transmission to connect these new and diverse low-cost sources of generation to our towns and cities; and
4. A grid that is capable of running, at times, entirely on renewable energy.

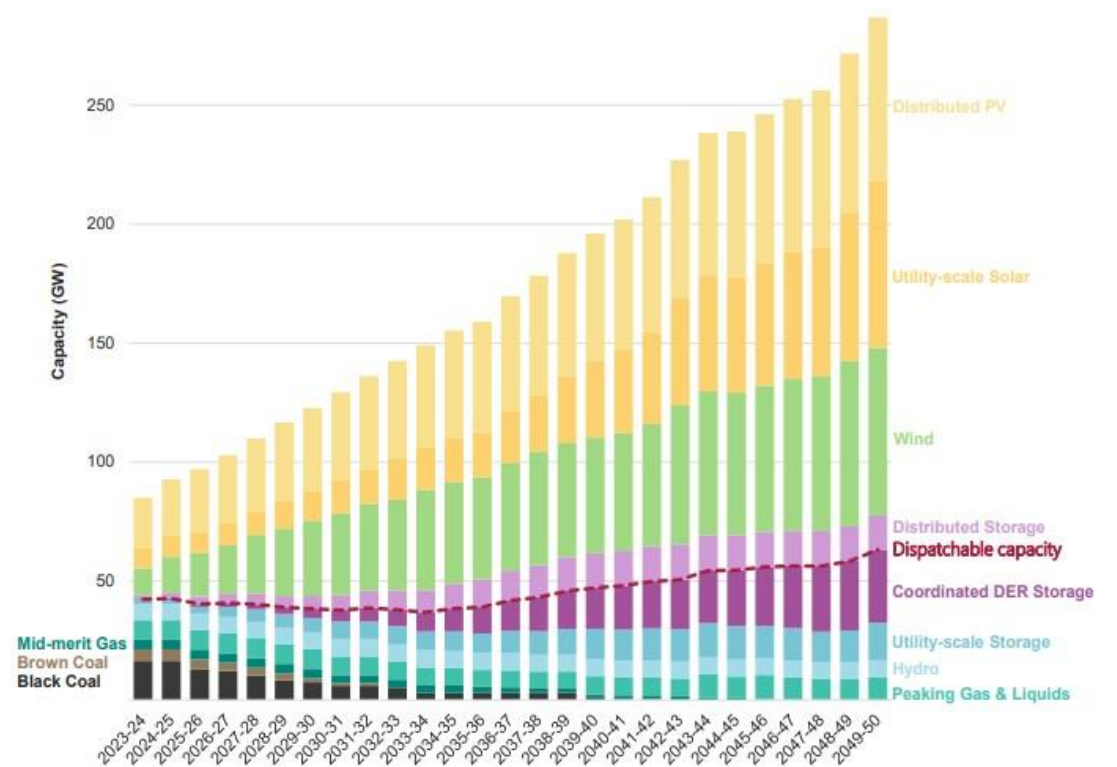


The National Electricity Market's* Transformation

1. Electrification of industry and shift to renewables
 - Doubling of electricity required to 320 TWh per year
 - 60% of coal capacity withdrawn by 2030
 - 9-fold increase in renewable energy generation
2. More than 10,000 kilometres of transmission infrastructure
3. Over 20 network projects across Australia

* QLD, NSW, VIC, ACT, SA, TAS

Forecast NEM capacity to 2050



Source: AEMO – Integrated System Plan – ISP- 2022



Development status

- Operating
- Construction
- Financial close
- Approved
- Application
- Concept

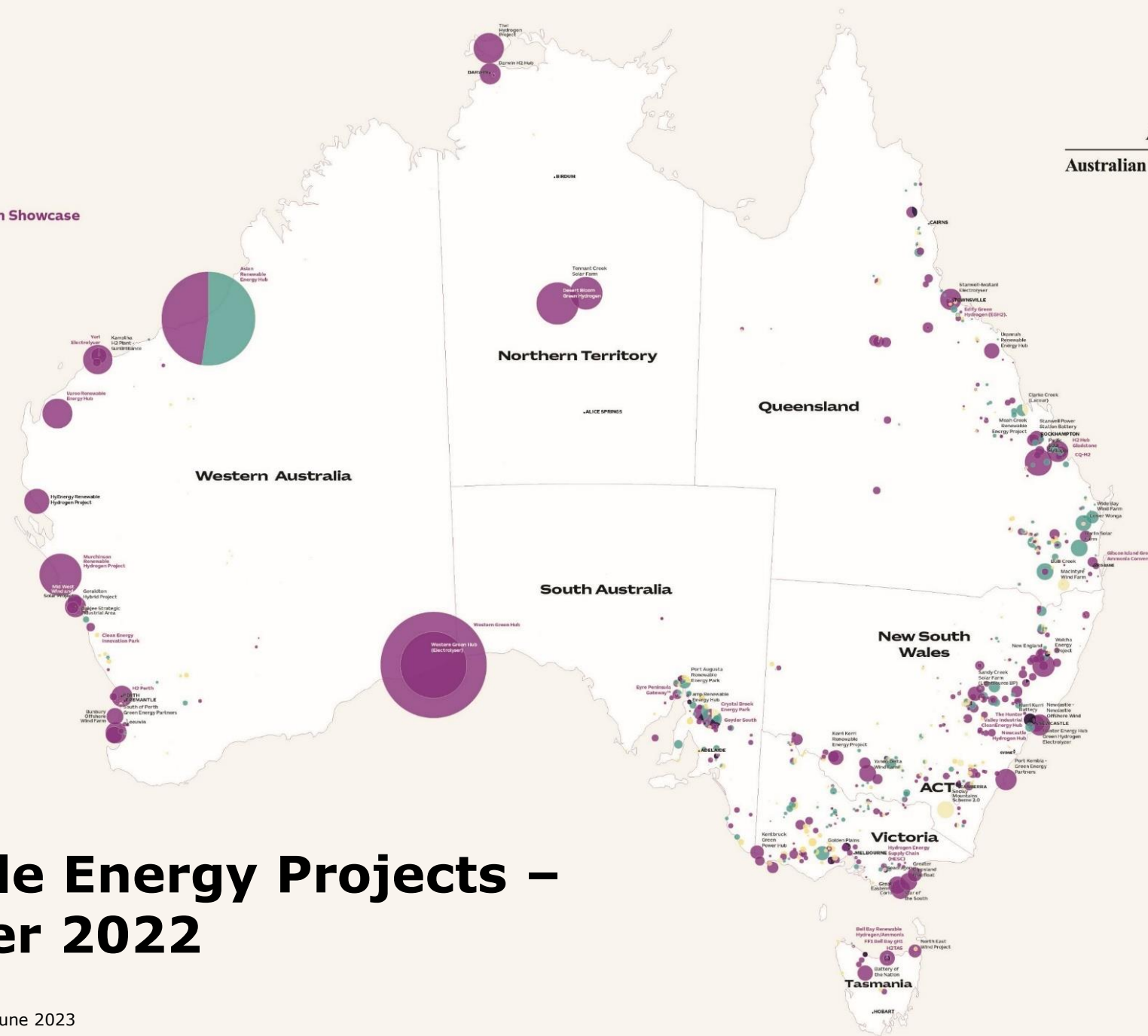
Project featured in Australian Hydrogen Showcase

Plant capacity year installed (MW)



0 100 200 km

Data courtesy of Rystad
Data current as of September 2022



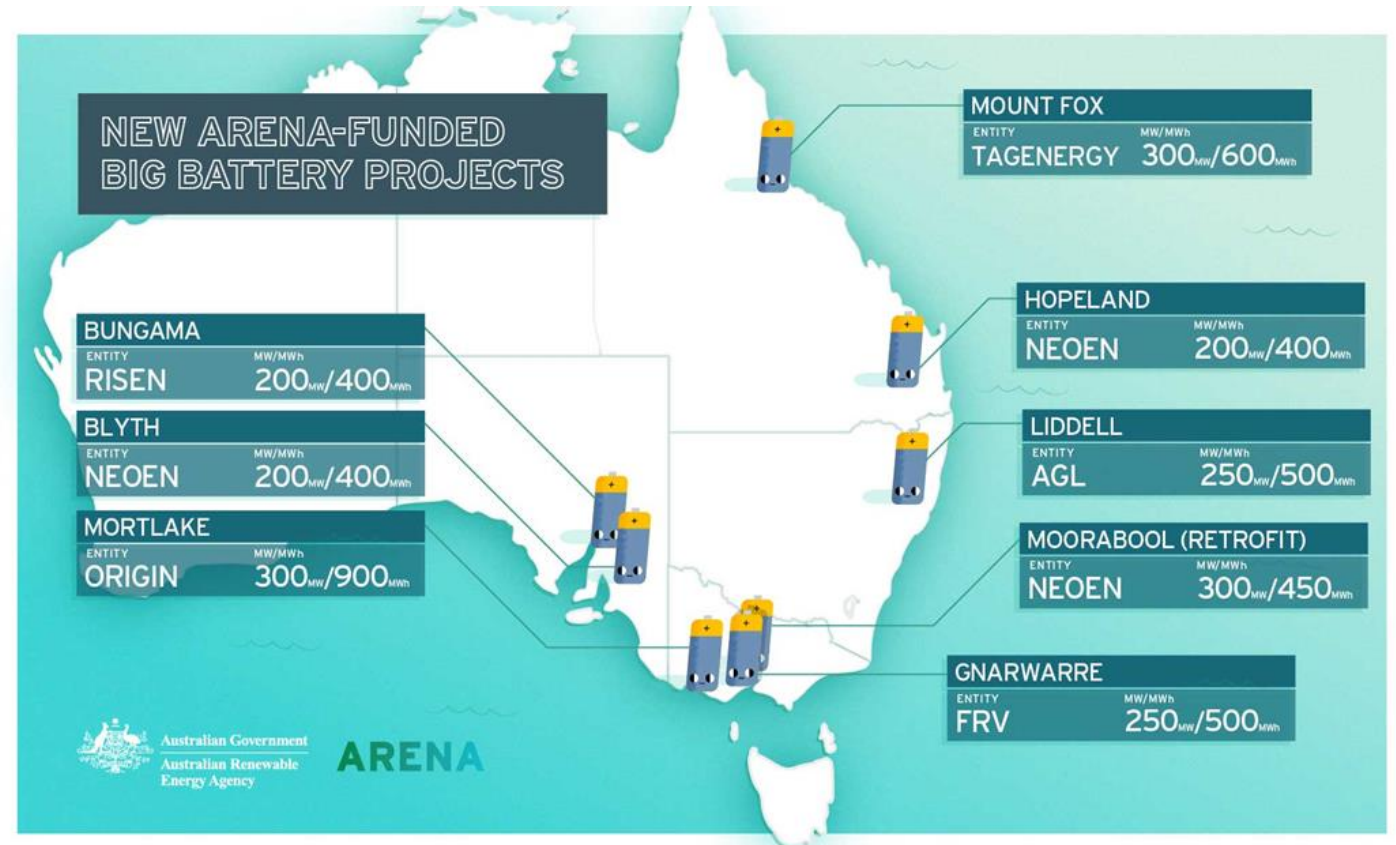
Renewable Energy Projects – September 2022

Grid scale batteries

Utility Battery Construction Start Year

AUSTRALIAN RENEWABLE ENERGY AGENCY · ARENA

- Independent Australian Government body supporting the renewable energy transition
- Funds innovative projects, and develops knowledge and insights
- Large Scale Battery Storage Funding Round
 - \$176m to support 8 storage projects
 - Represents a \$2.7b pipeline



Hydrogen

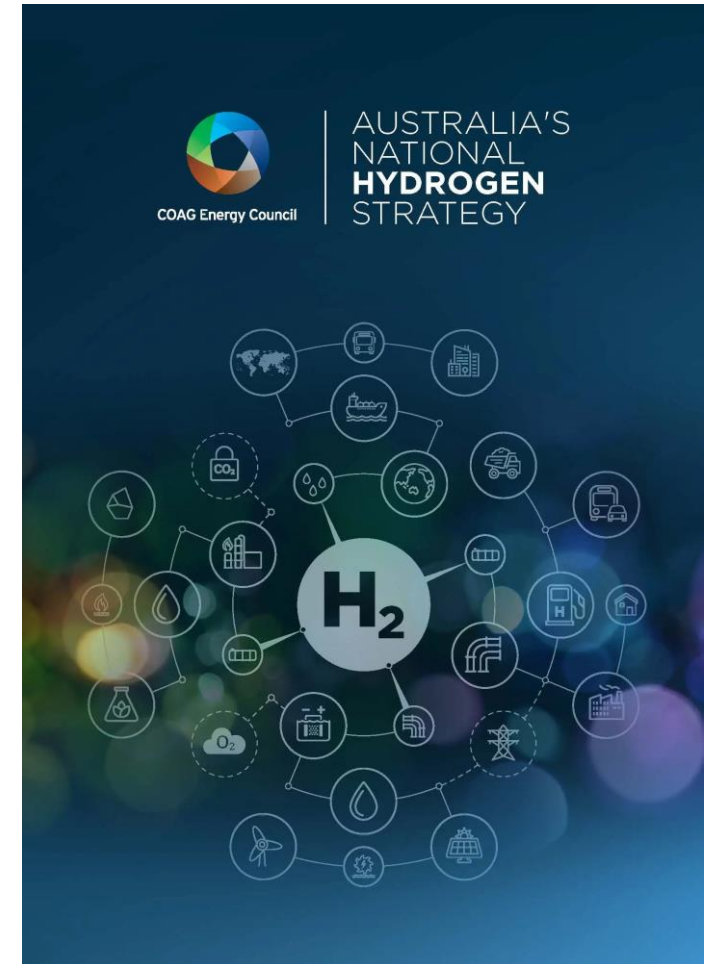
The Australian Government is committed to developing a hydrogen economy. Australian energy ministers share a vision for a clean, innovative, safe and competitive hydrogen industry that benefits all Australians and is a major global player by 2030.

Australia's **National Hydrogen Strategy** provides a framework for governments and industry to work together to build Australia's hydrogen industry.

The Commonwealth, State and Territory Governments will continue to work with industry to overcome any barriers to development. This work focuses on 3 areas:

- Building demand
- Achieving low-cost hydrogen production at scale
- Reducing hydrogen delivery costs.

Direct Australian Government support for the hydrogen industry is now over A\$2.2 billion.



Why Australia for Hydrogen

Energy links to Asia and decarbonisation policies



Australia well placed to supply hydrogen to Asia, with new opportunities developing in Europe:

- Proximity to market
- Established energy trade links
- Shipping costs only marginal to Europe

Towards



Australia is a trusted destination for long-term investment:

- Global leader in resources and energy export industries
- Low sovereign risk
- A high-growth destination for A\$4 trillion of foreign investment

De-carbonisation policies in Asia to trigger demand for hydrogen

- Japan wants imported hydrogen to reduce fossil fuel dependence
- South Korea has a plans to import 1.96MTPA clean hydrogen by 2030.
- Taiwan sees hydrogen a key source of decarbonization. Currently import \$10b of energy from Australia
- Germany, the REPOWER EU policy targets 10 million tons of renewable hydrogen imports by 2030. Critical need to diversify energy supplies.
- Singapore...
- Belgium has a hydrogen import and European import hub strategy

Australia is already developing a hydrogen industry



The Australian Government aims to create a competitive hydrogen industry that is a major global player by 2030



Hydrogen exports could contribute A\$1.7 billion p.a. by 2030:

- Abundant solar and wind as and existing gas resources for generation
- Existing gas infrastructure for distribution
- Existing energy export markets to project development
- Established energy export hubs to develop into hydrogen hubs.



Pilot projects:

- **Hydrogen Energy Supply Chain (HESC)** already delivered liquid hydrogen to Kobe, Japan
- **Yara and Engie** will build a 10MW electrolyser to use green hydrogen in Yara's ammonia plant
- **AGIG's HyP SA** is delivering renewable hydrogen blend to customers in their existing gas network



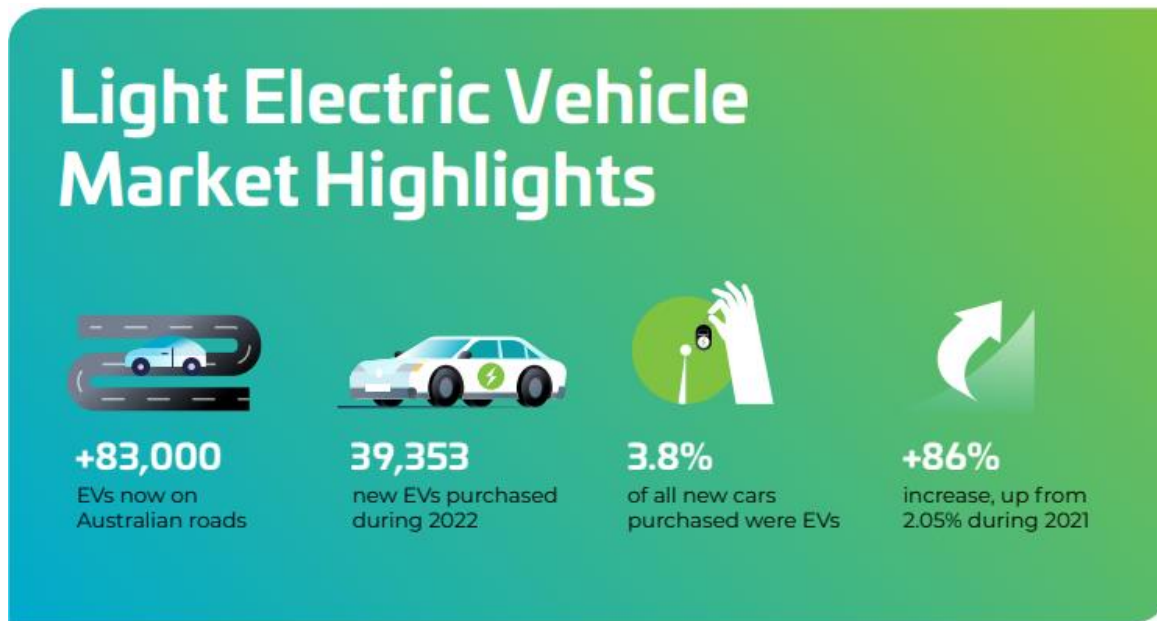
A nighttime photograph of the New York City skyline, featuring the Manhattan Bridge in the foreground and several illuminated skyscrapers in the background. The sky is a mix of blue and purple, suggesting dusk. The bridge's stone towers and suspension cables are visible, and the city lights are reflected in the water below. The text "Future Mobility" is overlaid in white on the left side of the image.

Future Mobility

Nationwide EV deployment

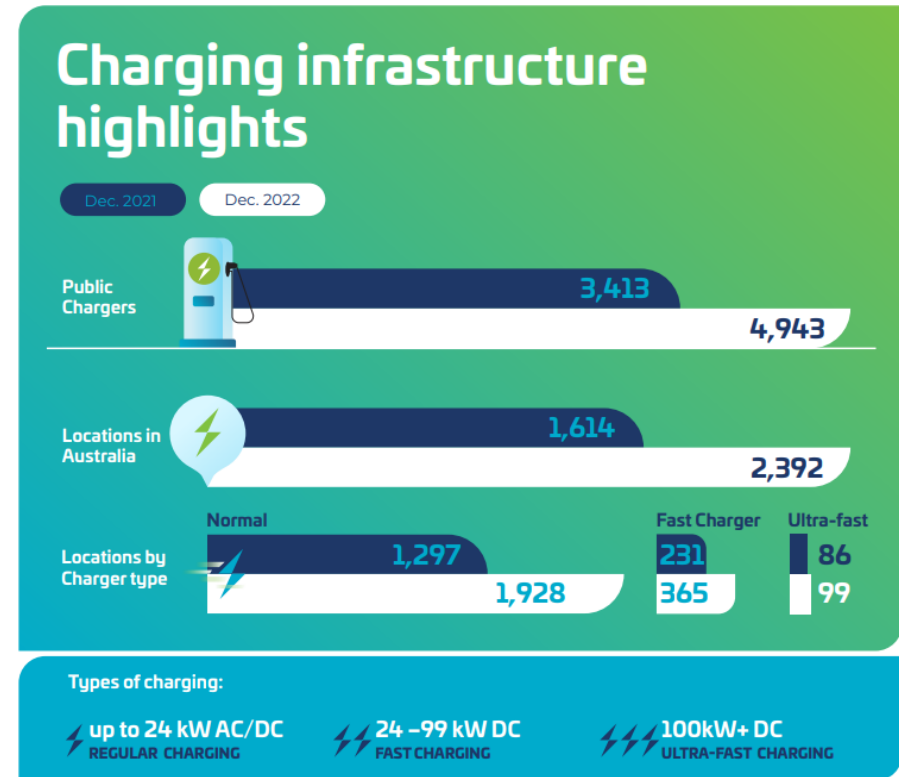
National and Sub-national EV Strategies

EMERGING EV MARKET PENETRATION



Source: Electric Vehicle Council (EVC), 2023

ACCELERATING EV CHARGING ROLL-OUT





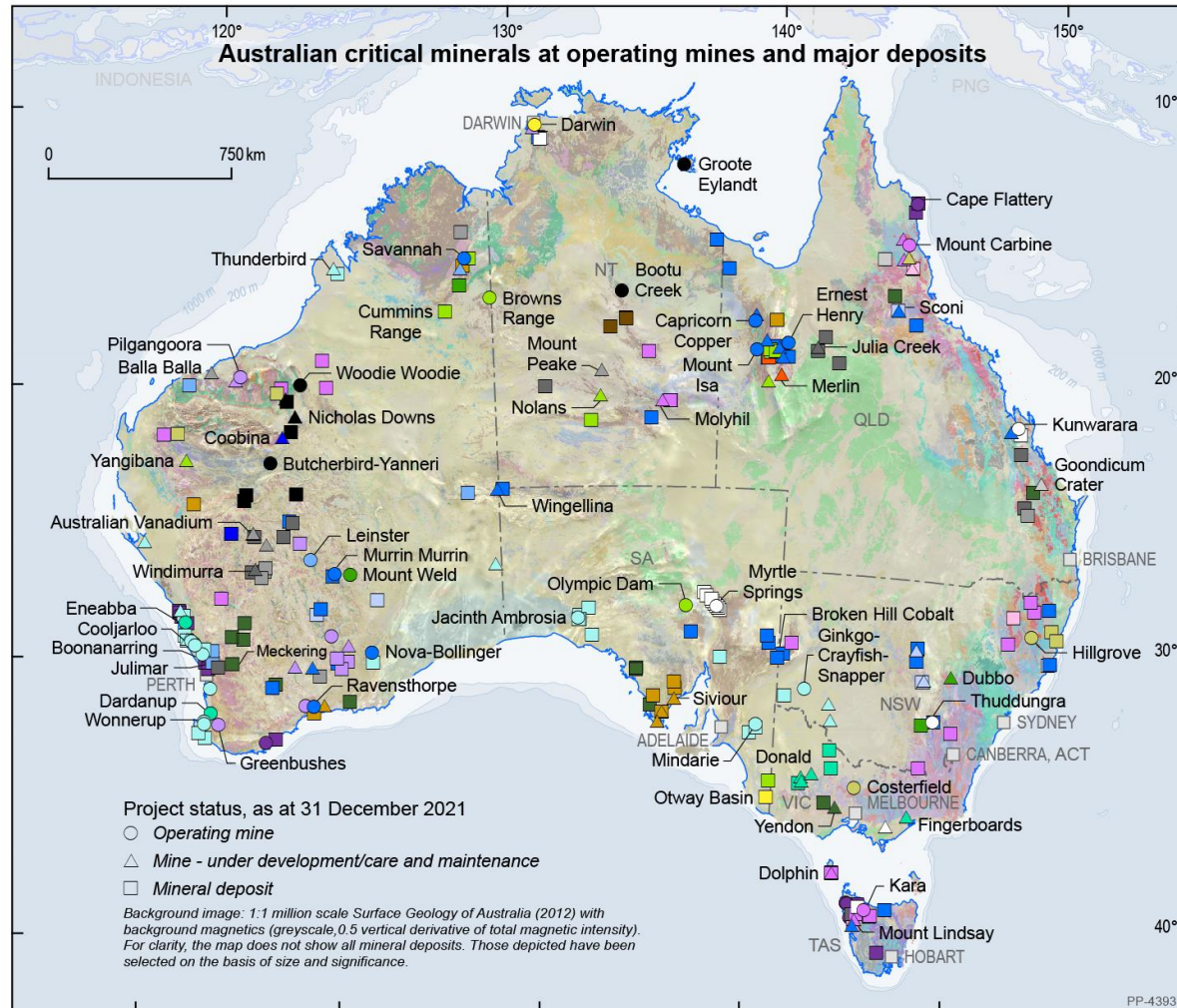
Reliable, responsible and ready for the future – Australia's
Critical Minerals Opportunity

Headline Capabilities

- The world's top producer of lithium and rutile and the second largest producer of zircon.
- Top 5 globally in antimony, cobalt, ilmenite, lithium, manganese, tantalum, niobium, tungsten and vanadium.
- 56 critical minerals projects under development and actively seeking offtake and investment.
- Will feature in the 2022 Prospectus
- Includes new project additions to Australia's critical minerals list; high-purity alumina and silicon.

Australia's Critical Minerals List	
1) High-purity alumina	14) Magnesium
2) Antimony	15) Manganese
3) Beryllium	16) Niobium
4) Bismuth	17) Platinum-group elements
5) Chromium	18) Rare-earth elements
6) Cobalt	19) Rhenium
7) Gallium	20) Scandium
8) Germanium	21) Silicon
9) Graphite	22) Tantalum
10) Hafnium	23) Titanium
11) Helium	24) Tungsten
12) Indium	25) Vanadium
13) Lithium	26) Zirconium

Australia's Critical Minerals



Commodity type

- Aluminium (HPA)
- Antimony
- Bismuth, +/- Cobalt, +/- Indium
- Chromium, +/- Cobalt, +/- PGE
- Cobalt
- Platinum Group Elements (PGE), +/- Cobalt
- Scandium, +/- Cobalt, +/- PGE
- Graphite
- Helium
- Indium
- Lithium, +/- Tantalum, +/- Niobium
- Magnesium
- Manganese ore
- Heavy Mineral Sands (HMS) - Titanium, Zirconium
- HMS - Titanium, Zirconium, REE
- Rare Earth Elements (REE)
- REE, Zirconium, Niobium, +/- Hafnium, Lithium, Tantalum, Gallium
- Rhenium
- Silicon
- Tungsten
- Titanium
- Titanium, Vanadium
- Vanadium

Australia – A world-leading mining jurisdiction

Drivers of investment in the Australian resources sector

A mature mining industry with deep expertise in resource extraction and processing



A rich resource endowment ready to meet world demand

Whole of Government support through policies, incentives and dedicated funding



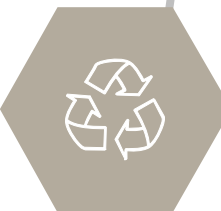
Stable business location with a reliable investment climate

Highly skilled workforce with strong R&D expertise



Australia's environmental, social and governance standards

Transparent regulatory, construction, environmental and safety standards



How can we help you?

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Why Australia

Benchmark Report 2023

<https://www.austrade.gov.au/benchmark-report/home>

Download report



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Thank you



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