POWERING WESTERN AUSTRALIA'S FUTURE





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Introduction

Western Australia has a near-perfect combination of natural resources to become a world-leader in the global transition to a net zero economy. This is the foundation for WA's economic and employment future.

WA is the sunniest State in the world. It has a world-class wind resource. High-class hematite iron ore provides much of the state's wealth, combined with lithium, nickel, cobalt, manganese, platinum, vanadium, titanium, bauxite, mineral sands and more. This, combined with the sun and wind resources means the State has everything required to create a future made in WA by generating some of the world's lowest cost renewable energy and stabilising it using batteries built with local inputs.

There is a massive global need to lower the carbon pollution content in all business practices, with energy and manufacturing two of the largest opportunities. Western Australia has the potential to not only decarbonise its own processes, but also to export green solutions such as green iron and value-added critical minerals to help other countries decarbonise.

A future made in Australia is a future made in WA.

WA is at a critical juncture: either we lay the foundations to be a renewable and critical minerals superpower, or we continue down a dwindling fossil fuel pathway.

The Smart Energy Council urges the WA government to adopt these 10 key recommendations to ensure that WA will fulfil its economic potential:

- 1. Introduce a legislated target of 82% renewable energy by 2030 on the South-West Interconnected System (SWIS).
- 2. Introduce a legislated target of 43% emissions reduction by 2035 as part of an amended Climate Change Bill.
- 3. Introduce a household battery booster program with a rebate of up to \$5,000 for residential batteries to reduce power bills.
- 4. Develop a WA Renewable Jobs Plan, which includes adopting the recommendations from the First Nations Clean Energy Network's *Powering First Nations Jobs in Clean Energy*¹ report.
- 5. Build the required 4000 kms of energy network augmentation identified by planners and experts in the field to deliver large-scale renewable energy projects in the south-west.²
- 6. Develop a comprehensive single Common-User Grid Infrastructure Plan in the expanded Pilbara region to deliver large-scale renewable energy, green iron and green minerals projects in the north-west.
- 7. Establish an industry-led reuse, recovery and recycling scheme for solar panels, battery storage systems, inverters and related products, creating new jobs and industries from the recovery of these resources.
- 8. Work with the Australian Government to deliver at least \$15 billion investment in WA through the Future Made in Australia program, the National Reconstruction Fund, Rewiring the Nation, the Northern Australia Infrastructure Facility, the Clean Energy Finance Corporation and the Australian Renewable Energy Agency.
- 9. In partnership with the Australian Government, establish Green Iron Precincts, ensuring strategic and sufficient investment in large-scale renewables necessary for the delivery of green iron.
- 10. We recommend WA adopt a traffic light system for large-scale renewable energy projects; where approval processes for large scale renewable projects are prioritised, climate benefits are taken into account; and biodiversity protection and benefits are prioritised.

¹ https://assets.nationbuilder.com/fncen/pages/237/attachments/original/1722394132/FNCE_Jobs_Report_-_FINAL_%28 Compressed%29.pdf?1722394132

² https://www.wa.gov.au/system/files/2023-05/swisda_report.pdf



Context

All around Australia, and the world, investment in zero emissions opportunities are being delivered by governments providing industry with clear policy and market signals.

WA has the opportunity to firmly establish itself as a Renewables and Critical Minerals Superpower through strong policy choices. The WA Government should signal to investors that it is open for business in emerging zero emissions industries by setting strong and clear emissions reduction and renewable energy targets and removing barriers to investment.

Western Australia hosts many major gas projects, with producers looking to exploit more fields. The State's track record shows this gas is mostly exported with little to no tax collected on the profits made on this publicly-owned resource.

The WA government needs to ensure that the gas industry is taxed fairly, and use this income to ease cost of living pressures felt by households.

No future gas projects are needed to supply the state, as domestic gas supply can easily be met by the current level of output, and the below policies outline how the state can rapidly increase a lower-cost form of reliable energy through firmed renewables.

The Australian government has committed to international agreements to curb climate change, with legislated targets to reduce greenhouse gas emissions to 43% below 2005 levels by 2030, as well as a national renewable energy target of 82% by 2030.

Western Australia is the only state or territory in Australia without a commitment to emissions reduction or renewable energy growth.

WA needs legislated targets, combined with effective policy and clear timelines to realise its potential as a Renewable Energy Super Power.





RENEWABLE ENERGY TARGETS



* NSW has a target of 12 GW of new renewable generation and 2 GW of LDES by 2030

** Tasmania reached its target of 100% renewable energy in 2020 and now has a 200% renewable energy target by 2040







What we need now

- · Legislated targets for Renewable Energy and Emissions Reduction
- Targeted Support for.
 - Consumer Energy
 - Commercial Scale Energy
 - Large Scale Renewable Energy on the South-West Integrated System (SWIS) energy grid
 - Non-SWIS Energy
 - Smart Transport
 - Green Hydrogen
 - Green Metals
 - Long Duration Storage
 - Workforce Development and First Nations Employment
 - Product Stewardship

This policy outlines these areas for support in more detail and recommended actions to be taken by the WA State Government to help deliver a job-maximising net zero state as soon as possible.

PHOTO COURTESY YARA





Summary of Asks

Legislated targets for Renewable Energy and Emissions Reduction

Western Australia has lacked firm commitments to national and international climate targets for too long. To have clear direction for any of the following initiatives, legislated targets must be set for both emissions reduction, and renewable energy.

There is a responsibility for the state to contribute to national agreements, and without action from WA, Australia will not meet its international agreements. Even the state's biggest polluters Woodside, BHP, Alcoa, South32 and Rio Tinto all have targets for emissions reduction, albeit not yet at acceptable levels.

WA needs to legislate the following targets as soon as possible:

- At least **82% renewable energy by 2030** on the South West Interconnected System (consistent with the national target), with a review at 2030 where the target can only be increased, not reduced, and the time frame shortened.
- At least **43% emissions reduction by 2035**. This is five years later than the national target, recognising WA is starting from a long way behind.

Consumer Energy

For WA to reach its renewable energy target outlined above, and for Australia to reach its 82% renewable energy target, consumer energy will need to provide half of the required energy.

WA has approximately 2.6 gigawatts (GW) of rooftop solar installed and this is expected to increase to 6.5 GW over the next ten years.

To ensure that this cheap energy is available when needed and matches loads on the grid, consumer energy resources need to be invested in, what is needed is:

- Support for **household battery** uptake with a **rebate of up to \$5,000** (\$350 per kilowatt hour, from 5 to 15 kwh) to help families with cost of living pressures and to build a more reliable energy grid.
- Enable and promote **bi-directional EV charging**, where electric vehicles can be used as batteries that can push their charge back into a household or the grid, making electric vehicles a home's 'battery on wheels'.
- Incentivise customer participation in Virtual Power Plants (VPPs) which allow households with consumer energy resources, including solar panels and batteries, to collectively interact to provide electricity to the community. The government should fast track all recommendations from the Project Symphony Pilot Report³, bringing the approach out of pilot phase and into the mainstream.

³ https://arena.gov.au/assets/2024/06/Western-Power-Project-Symphony-Pilot-Results-and-Recommendations.pdf





Commercial Scale Energy

Businesses are the perfect consumer of solar energy. They use the majority of their power at a time of the day when solar energy is at its peak, and have the ability to manipulate the amount used by small adjustments to air conditioning, heating and other high electricity uses.

Unfortunately, connection approval times for solar and battery systems on the distribution network have been a low priority for grid operator Western Power for many years. The unpredictability of the connection approval process means end customers are hesitant to make investment commitments, as they are uncertain as to when they will see the benefit.

This must change by:

- · Rapidly reducing the time to connect solar and battery systems over 30kVA.
- Providing **transparency and predictability** of the connection process for commercial and industrial customers.

Large Scale Energy on the South-West Interconnected System (SWIS)

We must make WA the most attractive region for investment in large-scale renewable energy; you cannot be a Renewable Energy Superpower without renewables.

Currently many national and international developers are deprioritising their support for opportunities in WA. This needs to change.

The transmission network needs to be expanded, but the process for this is currently too slow, often due to the community consultation required along with negotiations around the level of social licence needed.

Development, environmental and Native Title approvals are also slow and appear, from the outside, to not be a sufficient priority for the government. Renewable Energy projects that positively impact climate change must be seen by government departments as a solution to impending environmental catastrophe, rather than at odds with it, and given 'priority project' status.

We recommend that:

- Increased resourcing of an additional \$10.9 million, doubling the existing funding allocated in the 2024 budget, is provided to PoweringWA, the entity created to deliver the step change in electricity infrastructure needed to power our renewable energy transformation, specifically to drive earlier and more effective community engagement.
- Government brings forward budget for building the required 4000 kms of network augmentation identified in the 2023 SWIS Demand Assessment⁴.
- \$4.5 million to coordinate with the federal government to finalise the Bunbury offshore wind zone.
- The state government should implement a **traffic light system for large-scale renewable energy projects**, where no-go (red), and go (green) zones are clearly outlined, along with areas for more consideration (amber). The climate benefits or impacts of a project should be taken into account in the approvals process.

Non-South West Interconnected System (SWIS)

The Pilbara region is easily the largest energy consumer outside of the SWIS due to mining and processing activities using high amounts of energy.

There is a considerable opportunity for a coordinated approach to the Pilbara and a large amount of renewables are needed in the north-west, as soon as possible. We will not achieve a future made in Western Australia without this.

⁴ https://www.wa.gov.au/system/files/2023-05/swisda_report.pdf



- Prioritise the development of a comprehensive single **Common-User Grid Infrastructure Plan** in the expanded Pilbara region, taking advantage of the already allocated Rewiring The Nation funding.
- Continue to **deliver the Pilbara Energy Transition Plan**, including ensuring meaningful participation and ongoing benefits for Traditional Owners in the region.
- Speed up the efforts to reduce reliance of remote communities on expensive diesel generators for power by expanding the Stand-alone Power Systems program, expanding from 4,000 to 10,000 by 2034.

Smart Transport

The West Australian Government's investment to-date in electric vehicles is to be commended, with the WA EV Network, Clean Energy Car Fund rebates, and the Charge Up Fund Scheme supporting EV uptake and charging infrastructure.

The next step needed is the enablement of effective bi-directional EV charging (also known as Vehicle to Grid - V2G).

- Enable and promote bi-directional electric vehicle charging through the adoption of international V2G charging standards (ISO:11158-20, OCCP 2.1) and streamlining/updating of existing standards (CSIP-AUS, Grid Code AS4777.2). This should be factored into the outcomes from Horizon Power's EV Orchestration Trial in Exmouth to enable smoother adoption of V2G capabilities, without reinventing the wheel.
- \$1 million to increase accessibility to public charging stations, including improved maintenance timeframes, to drive consumer uptake of EVs and dispel anxieties around range issues.
- \$1 million to fund a campaign into dispelling false information around established and new EV technologies to support customer and industry confidence.





Green Hydrogen

Renewable hydrogen, also known as green hydrogen, is a fundamental necessity for the decarbonisation of Iron and Ammonia production along with many other industrial processes.

The lack of available or economically viable green electricity to power electrolysers has delayed many projects moving from the pilot stage to full production. Planning and environmental approvals have also been slow.

- Continued support for large scale renewables, to provide the necessary green electricity
- Work with the Federal Government to ensure that a **national Hydrogen Production Tax Incentive (HPTI)**⁵ delivers real projects for WA and provides additional local incentives as needed.

Green Metals

The estimated export value of Green Metals is estimated to be \$395 billion, with Green Aluminium adding a further \$60 billion as per the SuperPower Institute⁶.

Western Australia's unique combination of large ore deposits coupled with the potential for lowest cost renewable energy makes this a once in a lifetime opportunity for the state.

With such a nation building opportunity in front of us, a commitment to shared infrastructure would send the right message to project developers and investors that WA is serious about making this happen.

- A commitment to **common user infrastructure** for Green Metals.
- Ensure the state of **Western Australia gets its fair share of the federal funding** available for green metals, through Future Made in Australia and unlocking money from ARENA, the Clean Energy Finance Corporation (CEFC) and the National Reconstruction Fund (NRF).
- In partnership with the Australian Government, establish Green Iron Precincts, ensuring strategic and sufficient investment in rooftop solar and large-scale renewables to deliver the necessary renewables to deliver green iron.

Long Duration Energy Storage

Unlike Australia's east coast, WA is not connected to the NEM and cannot use other states networks as a buffer to stabilise and match energy supply and demand.

Local Long Duration Energy Storage (LDES) is needed beyond the short term storage projects already underway, not just for stability, but to shift the huge amounts of cheap daytime energy into the evening.

Many studies have shown that pumped Hydro projects such as Snowy 2.0 are not technically or financially viable in Western Australia so far. Other technologies must be considered, in particular Flow Batteries.

- Synergy to sponsor a large scale pilot of several flow battery technologies.
- On the basis of performance, one or more **large scale LDES contracts** to be awarded, supported by either the Federal Capacity Investment scheme or the local capacity market.

Workforce Development

We must support and provide assistance to government and industry through the transition and provide planning and coordination of the many important workforce programs.

The recently funded Clean Energy Centre of Excellence will provide the training at a national level, but it must be in sync with the current and future needs of the local WA industry.

⁵ https://smartenergy.org.au/articles/hydrogen-production-tax-incentive-submission/

⁶ https://cdn.sanity.io/files/1pv5uha8/production/1201b937ae3348d77bcc9e46c3767db4b531e848.pdf



We need to:

- **Develop a WA Renewable Jobs Plan**, modelled on Queensland's Energy and Jobs Plan. This strategy should guide the state's Clean Energy Centre of Excellence, and Clean Energy Jobs Advocate to build a strong workforce that will grow with the transition.
- Appoint a Clean Energy Jobs Advocate as a separate statutory body, providing a link between industry and WA's new Clean Energy Centre of Excellence.
- Develop a **workforce transition plan** for the migration of skilled workers in oil & gas to be able to transition into the renewable energy industry.
- Establish metrics and targets to drive greater female participation in the workforce as a precursor to minimum apprentice ratios. It is appropriate for the WA and federal governments to set targets and conditions for public fund expenditure. These are best if foreshadowed and met over time.
- · Adopt the recommendations from the First Nations Clean Energy Network Report7.

Product Stewardship

E-waste is an increasing problem as solar panels, inverters and batteries are being replaced rapidly due to economic reasons with new cheaper and more efficient technologies being made available. The renewable energy industry needs a roadmap and certainty on product stewardship now.

Queensland has taken the lead ⁸, and the National Product Stewardship Scheme is due to be rolled-out in the next few years. WA must prepare for the national stewardship scheme, so that it can implement any programs promptly.

To ensure WA is prepared, we need:

• \$2.5 million for a solar and battery stewardship scheme pilot.

7 https://assets.nationbuilder.com/fncen/pages/237/attachments/original/1722394132/FNCE_Jobs_Report_-_ FINAL_%28Compressed%29.pdf?1722394132

8 https://smartenergy.org.au/pv-solar-stewardship-pilot-queensland/#:~:text=Join%20the%20PV%20Solar%20Stewardship%20Pilot%20 in%20Queensland&text=This%20program%20aims%20to%20explore,policies%20for%20a%20nationwide%20solution

