



GOVERNMENT OF
WESTERN AUSTRALIA

Western Australia: powering the global energy transition

MARCH 2024





Acknowledgement of Country

The Department of Jobs, Tourism, Science and Innovation acknowledges the Traditional Custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of Aboriginal and Torres Strait Islander communities and their cultures, and to Elders past and present.

Contents

Premier's foreword	4
Driving Western Australia's energy transition	5
Western Australia: the home of global decarbonisation	7
Generating local jobs, downstream processing and innovation	8
Bringing the community on the journey	10
Streamlining the energy transformation	11
Gas and the energy transition	12
The role of hydrogen	13
Skills to deliver the energy transition	14
Global supply chains	15

Premier's Foreword

Western Australia is abundant with the energy to power the world's future from renewable energy resources across the State to rich reserves of critical minerals. The value of Western Australia's battery and critical minerals sales reached \$29.2 billion in 2022-23, and the State is the world's single largest supplier of lithium.

Home to a skilled workforce and a track record of delivering successful major projects, Western Australia is well positioned as the energy hub of the Indo-Pacific.

While the global energy transition presents a wealth of opportunities, it is not without its challenges.

Domestically, the need to decarbonise the heavy industries that underpin Western Australia's economy will require unprecedented government and industry collaboration.

Globally, the need for significant quantities of critical minerals, sources of renewable energy, and avenues to support the decarbonisation of hard-to-abate sectors will drive investment and shape industry for the next decade and beyond.

Underpinning our own domestic energy transition is the need to deliver cleaner, affordable, and reliable energy for Western Australians and the businesses that operate here.

Equally important to the Western Australian Government is the opportunity to be at the forefront of the clean energy transition and seize new opportunities that will support economic diversification and cement a role for the State in a low-carbon global economy.

The Western Australian Energy Transition Summit, held in Perth in November 2023, was a key opportunity to engage stakeholders from across government and industry in discussions about Western Australia's energy transition.

The Western Australian Government has already committed more than \$3.8 billion to support Western Australia's energy transition and the State's competitiveness as an investment destination.



At the summit and in the months since, the Western Australian Government has announced a range of further reforms and investments to support the energy transition, including:

\$708 million : A \$708 million commitment to upgrade the State's main electricity network and unlock renewable energy generation opportunities.

\$160 million : \$160 million for industrial lease incentives to attract large-scale clean industries projects.

\$60 million : \$60 million into the Investment Attraction Fund for a New Energies Industries grants round, driving job creation in new energy industries.

\$74 million : \$74 million into a range of initiatives to further WA's net zero ambitions, as part of its Sectoral Emissions Reduction Strategies (SERS) process.

and : a significant overhaul of Western Australia's environmental approvals regime to deliver certainty for clean energy projects.

The Western Australian Government is taking a multifaceted approach to the State's decarbonisation efforts, shaped by significant infrastructure investment and strong collaboration with stakeholders to reduce the emissions intensity of our major industries.

This is an unprecedented time for Western Australia. As we work together towards net zero, Western Australia is ready to become a global powerhouse in a clean energy future.

Hon Roger Cook MLA
Premier; Minister for State and Industry Development, Jobs and Trade; Public Sector Management; Federal-State Relations

Driving Western Australia's energy transition

Investing in the State's electricity networks

The vast majority of Western Australia's energy is supplied through the South West Interconnected System (SWIS). As industry and government move towards net zero greenhouse gas emissions by 2050, demand for renewable energy supplied through the State's main electricity network will increase significantly.

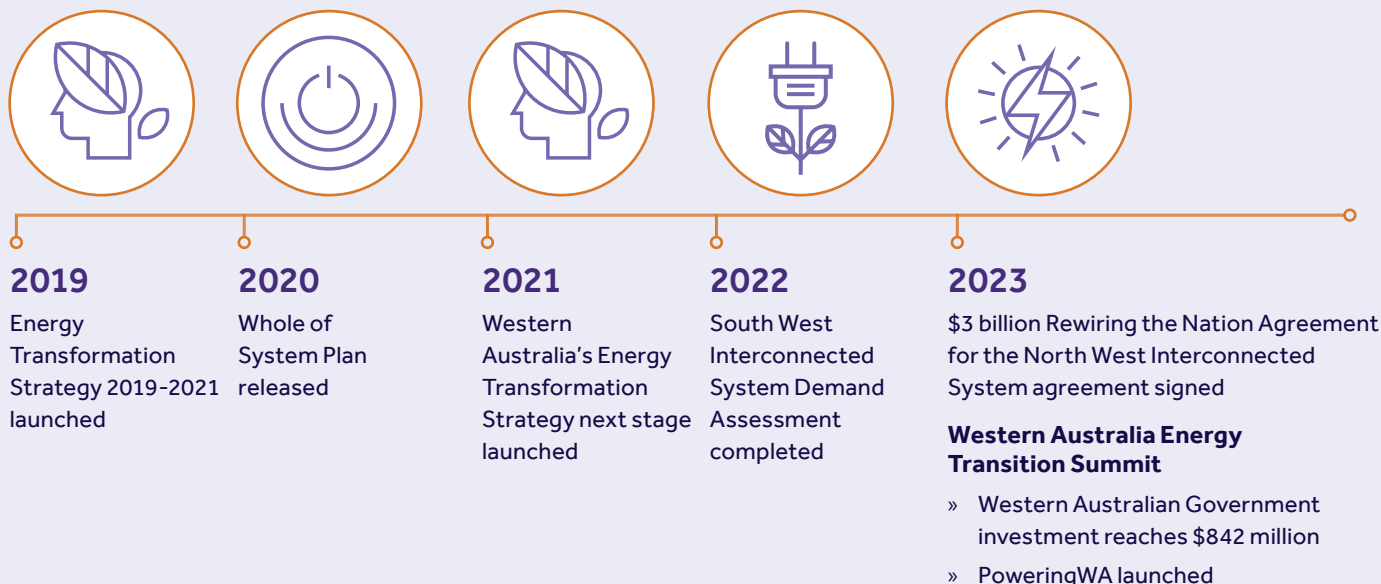
The Western Australian Government is delivering a significant investment into the grid to support decarbonisation, with almost \$850 million committed to date. These investments have been informed by the 2020 Whole of System Plan and the 2022 SWIS Demand Assessment.

In Western Australia's north, the \$3 billion Commonwealth-Western Australia Rewiring the Nation agreement will provide support through loans and equity investment projects to expand and modernise the Pilbara's North West Interconnected System (NWIS), supporting more renewable energy and increased capacity across Western Australia's major electricity for this critical economic region.



Up to 96% of electricity produced in the South West Interconnected System could be renewable

Timeline of electricity decarbonisation action



Sectoral Emission Reduction Strategy

The Western Australian Government has developed the Sectoral Emissions Reduction Strategy (SERS) to reduce Western Australia's emissions and contribute to the goals of the Paris Agreement. SERS explores credible pathways for Western Australia to reach its target of net zero emissions by 2050 and recognises the need to take significant action in this decade to decarbonise the economy.

The State Government will deliver a further \$74 million into a range of initiatives to further Western Australia's net zero ambitions, as part of its SERS process.

Climate legislation

New climate change legislation was introduced in 2023 to work towards national and global decarbonisation goals. The *Climate Change Bill 2023* will provide a framework to achieve net zero by 2050, with a focus on State Government accountability in policy development and reporting, and target-setting – without creating any additional regulation or obligations on businesses, industries, project proponents, local governments or households.

The legislation complements the Australian Government's policies and legislation, while ensuring Western Australia can continue to attract the investment required for the transition to net zero emissions.

The development of climate change legislation underscores the State Government's commitment to climate action and will help attract and accelerate investment and skills needed for the net zero transition.

Western Australia's Environmental, Social and Governance (ESG) Industry Information Pack

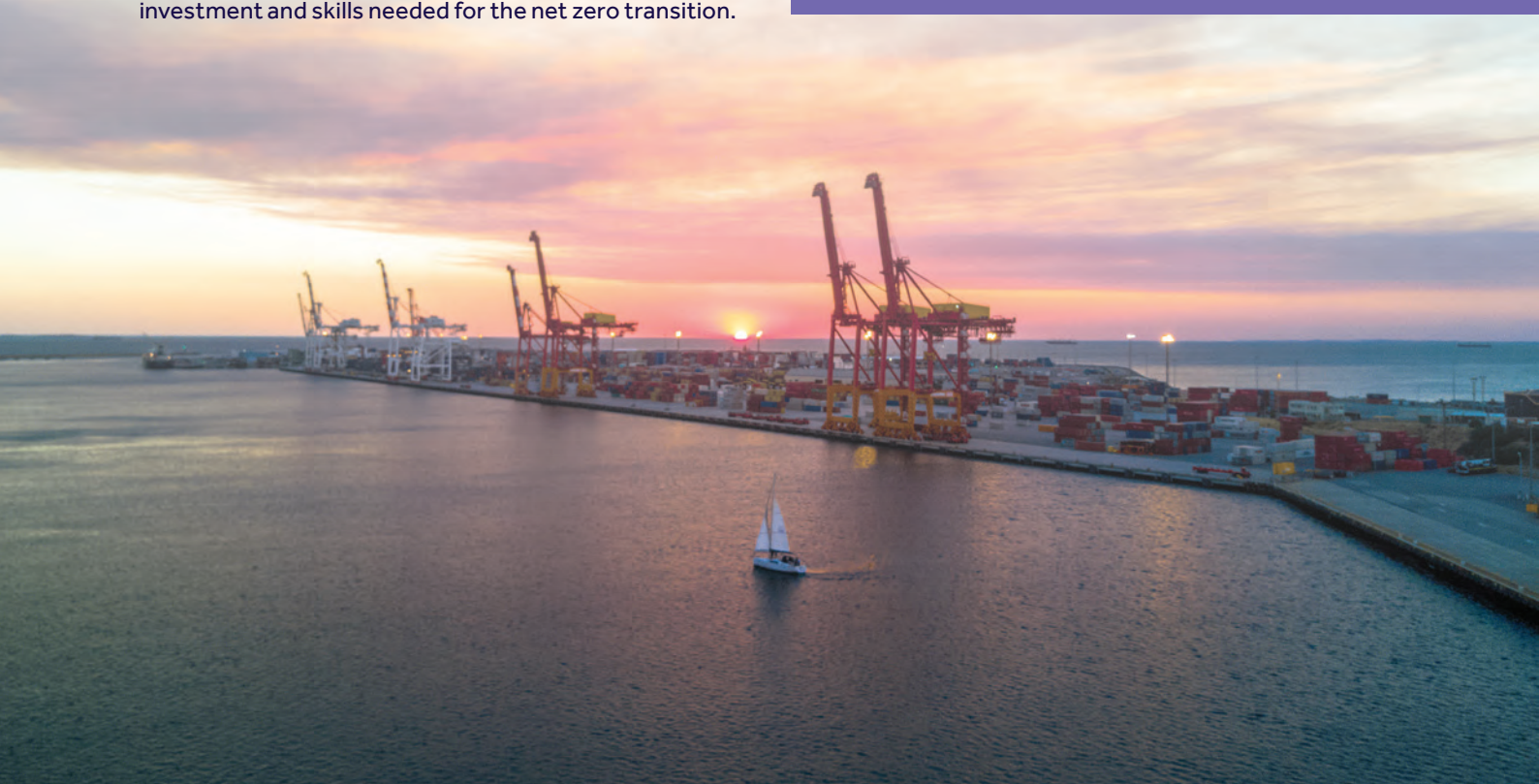
The Western Australian Industry ESG Information Pack has been prepared to inform investment decisions in our key industries. It provides a snapshot of industry contribution to ESG outcomes, aligned with the United Nations' Sustainable Development Goals (SDGs).

Western Australia is strongly positioned to be a supplier of choice in a cleaner, more diverse, inclusive and responsible global economy. We have the right ingredients to deliver better ESG outcomes, including the mindset, people, technology, resources, geography and determination needed to thrive.

Delivery of ESG outcomes is a shared priority for the Western Australian Government, industry and community.



Scan to download the pack





Ashburton North Strategic Industrial Area, DevelopmentWA

Western Australia: The home of global decarbonisation

Strategic industrial areas

Western Australia's Strategic Industrial Areas (SIAs) are designed for investment in downstream processing and other heavy or strategic industrial activities. They offer real opportunities for industries that generate significant investment, employment and value of production for Western Australia.

Our strategic industrial areas have been selected for their proximity to large resource projects and infrastructure such as roads, rail and ports. Located across Western Australia, which is the nation's gateway to Asia, SIAs provide a strategic location to leverage the resources and capability of Western Australia.

Lease Incentive Scheme

The Western Australian Government's *Lease Incentive Scheme* offers \$160 million towards industrial lease incentives to mitigate risks associated with construction and production ramp-up phases in new Strategic Industrial Areas.

The scheme is targeted at large-scale clean industry projects and will deliver rebates on lease fees and a rent waiver for a set period for proponents in the Anketell, Boodarie, Maitland, Mungari, Oakajee and Shotts SIAs.

It is available for projects with a capital cost of \$1 billion or more with a final investment decision required by 30 June 2028.

The industrial lease incentive scheme will also assist in leveraging additional Commonwealth Government funding, industry co-investment opportunities and investigation of other funding models.



Scan to discover
more about the Lease
Incentive Scheme



Talison Greenbushes Plant

Generating local jobs, downstream processing and innovation

With a rich history in domestic and international energy supply, Western Australia has a highly skilled and knowledgeable workforce that is equipped to drive and deliver the State's energy transition. The Western Australian Government has, and continues to, invest in a range of initiatives that will generate jobs, encourage innovation and build on the State's downstream processing capabilities.

Western Australia's Pilbara and Mid West based renewable hydrogen hubs aim to establish the State as a global clean energy powerhouse and create around 2,000 skilled and semi-skilled jobs across our State, to position Western Australia at the forefront of this new industry.

Battery and Critical Minerals Industry Strategy

Western Australia's battery and critical minerals industries are central to our efforts to support global economies to decarbonise.

The Western Australian *Battery and Critical Minerals Industries Strategy* outlines immediate priorities and actions to achieve the State's ambitions to be a world leader as a reliable and responsible producer of batteries and critical minerals. This strategy will enhance the State's industry competitiveness by growing Western Australia's participation in global supply chains, promoting investment opportunities, and supporting certification of battery minerals. It will also drive local benefits for Western Australia, including the uptake of battery storage within industry and communities, and develop local workforce capability.

Wind Turbine Manufacturing Initiative

The Western Australian Government is supporting the development of the State's wind energy. Under the \$10 million Wind Turbine Manufacturing Initiative, independent consultant Aurecon was commissioned to carry out a feasibility study to identify opportunities for wind farm componentry manufacturing, maintenance and operation in Western Australia.

The Government is considering the findings of the study and exploring how to enhance participation of Western Australian businesses in wind turbine manufacturing and servicing supply chains. With demand for renewable energy supplied through Western Australia's electricity networks set to grow significantly, and an increased anticipated demand on ports and other infrastructure, unlocking further opportunities for local manufacturing could support job creation and play an important role in the State's clean energy transition.

Investment Attraction Fund - New Energies Industries Funding Stream

The Western Australian Government has sought to drive investment into new energy projects by offering \$60 million through its Investment Attraction Fund New Energies Funding Stream. The stream opened in November 2023 and offers financial support for projects in battery and critical minerals processing, renewable hydrogen, advanced manufacturing in wind and solar componentry, and carbon capture use and storage.



Scan to discover more about the Investment Attraction Funding Stream



GreenTech Hub

Western Australia's GreenTech Hub will support the State's energy transition goals by driving entrepreneurship and innovation through turnkey programs, greentech ideas, incubation, and acceleration. The Western Australian Government launched the GreenTech Hub as part of a \$40 million green future agreement with Chevron Australia, which also seeds the multi-million dollar Lower Carbon Grants Program Fund for innovative projects that support the decarbonisation of the economy.

The GreenTech Hub will generate economic value from renewable energy technologies and services in Western Australia, and will support investment into the State that supports the research, development and commercialisation of renewable energy technologies and services, while supporting local skills growth.

Electrolyser manufacturing initiative

For Western Australia to deliver on its potential as a significant producer, exporter, and user of renewable hydrogen, the State is focused on ways to overcome the projected shortfall of electrolyser stack manufacturing capacity to de-risk the renewable hydrogen supply chain.

The Western Australian Government commissioned ITM Power and Linde Engineering to prepare a business case for developing an electrolyser stack manufacturing facility in Western Australia.

The business case identified Latitude 32 General Industrial Area as the ideal location to develop an electrolyser stack manufacturing facility, with capacity to produce up to 2 gigawatts of electrolysis per annum.

The facility has the potential to create 18,000 jobs throughout construction, and support 200 direct engineering technician jobs, 1,000 indirect jobs, and 2,500 maintenance jobs on an ongoing basis.

The recommended facility would add \$200 million to the local economy through associated services and increase local purchasing within Western Australia by \$1 billion annually.



Back Diamond Lake in Collie



Wellington Dam in Collie

Bringing the community on the journey

The Western Australian Government is committed to engaging First Nations people and communities to ensure Western Australians are at the centre of the State's energy transition pathway. We are committed to engaging communities, seeking input and facilitating ongoing and open communication to shape priorities and initiatives that stem from the energy transition.

Driving a Just Transition: spotlight on Collie

The Western Australian Government is committed to a Just Transition for workers and communities affected by the transition away from emissions-intensive industries.

In December 2020, the Western Australian Government released Collie's Just Transition Plan, supporting one of the first major communities to be affected by the closure of carbon industry.

With the announcement that Collie's remaining coal-fired power stations will be retired in a phased, managed approach in the years to 2029, the Western Australian Government is delivering a \$662 million Collie Transition Package to support future jobs in the region.

Of this, \$200 million has been invested in the Collie Industrial Transition Fund to attract new industries and projects, and \$300 million for undertaking decommissioning works. An additional \$16.9 million has been provided to expand the Collie Job and Skills Centre and invest in new training initiatives to support the local workforce.

The phasing out of coal-fired power is expected to reduce the State's largest energy provider's carbon emissions by up to 80 per cent by 2030.

Streamlining the energy transformation

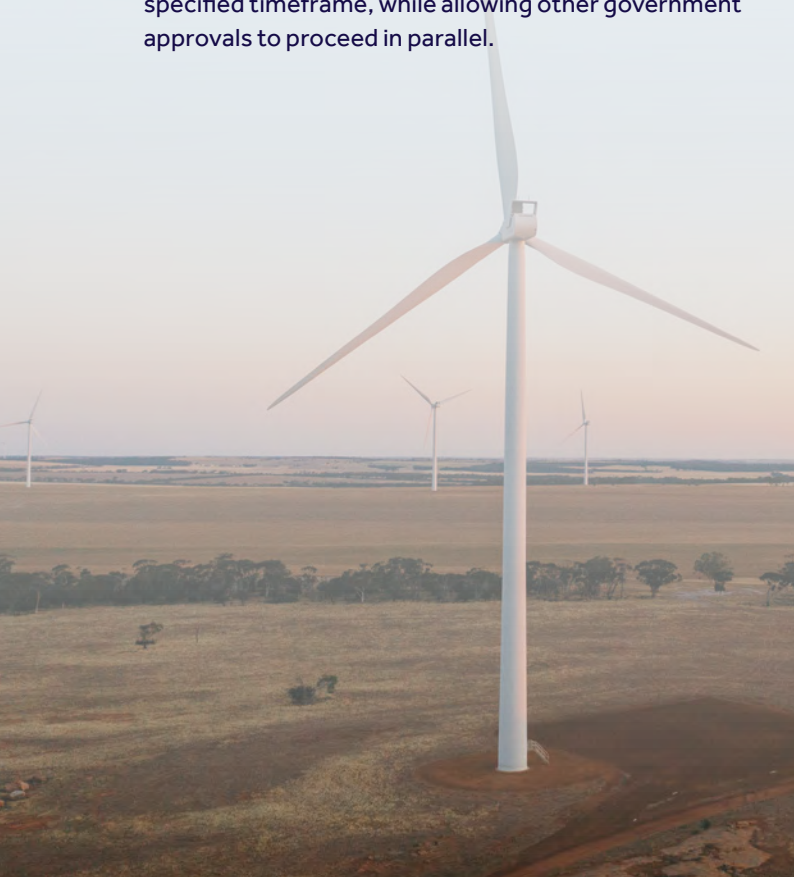
As part of its commitment to the energy transition, in December 2023, the Western Australian Government announced an overhaul of the State's environmental approvals system in order to unlock more investment, while protecting Western Australia's unique environment. As part of this, the Western Australian Government announced funding of \$18 million to reduce delays and allow for rapid deployment of additional resources for critical approvals.

A new Coordinator General role and team within the Department of Jobs, Tourism, Science and Innovation (JTSI), will coordinate and facilitate approval across government for projects of State significance. The Coordinator General will work to prevent and resolve delays to priority projects, and will provide regular reports to the Western Australian Government Cabinet on progress of major projects and opportunities for further regulatory reforms.

The Western Australian Government is progressing a series of changes to the *Environment Protection Act 1986*, which would allow the Environment Minister to direct the State's Environmental Protection Authority (EPA) to assess a project of State significance within a specified timeframe, while allowing other government approvals to proceed in parallel.

These latest reforms follow the Western Australian Government's \$22.5 million commitment to the Green Energy Approvals Initiative to help support new energy projects.

The Green Energy Projects Group, also within JTSI is the first point of contact for all green energy proponents and investors. The group will support cross-government project facilitation for green energy projects to deliver a streamlined approval pathway. To contact the team email GreenEnergyWA@jtsi.wa.gov.au.



PoweringWA

PoweringWA is a new entity within the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS), which will streamline the building of transmission, renewable generation, and storage infrastructure needed to decarbonise the electricity supply in the South West Interconnected System, enabling electrification in other sectors of the economy.

Working with government partners and stakeholders, including communities and Traditional Owners, PoweringWA will support a coordinated approach to decarbonisation across the entire electricity value chain.



Scan to discover more about PoweringWA



Gas and the energy transition

Gas continues to play a role in Western Australia's energy transition and assists globally by providing a transitional fuel option.

It will continue to assist other high-emission nations that are wanting to switch to cleaner alternatives as they prepare for renewables.

Carbon capture utilisation and storage

Carbon capture, utilisation and storage (CCUS) will play an important role in decarbonising hard-to-abate industries across the world. Western Australia is well positioned to become a world leader in CCUS technologies by leveraging existing infrastructure, suitable geological formations, and our highly skilled workforce.

The Western Australian Government has dedicated \$4.3 million to foster a world-leading CCUS industry. These funds will support a CCUS Action Plan, which aims to accelerate the deployment of proven CCUS technologies in Western Australia, support research into new CCUS technology, and attract investment in CCUS.

Centre of Decommissioning Australia (CODA)

CODA is an independent initiative to effectively manage the decommissioning of Australia's ageing oil and gas infrastructure. The Western Australian Government has committed \$5 million in funding over four years with \$2 million to be provided in each of the first two years and \$1 million in the later years.

The funding will be used to support the development of a globally competitive decommissioning industry by unlocking new workforce opportunities, identifying new ways to recycle offshore infrastructure, and optimising safety, efficiency, and environmental outcomes to support lower costs.

A study investigating the Western Australia's potential to develop CCUS hubs found they would support cross-sector collaboration towards decarbonisation, attract overseas investment, and generate 37,000 construction jobs as well as 500 permanent jobs.

The Western Australian Government introduced the *Petroleum Legislation Amendment Bill 2023* and the *Petroleum and Geothermal Energy Safety Levies Amendment Bill 2023* into Parliament in November 2023, which provides a framework for greenhouse gas storage and transport to enable the State's future CCUS industry.

The role of hydrogen

Over the next decade, the global renewable hydrogen economy is predicted to grow rapidly to support decarbonisation, and Western Australia is poised to be a key player in this market.

Western Australia has an abundance of solar, wind and land resources, which are all critical for the production of renewable hydrogen. Covering 2.5 million square kilometres (about 10 times the size of the United Kingdom), but with a population of just over 2.6 million, Western Australia's low population density and large expanses of land enable the State to accommodate renewable hydrogen energy at scale.

In 2019, Western Australia became the first State in the nation to publish a renewable hydrogen strategy, which focuses on delivering decarbonisation and diversification objectives and provides a pathway towards achieving the State's aspirations to develop a renewable hydrogen industry.

Pilbara and Mid West renewable hydrogen hubs

The State and Commonwealth Governments have invested \$140 million in the Pilbara Renewable Hydrogen Hub to develop a hydrogen or ammonia pipeline, create a Clean Energy Training and Research Institute that is networked to the Clean Energy National Centre of Excellence, and facilitate port upgrades to enable the import of oversized renewable energy generation equipment like wind turbine towers or blades.

The State Government has committed \$60 million to the Mid-West Hydrogen Hub, including enhancing the Oakajee Strategic Industrial Area through the construction of renewable energy and road infrastructure. It also outlines a plan to connect the SIA to power and water and develop hydrogen refuelling infrastructure.

The two hubs are projected to create about 2,000 skilled and semi-skilled jobs across Western Australia.

Renewable Hydrogen Strategy

The Renewable Hydrogen Strategy sets out the Western Australian Government's strategic areas of focus for the development of the hydrogen industry. The Renewable Hydrogen Roadmap outlines how the Western Australian Government is supporting the development of the renewable hydrogen industry.



Scan to download
Renewable Hydrogen
Strategy





Skills to deliver the energy transition

Western Australia has a highly skilled workforce, with further investments and support being provided to ensure the workforce has the skills for the energy transition.

Western Australia's world class education institutions, including top rated universities and TAFEs are committed to building capabilities in science, technology, engineering and mathematics (STEM) as well as Industry 4.0 skills to secure a highly capable and knowledgeable workforce now and into the future.

A partnership between the Australian Government and Western Australian Government has enabled the introduction of the Fee Free initiative in 2023. Under this program more than 130 full qualifications and skill sets have been made Fee Free, with the Western Australian Government funding additional places to keep pace with demand. In 2023, there were more than 39,500 enrolments in fee free TAFE courses and skill sets in Western Australia. As part of the National Skills Agreement, the Western Australian and Australian Governments have agreed to extend Fee Free training until the end of 2026.

Running in parallel to the Fee Free program, Lower Fees, Local Skills, has reduced the fees of high priority courses by up to 72 percent, including technology and digital. The Lower Fees, Local Skills initiative attracted almost 60,000 enrolments in low-fee courses in 2023 and is continuing to provide access to 160 heavily discounted courses. Targeted at boosting skills development in priority areas, these initiatives are helping to skill more

Industry training solutions

The Western Australian Government's high quality TAFE training colleges and Jobs and Skills Centres work closely with industry to provide a range of skilling solutions including training programs and financial incentives.



Scan to visit Jobs and Skills Centre

Western Australians in areas important to our economy and grow the supply of skilled workers needed to meet the demands of our State's critical and emerging industries.

Western Australia's STEM skills strategy: Future Jobs, Future Skills, developed with the STEM Advisory panel, outlines a whole-of-State plan to capitalise on STEM opportunities and build everyone's skills for the jobs of the future. The STEM Advisory Panel comprises representatives from across industry, community engagement, vocational education and training, school education and the State's universities.

The Western Australian Government has submitted a proposal to the Australian Government to establish a Clean Energy National Centre of Excellence under the National Skills Agreement, positioning the State at the forefront of the global clean energy transition. The proposed Centre of Excellence will lead development of training and workforce initiatives in collaboration with industry, unions, TAFE, and universities across Western Australia and nationally. The Western Australian Government is investing \$243 million to significantly upgrade infrastructure across our TAFE colleges and \$25 million in modern equipment, so students have the opportunity to learn on industry-standard equipment in contemporary facilities.

Global supply chains

Western Australia's supply chain opportunities by industry

DEFENCE: Vessel fabrication, sustainment, and maintenance.

MINING AND METS: Critical minerals mining, processing, and manufacturing. Mining fabrication and equipment.

ENERGY: Large-scale renewables projects, renewable hydrogen production, and downstream processing of gas.

PRIMARY INDUSTRIES: Agribusiness and food processing development, competitive and resilient agrifood logistics services.

HEALTH AND MEDICAL LIFE SCIENCES: Development of health and medical technology, devices, and products.

SPACE INDUSTRIES: Development of space technologies.



Western Australia's position in the global supply chain

Positioned at the gateway to the Indian Ocean rim, international trade and investment has long been central to the Western Australian economy, resulting in average real gross state product (GSP) growth of 3.9% over the past 20 years, making the State one of the fastest growing developed economies this century.

Future State: Accelerating Diversify WA focuses on the most significant diversification opportunities in industries experiencing extraordinary global growth, while nurturing Western Australia's unique strengths in resources and manufacturing. Future State represents a whole-of-Western Australian Government approach to investment attraction and trade growth driven by three principles: unlocking opportunities; enabling investment; and a short-term strategy for long-term growth that focuses investment in new and emerging industries and markets to be prepared for the future.

More than half of the nine of targeted, sector-specific diversification opportunities identified within Future State are directly related to the energy transition:

- » Production and scaling of renewable hydrogen;
- » Advanced critical minerals processing;

- » Decommissioning of oil and gas infrastructure;
- » Manufacture, utilisation and maintenance of space and cross-sector technologies ie; and
- » Development of new carbon capture, utilisation and storage projects.

Future State: Accelerating Diversify WA

Future State: Accelerating Diversify WA identifies seven cross-sector enablers for development and investment to ensure Western Australia is project ready:

1. A skilled and productive workforce
2. Environmental, social and governance frameworks
3. Science, innovation and technology
4. Advanced manufacturing capabilities
5. Key infrastructure and project-ready land
6. Policy and regulatory frameworks
7. Investment and trade ecosystem.



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