



Government of South Australia
Department for Energy and Mining

SOUTH AUSTRALIA

A global force in renewable
and hydrogen energy



energymining.sa.gov.au

South Australia is a global leader in market penetration of wind and solar generation

We are harnessing our world-class wind and sunshine, and are on track to meet 100% of our electricity demand from renewable energy by 2030.

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

Just as we led the way by delivering the world's original big battery, we will bring renewable hydrogen to the world.

We are making a generational step-change to expand green hydrogen production through investment in our Hydrogen Jobs Plan.

This includes our government's investment to build a hydrogen power plant and storage facility that will unlock our \$20 billion pipeline of renewable projects.

The capability we are building will make South Australia a substantial global player in green hydrogen production and attract supply chain and manufacturing opportunities.

We have strong partnerships with global project developers, commodity traders and innovators. With our first mover advantage, we welcome partners making significant investments to explore and develop hydrogen opportunities to decarbonise their industries.

THERE HAS NEVER BEEN A BETTER TIME TO DO BUSINESS IN SOUTH AUSTRALIA



WORLD-CLASS RENEWABLE AND MINERAL RESOURCES



COOPERATIVE RESEARCH CENTRES ON INDUSTRY DECARBONISATION



STRONG COMMUNITY SUPPORT



\$20BN PIPELINE OF RENEWABLE ENERGY PROJECTS



MANUFACTURING OPPORTUNITIES



SUPPORTIVE INVESTOR ENVIRONMENT



A WORLD LEADING REGULATORY REGIME

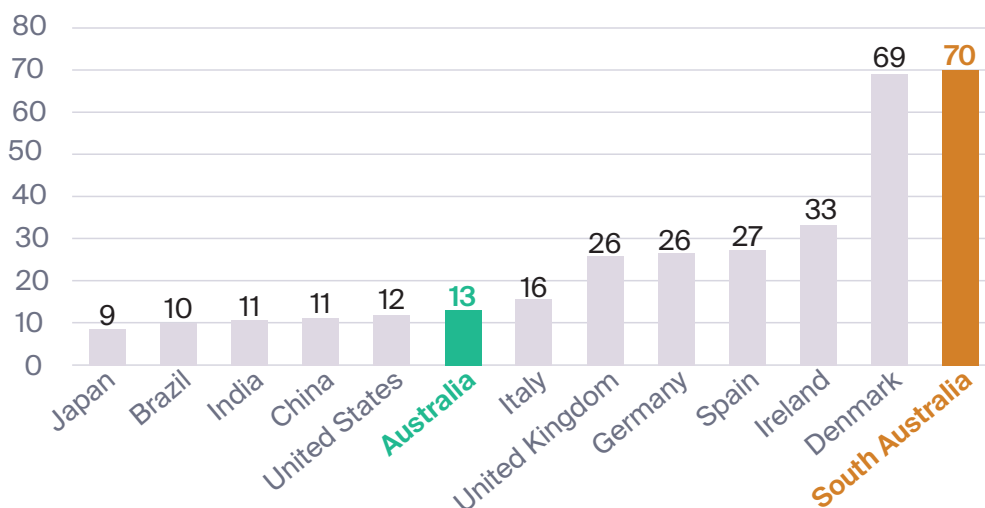


COLLABORATE WITH LOCAL STAKEHOLDERS TO BUILD YOUR SUPPLY CHAIN

SA ranked **NUMBER ONE** globally for annual renewable energy



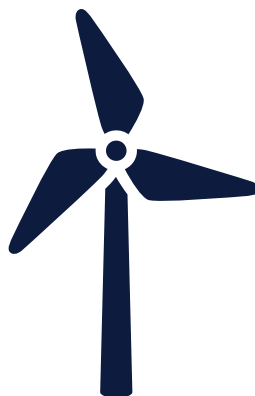
%VRE in annual electricity generation



Source: www.iea.org

PROJECTS IN OPERATION

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

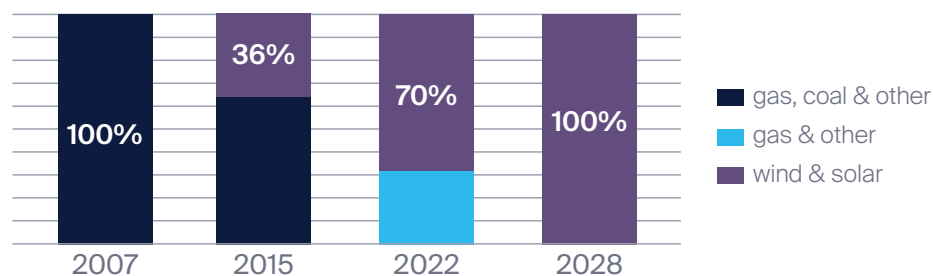


56 RENEWABLE ENERGY PROJECTS

in the development pipeline totalling

\$20bn INVESTMENT

On track for net 100% renewables by 2030



Invest with Australia's renewable and hydrogen energy capital

Outstanding in solar and wind resources

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

Abundant wind and sun resources, land availability, existing and proposed 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 development potential – that's more than 13 times the amount of electricity the state currently generates.

Our strengths = your opportunity

World-class wind and solar resource	Quality solar and wind resource data
Leading regulatory environment	Electricity infrastructure
Land access	Local supply chains
Easy to do business with	Global partnerships

Low-cost renewable energy gives South Australia a competitive edge to attract energy intensive industries – aluminium refining, green iron and steel and advanced manufacturing are a few of the examples.

“

As the world looks to decarbonise, South Australia is at the forefront of investment in green hydrogen. The Upper Spencer Gulf region will be a major beneficiary of this historic investment.”

Minister Tom Koutsantonis

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Greening cement

The Hallett Group's Green Cement facility near Port Augusta is taking up the opportunity to access renewable energy as it comes online. When operations begin in 2024, it will manufacture around 500,000 tonnes of green cement with potential to grow to more than 1,000,000 tonnes of green cement per year, cutting carbon emissions by at least 300,000 tonnes in the first year.



Ideally positioned to produce green hydrogen

Numerous Renewable Energy Zones identified by Australian Energy Market Operator (AEMO) support clean hydrogen developments.

South Australia has expansive areas to harness world-class wind and solar resources.

An estimated 100 gigawatts of wind and solar resources can be developed.

World-class irradiance compares directly with Spain, southern Europe, and the Middle East with estimated capacity factors ranging from 25-32%.

South Australia's expansive coastline provides access to potential desalination options, estimated at ~\$0.05/kgH₂.

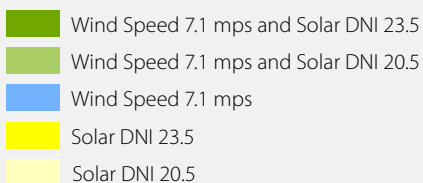
Renewable Energy Facilities



Electricity Transmission Capacity



Wind and Solar Potential



South Australia – investing in new hydrogen projects

The opportunities for South Australia are transformational.

The South Australian Government is looking to partner with industry to unlock South Australia's world-leading co-located wind and solar resources in the global race to supply clean, green hydrogen, and hydrogen products to the world.

The state's leadership in renewable energy generation creates a pathway to advance hydrogen and transform both the energy sector and South Australia's economic future.

To seize this opportunity, the South Australian Government's investment will accelerate new hydrogen projects and shipping infrastructure.

We're developing South Australia's Upper Spencer Gulf as one of the Renewable Energy and Hydrogen Export Hubs to:

- attract new hydrogen projects to South Australia
- secure large scale hydrogen production at Port Bonython
- establish a major green ammonia and minerals hub at Port Pirie
- export liquid hydrogen and ammonia and liquid organic hydrogen carriers worldwide
- turn energy intensive industries green to reduce emissions

Multiple port sites have excellent export potential for hydrogen and pre-feasibility studies show South Australia is one of the most competitive locations in Australia.

South Australia's Green Hydrogen Electrolyser and Power Station

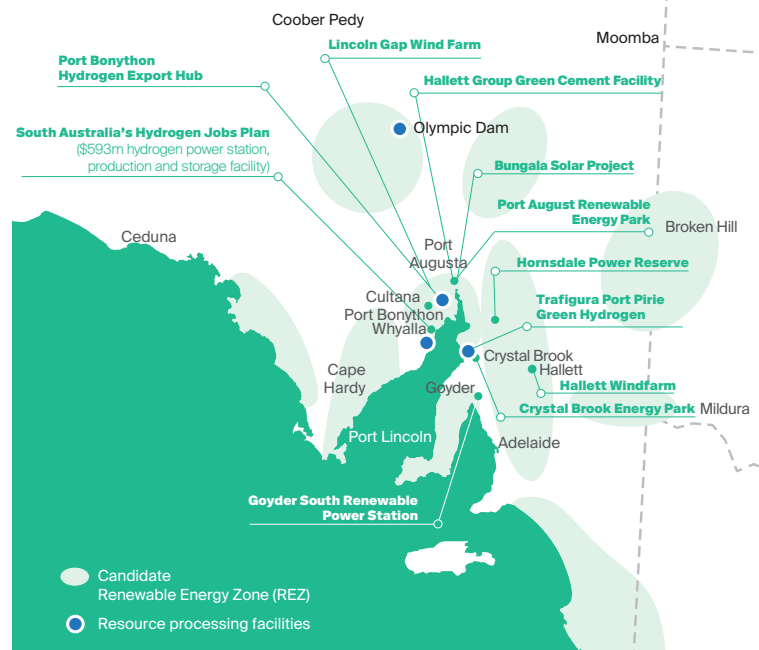
The state government has committed funding of more than half a billion dollars to build a world-first grid-scale green hydrogen facility by 2025. The facility will include 250 megawatts of electrolyzers, 200 megawatts of power generation, and hydrogen storage infrastructure.

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 South Australian government is also leading a consortium 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.

Trafigura Group Port Pirie Green Hydrogen Project

Trafigura – one of the world's largest commodity trading companies and majority owner of Nyrstar's Port Pirie multi-metal manufacturing facility – is progressing plans to contract a commercial scale green hydrogen manufacturing facility, integrated into the smelter.

The proposed \$750 million project will be developed in stages, initially producing 20 tonnes of green hydrogen per day for export in the form of green ammonia. The full-scale plant will produce 100 tonnes of green hydrogen per day from a 450-megawatt electrolyser, enabling it to meet both export and domestic supply needs. Trafigura will source 100 per cent renewable electricity to run the project's electrolyser. The South Australian Government is accelerating the Front-End Engineering Design for the project with a \$2.5 million grant from the Jobs and Economic Growth Fund.

A global innovator

Photo credit: Neoen Australia

Our state 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. Hydrogen Park has begun supplying renewable hydrogen to industries in the Upper Spencer Gulf.

South Australia is already a first mover in renewable energy transformation placing our state in an unrivalled position to become a global leader in green hydrogen for the 21st century. In 2022, South Australia generated approximately 70 per cent of its energy from renewable resources.

Join with us

Easy to do business with

Invest SA is your dedicated office to explore ways to invest and develop renewable and hydrogen opportunities. Together with our agency partners we will work with you to offer:

- tailored support to meet your needs
- a case management service
- access to key decision makers

www.invest.sa.gov.au/hydrogen

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 brand new 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. The Act recognises informed, early, and ongoing participation is the key to advancing a globally significant renewable, hydrogen sector that reduces risk and delivers shared value and investment.

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.



Hydrogen Park SA, AGIG

Acknowledgement of Country

As guests here on Kurna land, we acknowledge everything this department does impacts on Aboriginal country, the sea, the sky, its people and their spiritual and cultural connection which have existed since the first sunrise.

Our responsibility is to share our collective knowledge, recognise a difficult history, respect the relationships made over time, and create a stronger future.

We are ready to walk, learn and work together.

As the world looks to decarbonise, South Australia is investing to accelerate new renewable energy projects and infrastructure to increase its competitive advantage and fast track the global transition to clean energy.

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