

South Australia

Building global partnerships in renewables and hydrogen



Invest SA is a dedicated team of investment and business professionals within the Department for Trade and Investment, the only agency that can connect you with opportunities, industry networks, and other government agencies in the energy and mining sector in South Australia.

Invest SA, Minerals and Energy Team in collaboration with the Department for Energy and Mining offers project facilitation and case management services to develop your business case and to support your growth.

invest.sa.gov.au/sectors/energy-and-mining

The Department for Energy and Mining (DEM) leads the global transformation economy, overseeing the responsible mining and production of the minerals, metals and fuels of the future, to safely and sustainably generate the energy and low carbon products of the future.

energymining.sa.gov.au

South Australia's Energy Transition Partners



Contents

Our strengths = your opportunity	2
Introducing South Australia	3
Invest with Australia's renewable energy, hydrogen, and minerals capital	4
South Australia – clean energy powerhouse	6
Decarbonisation requires renewables, which requires resources!	8
South Australia – investing in new hydrogen projects	9
A global innovator	11
Advantage Adelaide – live, work & play	12
Australia's most cost competitive city	14
Innovation districts	15
The South Australian lifestyle	16

Our strengths = your opportunity



**AUD\$20BN pipeline of
renewable energy projects**



**World class renewable and
mineral resources**



**Integrated clean
energy network**



**Technology and
commodity agnostic**



**A world leading
regulatory system**



**Cooperative research centres
on industry decarbonisation**



**Collaborate with local
stakeholders to build your
supply chain**



**Manufacturing
opportunities**

"For close to 10 years, Neoen has been a major investor and operator of renewable energy generation and storage in South Australia – with more than 1 gigawatt of capacity now under construction or operating. Our desire to continue to invest in the state is driven not only by the availability of world-class renewable resources, but also through the maturity of the local industry and the ability to partner effectively with local and state government agencies."

Louis de Sambucy,
Managing Director Neoen Australia

Introducing South Australia

- **Competitive** construction costs
- **Competitive low tax business environment**
- **Supportive investor environment**
- Australian **mainland leader in staff retention**
- **Total land area of 983,482 square kilometres**
- Shares borders with all mainland states with existing infrastructure corridors
- **1.8 million people in South Australia**
- **+9.30hr difference from UTC**
- **Strong community support**
- Committed to **500% renewables by 2050**
- **Premium city office accommodation**
- A more **liveable city**



What SA offers investors

Invest SA helps facilitate:

- Identifying a suitable location
- Connections across government for approvals
- Attracting and retaining highly skilled staff
- Introductions to industry partners and networking opportunities
- Planning and cross-government delivery of investment projects
- Connections with our global teams and identifying export opportunities

Invest with Australia's renewable energy, hydrogen, and minerals capital

Hydrogen unlocks value

South Australia is an international leader in integrating wind, solar, and battery energy system into the state's energy network. In 2022, over 70% of South Australia's electricity generation came from wind (48%) and solar (23%).

Abundant wind and solar resources, land availability, existing and developing infrastructure, and skills combine to place South Australia in prime position to be a world-class producer, user, and exporter of hydrogen.

It is estimated there are over 100 gigawatts (GW) of wind and solar resources in South Australia with further development potential – that's more than 13 times the amount of electricity the state currently generates.

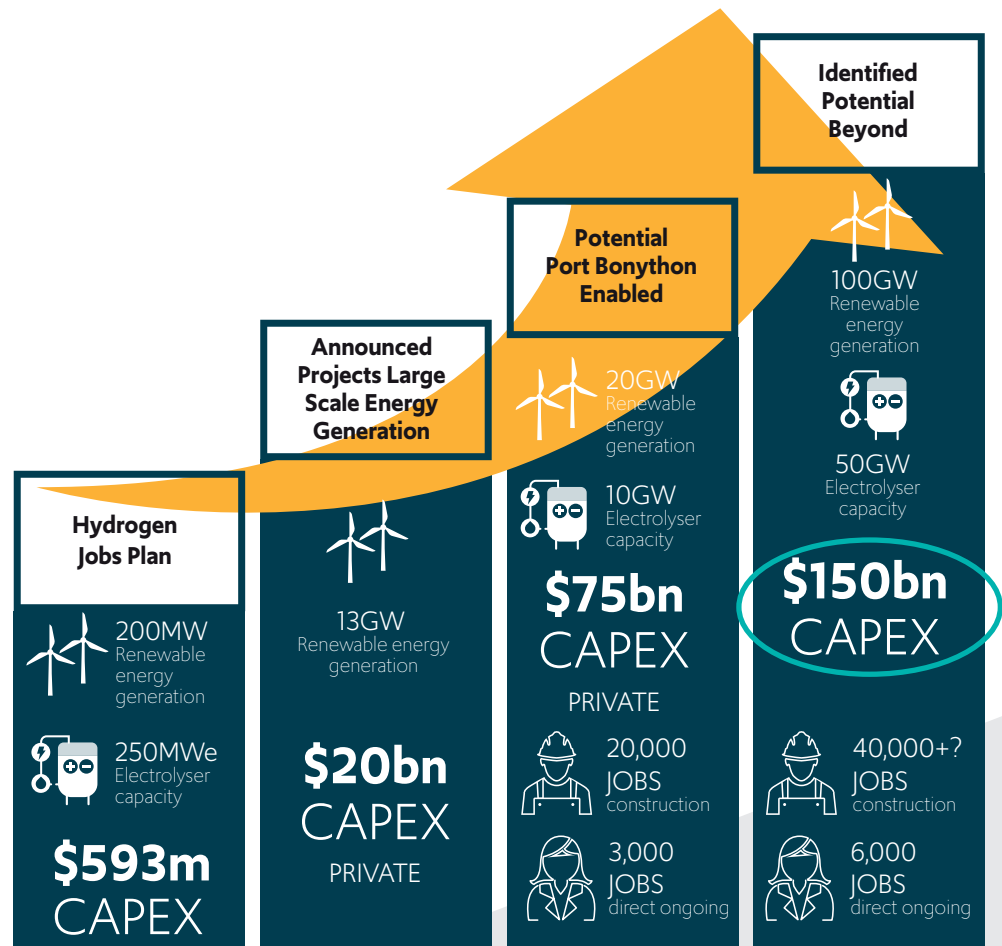
South Australia is on track to meet 100% of our electricity demand from renewable energy by 2030.

Our low-cost power, reputation for innovation, and world-leading regulatory system is leading the decarbonisation of industry and modern manufacturing opportunities.

"South Australia's renewable energy resources initially attracted global energy transition platform Amp Energy to South Australia. The state's clear commitment to leading the Green Hydrogen Economy and the continuous support from the Department for Trade and Investment ultimately led Amp to establishing the Renewable Energy Hub, together with Amp's green hydrogen and ammonia production and storage expansion, in South Australia with a total expected investment in excess of AUD\$2 billion.

We look forward to continuing this productive relationship with the South Australian Government and to realise Amp's green hydrogen and ammonia ambitions."

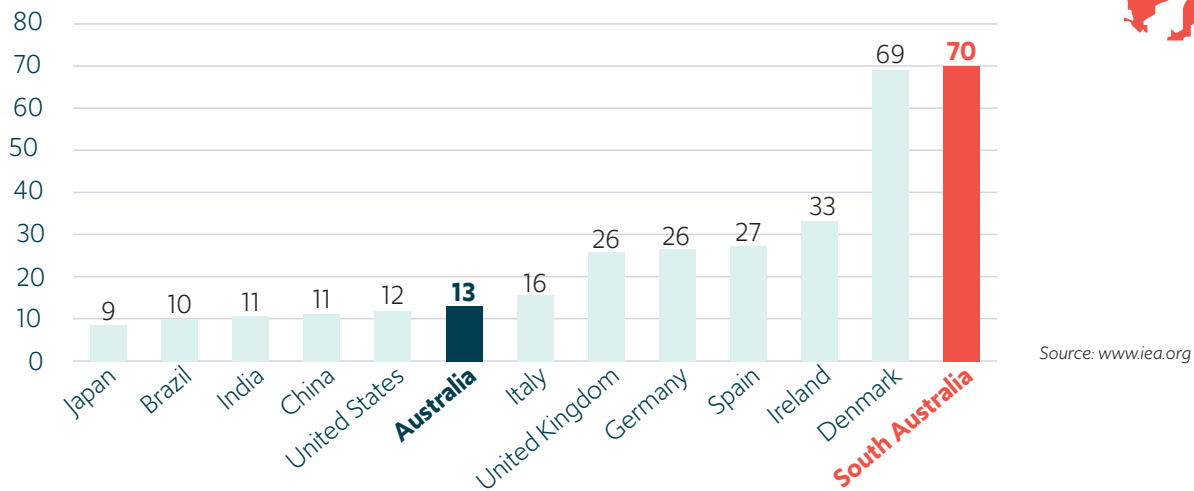
Paul Ezekiel, Co-Founder and CIO, Amp Energy



South Australia ranked **number one globally** for annual renewable energy

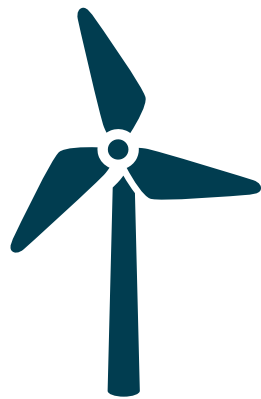


%VRE in annual electricity generation 2022



Projects in operation

- 24 wind farms
- 4 solar farms
- 4 grid scale batteries
- Australia's largest hydrogen electrolyser

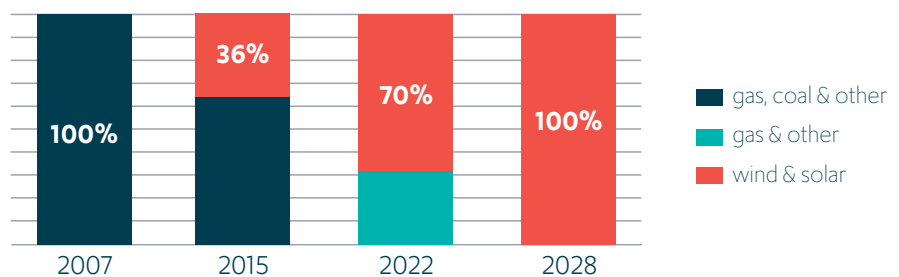


56 Renewable energy projects

in the development pipeline totalling

\$20bn investment

On track for net 100% renewables by 2030

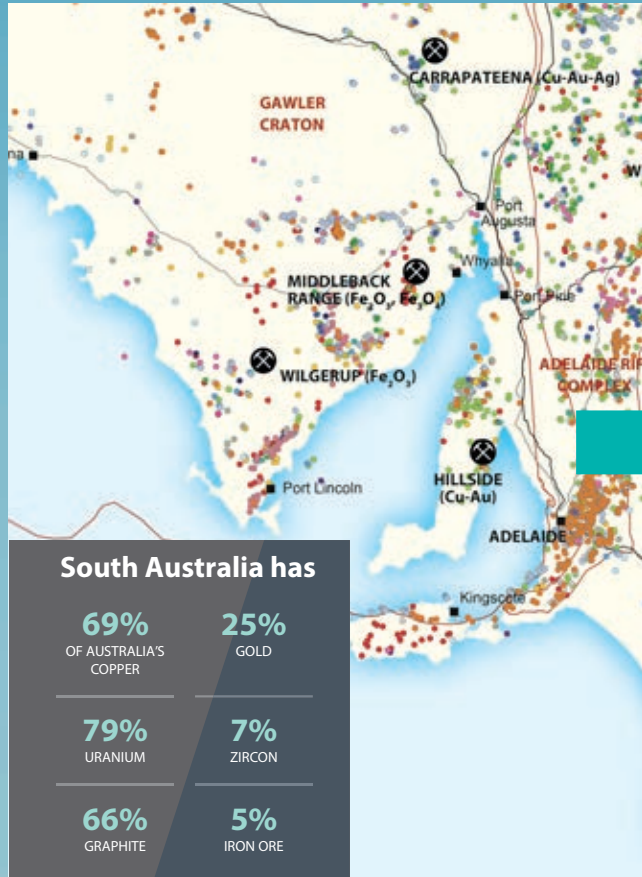


“South Australia is leading the energy transition in Australia. This demonstrates how the diligent application of innovative technologies can fulfil global sustainability objectives, while still being safe, reliable, and cost effective. Most importantly, this increases customer confidence and helps pave the way for the increased uptake and implementation, thus accelerating the speed of the energy transition.”

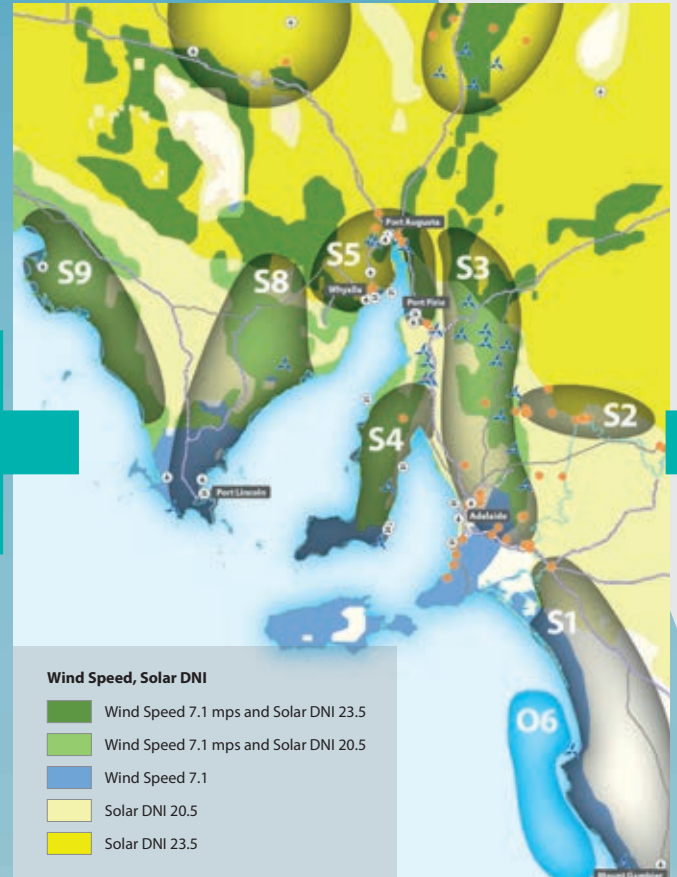
Samuel Morillon, Managing Director of Siemens Energy in Australia

South Australia – clean energy powerhouse

Mineral resources



Renewable Energy Zones (REZ)

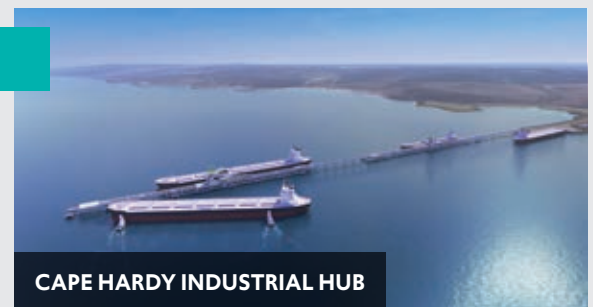


PORT AUGUSTA RENEWABLE ENERGY PARK

Infrastructure corridors



Energy hubs



Develop energy hubs in South Australia

1. South Australia is rich in **minerals, critical minerals and rare earth elements resources** to facilitate the rapid energy transition.
2. **Numerous Renewable Energy Zones** identified by Australian Energy Market Operator (AEMO) support clean hydrogen developments. World-class irradiance compares directly with Spain, southern Europe, and the Middle East with estimated capacity factors ranging from 25-32%.
3. Businesses are supported by **existing and developing infrastructure corridors** of road, rail, port, and the gas, electricity, and water networks. South Australia is ideally positioned and offers quick access to other Australian states and territories.
4. South Australia's expansive coastline provides access to potential **desalination** options, estimated at ~\$0.05/kgH₂.

Decarbonisation requires renewables, which requires resources!

South Australia is a global leader in critical mineral exports, with the world's largest zircon mine, Jacinth-Ambrosia. Our state also holds 66 per cent of Australia's graphite and cobalt resources, which are crucial for lithium battery production, and has substantial resources of heavy rare earth elements used in high temperature magnets.

Demand for minerals, such as copper, cobalt, and graphite, will grow quickly, as the global energy transition gathers pace. This demand will create significant opportunities for South Australia due to our critical mineral reserves and our reputation as a trusted and reliable supplier.

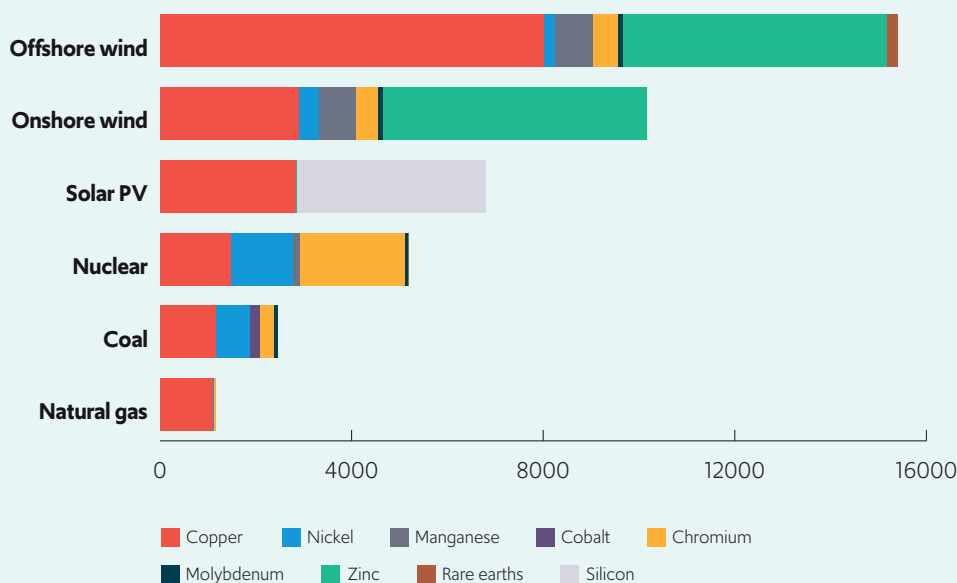
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South Australia has huge potential to play an important role in industry supply chains with the available magnetite for the steel industry, and high-purity alumina for a range of technologies, and the manganese and silicon resources as the main alloying elements used in carbon steel production.

The Government of South Australia supports the Australian Government's visions for strengthening Australia's sovereign capabilities and increasing the capacity of downstream manufacturing. We are keen to contribute through our streamlined regulatory framework and capabilities, while adding value domestically, rather than exporting the high-value raw materials as unprocessed commodities.

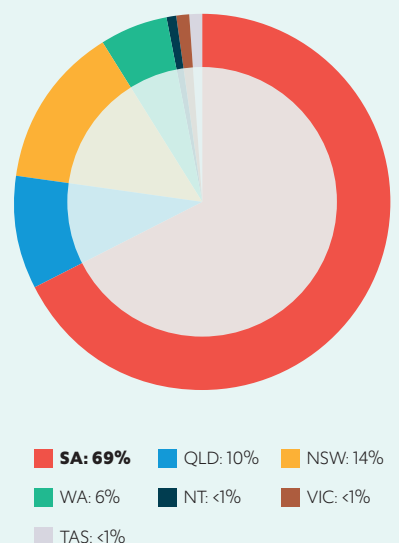
The Government of South Australia recognises the link between mining and renewable energy. This link is critical to the world's net-zero emissions future.

Minerals used in clean energy technologies compared to other power generation sources



Source: IEA (2021), *The Role of Critical Minerals in Clean Energy Transitions*

South Australia contains 69% of Australia's economic demonstrated resources of copper



Source: Geoscience Australia

South Australia – investing in new hydrogen projects

The Government of South Australia is looking to partner with industry to unlock South Australia's world-leading co-located wind and solar resources.

To seize this opportunity, the Government of South Australia's investment in a hydrogen power plant will accelerate further hydrogen projects and infrastructure developments.

Development of South Australia's Upper Spencer Gulf as one of the Renewable Energy and Hydrogen Export Hubs will:

- establish a major green ammonia and minerals hubs
- export liquid hydrogen and ammonia and liquid organic hydrogen carriers worldwide
- turn energy intensive industries green to reduce emissions.

Studies validate that South Australia is one of the most competitive locations in Australia for hydrogen production.

"The opportunity to inspire a large-scale, long-life industry development on the Eyre Peninsula that amalgamates world class mineral resources and abundant renewable energy with first of its kind deep water port infrastructure for the State.

Long-term tangible support from three tiers of government (Local, State and Federal) and other key stakeholders, including Traditional Owners, underpins this vision coming to fruition."

Larry Ingle, Chief Executive Officer, Iron Road Limited

South Australia's Green Hydrogen Electrolyser and Power Station

The state government has committed funding of more than half a billion dollars to build a world-first grid-scale green hydrogen facility by 2025. The facility will include 250 megawatts of electrolyser, 200 megawatts of power generation, and hydrogen storage infrastructure.

This investment will accelerate the growth of South Australia's hydrogen economy and help to unlock a gigawatt scale pipeline of further renewable energy developments across the state.

The Government of South Australia is also leading a consortia of industry partners committed to the development of South Australia's first large-scale hydrogen export terminal.

Port Bonython Hydrogen hub – primed for export

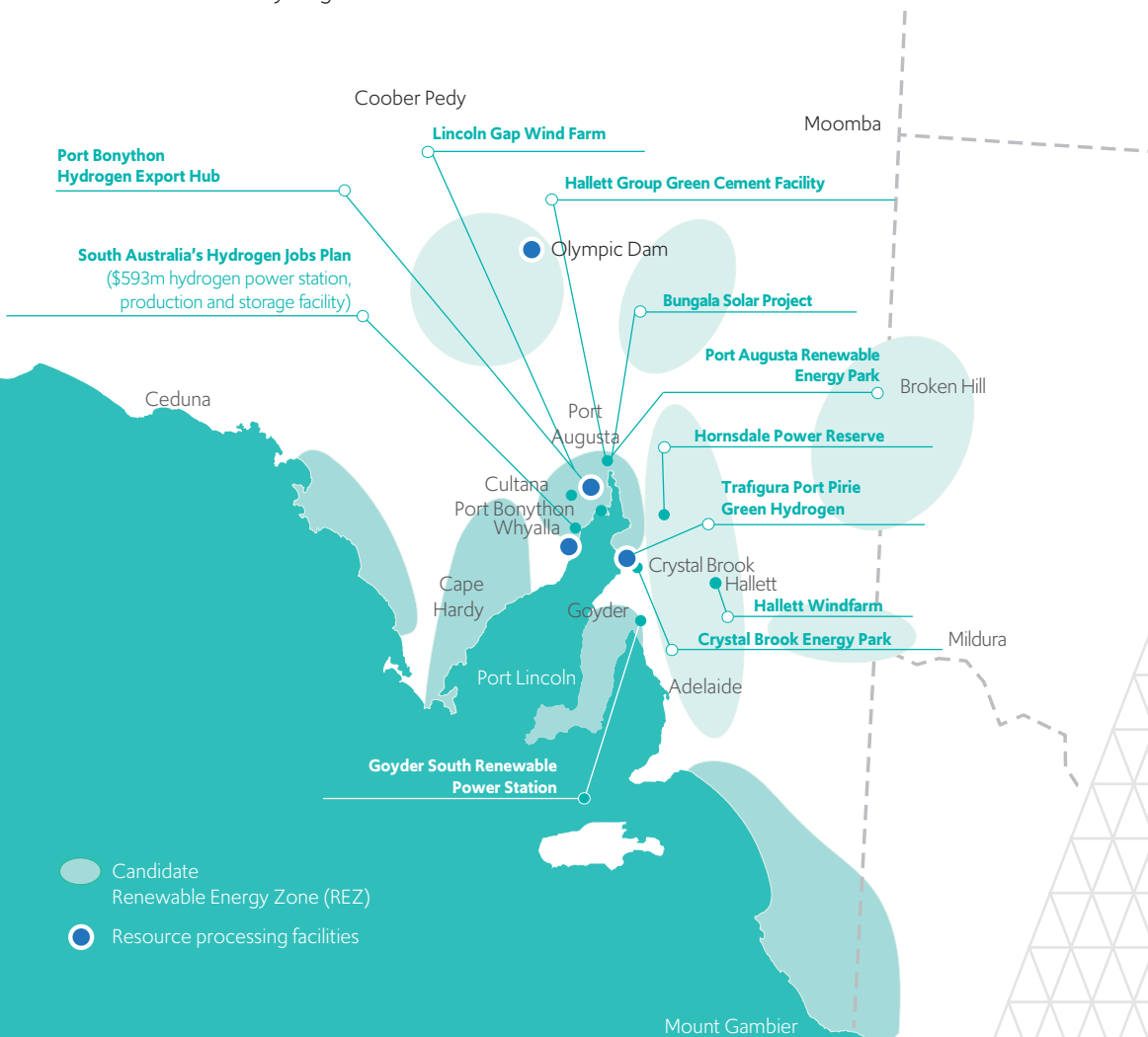
This South Australian Government-led Port Bonython export hub in the Upper Spencer Gulf will create a large-scale clean hydrogen production precinct for both export and domestic markets.

The Port Bonython Hub will create an economy of scale to drive down the cost of production, unlocking further demand for hydrogen as prices fall. The proposed projects at Port Bonython currently represent a total investment of about AU\$13 billion and have potential to generate up to 1.8 million tonnes of hydrogen.

Cape Hardy

Cape Hardy is located on the east coast of Eyre Peninsula, South Australia, approximately 7 kilometres south of Port Neill. It comprises 1,200 hectares of undeveloped coastal land, with naturally occurring deep-water, wholly owned by Iron Road Limited (ASX:IRD).

Cape Hardy is considered to have excellent potential as a green hydrogen development hub in South Australia and will include an industrial, cape-size port precinct with multi-commodity capability (including hydrogen, grain, and minerals).



A global innovator



Photo credit: Neoen Australia

South Australia hosts the world's original big battery at Neoen's Hornsdale Power Reserve.

South Australia is home to Australia's largest operating electrolyser at Hydrogen Park SA that has been blending renewable hydrogen into the local gas network, and is supplying renewable hydrogen for industrial use in the Upper Spencer Gulf area.



Hydrogen Park SA, AGIG

World leading regulation

South Australia is an advocate for internationally harmonised codes and the highest standards to ensure beneficial safety and environmental outcomes from hydrogen and renewable energy developments.

It is a member of the International Association for Hydrogen Safety, HySafe, with committee representation at the highest level.

South Australia is among the first regions to prepare a dedicated regulation to provide certainty for investors while building community confidence.

The proposed new Hydrogen and Renewable Energy Act is a "one window to government, licensing and regulatory system". It will guide the lifecycle of large-scale hydrogen and renewable energy projects. As we shape these regulations, the government has engaged with First Nations' people.

Leading research capability

As a frontier location, the state has the best minds and scientific organisations collaborating to advance hydrogen and renewable technologies and bring costs down.

The government and industry have forged centres of excellence and internationally significant partners to transition industries to reduce carbon emission.

South Australia welcomes the opportunity hydrogen production brings to become the world's proving ground to transition energy-intensive mineral processing towards carbon neutrality on a competitive level.

Trusted international trade and supply chain relationships

South Australia is a dynamic partner, actively engaging with international hydrogen consortia to share information and cooperate on the scale-up of the global renewable and hydrogen production export industry.

With well-established trade partnerships, the state is well positioned to supply markets across Asia and Europe, with existing trade relationships.

"With a history of leading the development of renewable energy technology, South Australia offers a supportive investment environment, strong wind speeds, high quality solar and great renewable development conditions to build the hydrogen industry."

Elise Ring, Head of Export and Infrastructure, Origin Energy

Advantage Adelaide – live, work & play

South Australia is a great place to live, work and play. The capital Adelaide is consistently ranked as one of the most liveable cities in the world.

Adelaide is a progressive, cosmopolitan capital offering a premium lifestyle with world renowned festivals, major sporting events and iconic locations, such as the Barossa Valley, Kangaroo Island and Flinders Ranges.

South Australia's innovative, cost competitive and agile nature is luring more young talent, and our ability to rapidly scale and provide skilled workers in critical sectors has caught the attention of world-class companies.

We're forging global partnerships and leveraging our position as one of the most liveable and safest cities to grow our state and opportunities for everyone.

There's a strong commitment to collaboration among industries with specialist precincts, such as the Tonsley Innovation District and Lot Fourteen, encouraging companies to thrive.

- **Shortest daily work commute of the major mainland cities and 21 per cent less than Sydney's¹**
- **Lowest cost of living of the mainland state capitals²**
- **Adelaide's median house price is \$650,000, 48 per cent lower than in Sydney³**

¹ Melbourne Institute: Applied Economic & Social Research, The Household, Income and Labour Dynamics in Australia Survey Data

² Mercer 2022 Cost of Living city ranking – Sydney 58, Melbourne 67, Brisbane 84, Perth 97, Adelaide 102

³ Australian Bureau of Statistics, March quarter 2022



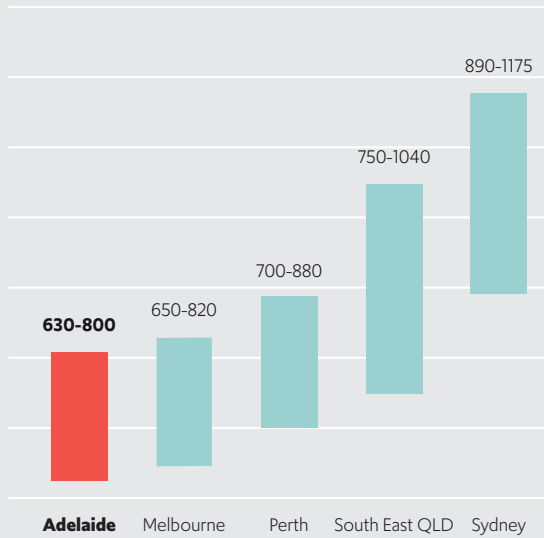


Australia's most cost competitive city

South Australia's competitive business environment supports commercial success and scaling of operations.

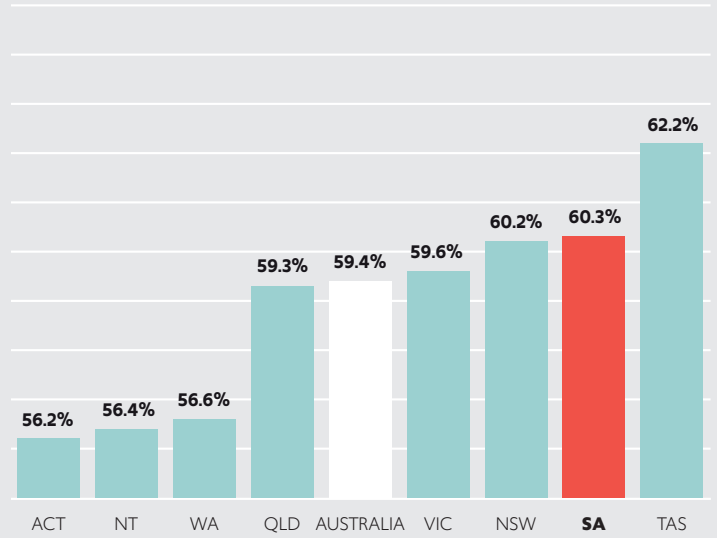
South Australia offers a suitably skilled and scalable workforce with competitive construction costs and high staff retention rates.

Industrial construction costs (AUD/sqm)



Source: Naper & Blakely Construction Costs Databank, July 2022
 *Cost estimated for Up to 10m high warehouse - medium standard, precast walls, sprinklers (over 3,000 sqm)

Staff retention rates



Source: Australian Bureau of Statistics - Job Mobility [Table 12 - Labour mobility, retrenchments and duration of employment by state and territory, February 2022]



Innovation districts

Our sectors co-exist in hi-tech hubs and research centres, forging collaborative ecosystems that open doors and inspire new ways of thinking.

Defence Super Cluster

25km from CBD

Key national defence research, manufacturing and sustainment hub housing RAAF Base Edinburgh, Defence Science and Technology and major defence companies.

Osborne Naval Shipyard

Australia's largest naval shipbuilding hub incorporating a critical mass of world class warship design and construction skills. Significant upgrades are slated to make it, arguably, the most technologically advanced naval shipyard in the world.

Technology Park - 12km from CBD

Hub for systems development and integration, information communications technology, advanced manufacturing and electronics and home to over 100 small to medium enterprises, multinationals and start-ups.

Adelaide BioMed City - CBD

AUD\$3.8 billion and medical innovation district with leading edge anchor institutes and companies that cluster and connect with start-ups, business incubators and accelerators.

Lot Fourteen - CBD

Australia's first ideas and innovation neighbourhood and home to the Australian Space Agency, SmartSat CRC, Defence and Space Landing Pad, FIXE start-up hub, MIT Connection Science, Australian Institute for Machine Learning and Australian Cyber Collaboration Centre.

Tonsley Innovation District

10km from CBD

Home to high value manufacturing industries including health, medical devices and assistive technologies, clean tech and renewable energy, software and simulation, mining and energy services.



Adelaide CBD



5 kilometres
3.1 miles

The South Australian lifestyle

There is a year-round calendar of large events, entertainment, culture and excitement. Some of our best known cultural and arts events include the Adelaide Festival, WOMADelaide, Tasting Australia, Adelaide Fringe, Adelaide Cabaret Festival and OzAsia Festival. South Australia also hosts international and national sporting events including cycling's Tour Down Under and the Adelaide 500 car race.

Our Mediterranean climate – hot, dry summers and mild, wet winters – enables an exciting outdoor lifestyle. In Adelaide, you can dine outside, visit bustling laneways and rooftop bars. The thriving restaurant scene delivers a myriad of cuisines and memorable experiences. Visit over 700 wineries and 500 cellar doors – most less than a two-hour drive from the city.

Adelaide's coastline stretches more than thirty kilometres, delivering wide, golden beaches with clean seas for swimming, kayaking, surfing and more.

It's hard not to escape into nature with parks and walking trails everywhere.

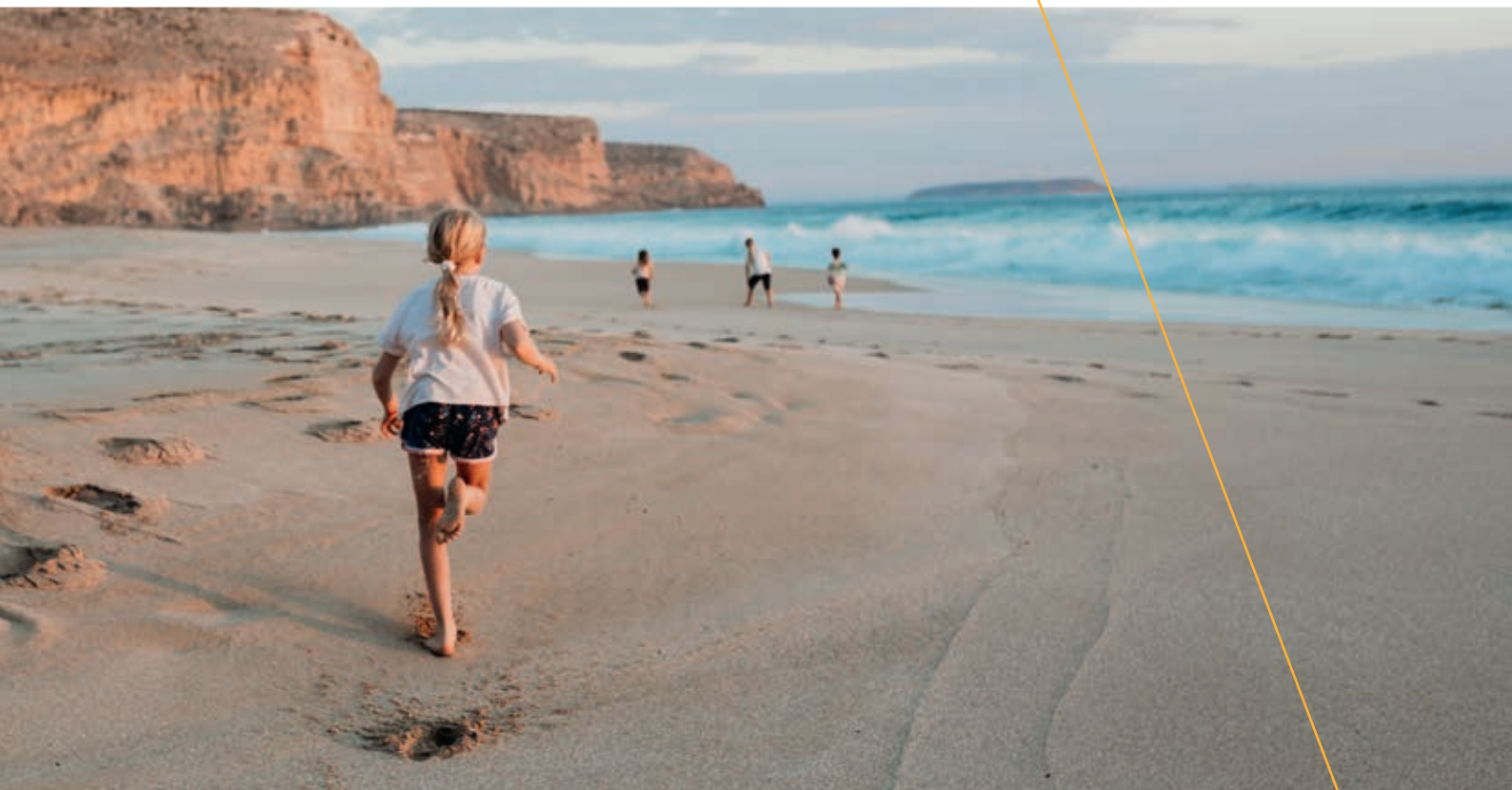
Best of all, getting around Adelaide is easy. Nothing is really more than 30 minutes away by car. So, it's easy to have a family, sporting and social life every evening and an action packed, or relaxing, weekend!

Adelaide delivers a better, more affordable lifestyle and opportunities – whether in the city or suburbs, on the coast or in the hills.

- **Most affordable unit rents and second most affordable house rents of any Australian capital city⁹**
- **Affordable and accessible childcare**
- **Good public transport and no toll roads**
- **Great public and private schools**
- **Four universities and over 124,000 enrolments – all in the top 2 per cent worldwide**

⁹ Domain Rental Report, June 2022





Let's talk

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