



Government of Western Australia
Energy Policy WA

Energy policy to support mining sector decarbonisation

MRIWA Net Zero Emission Mining WA Conference

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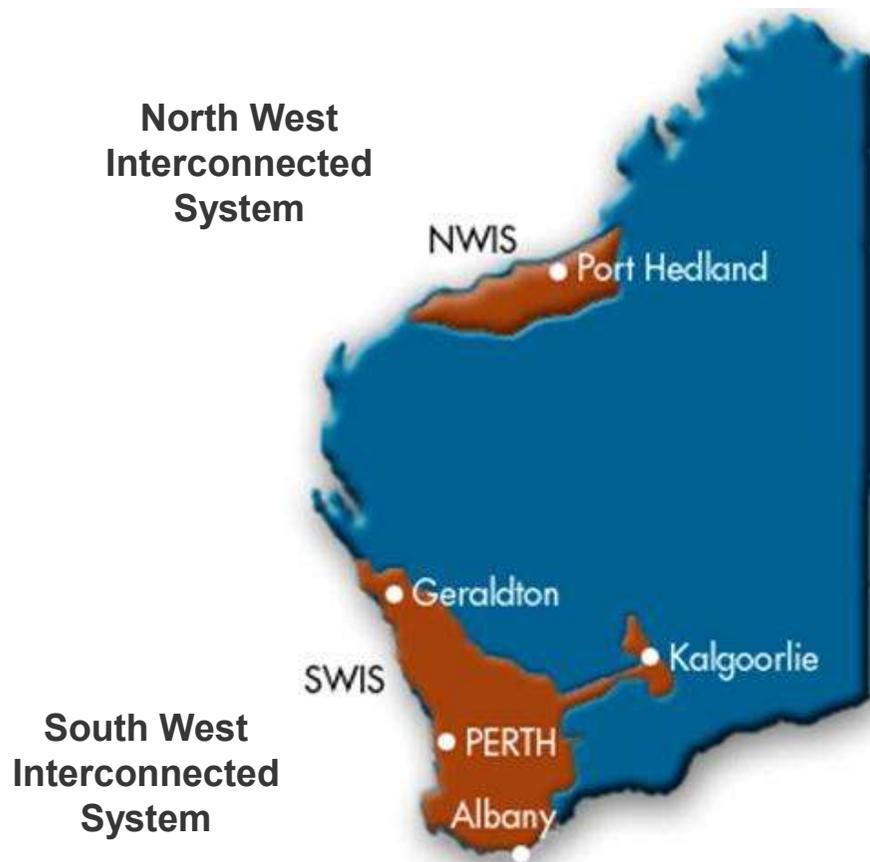
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The Fundamentals of Reducing Emissions

1. Use energy efficiently
2. Decarbonise electricity by switching to renewable generation supported by storage
 - South West Interconnected System
 - North West Interconnected System
 - Off grid
3. Electrify other fuel using sectors, such as heating and hot water (heat pumps) and transport (electric vehicles)
4. Accelerate development and deployment of new technologies in hard to abate sectors

Detailed Sectoral Plans to achieve emissions reduction targets will be developed under the State Climate Policy

WA electricity sector



- **Two significant grids**

- **South West Interconnected System** in which Western Power operates the network and Synergy is the dominant electricity retailer
- **North West Interconnected System** in which several businesses own separate parts of an interconnected network

- **Large number of off-grid facilities across the state**

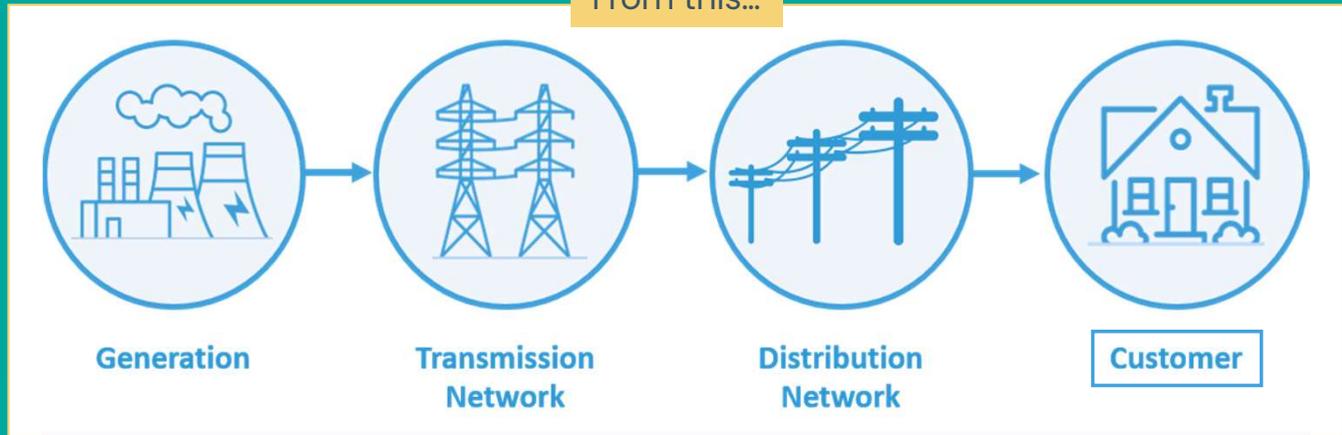
- Medium to large resource and energy projects (i.e. mining and LNG)
- Small to medium towns and communities

Driven by households and industry

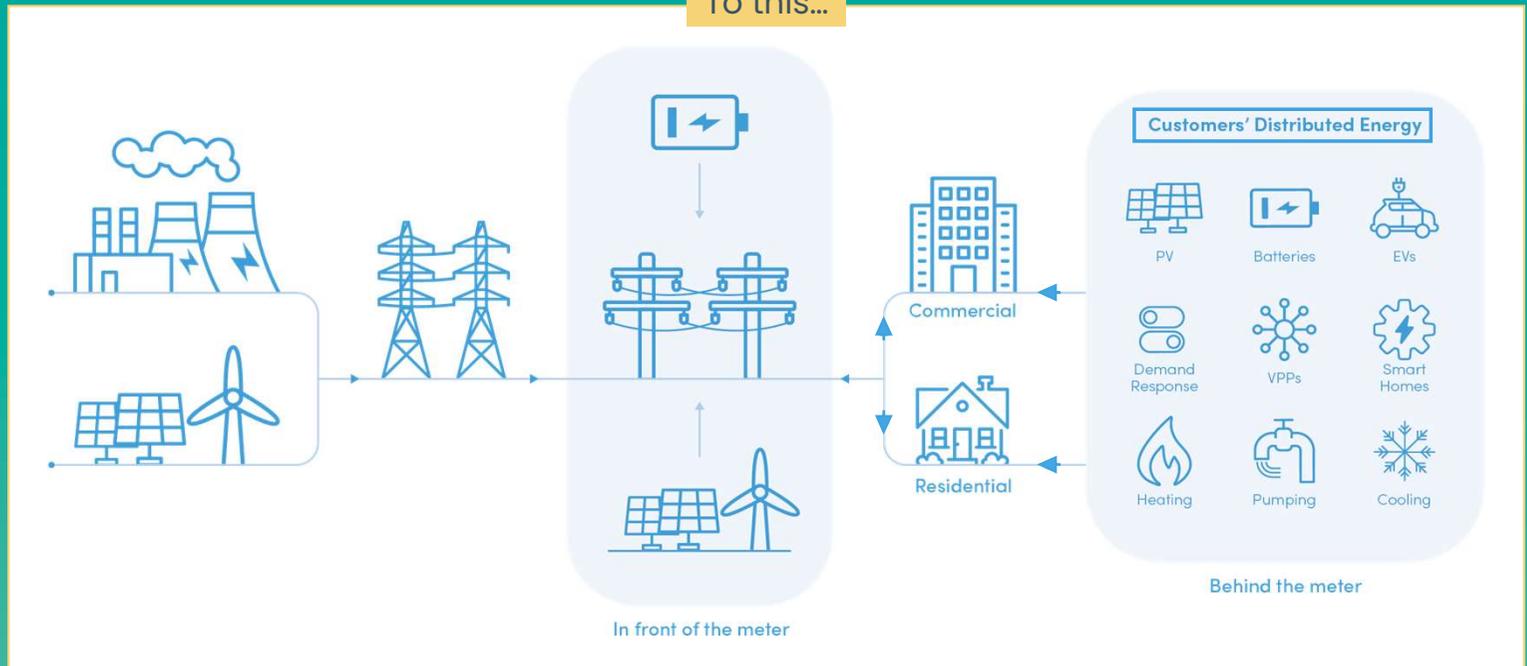
The South West Interconnected System is transforming

at pace

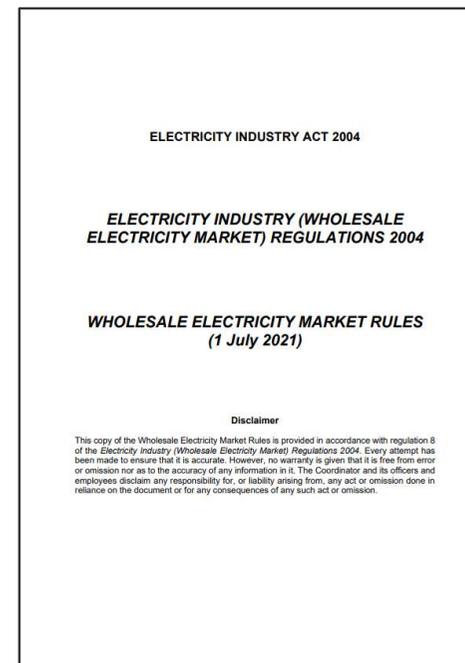
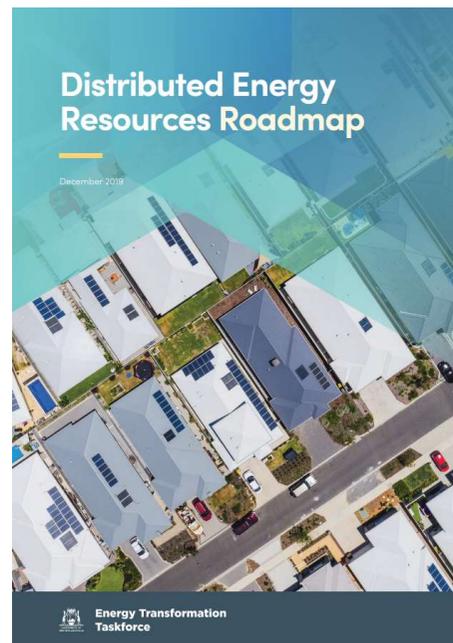
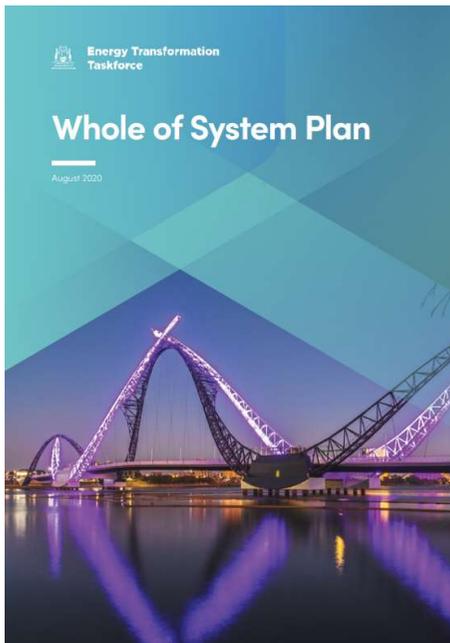
From this...



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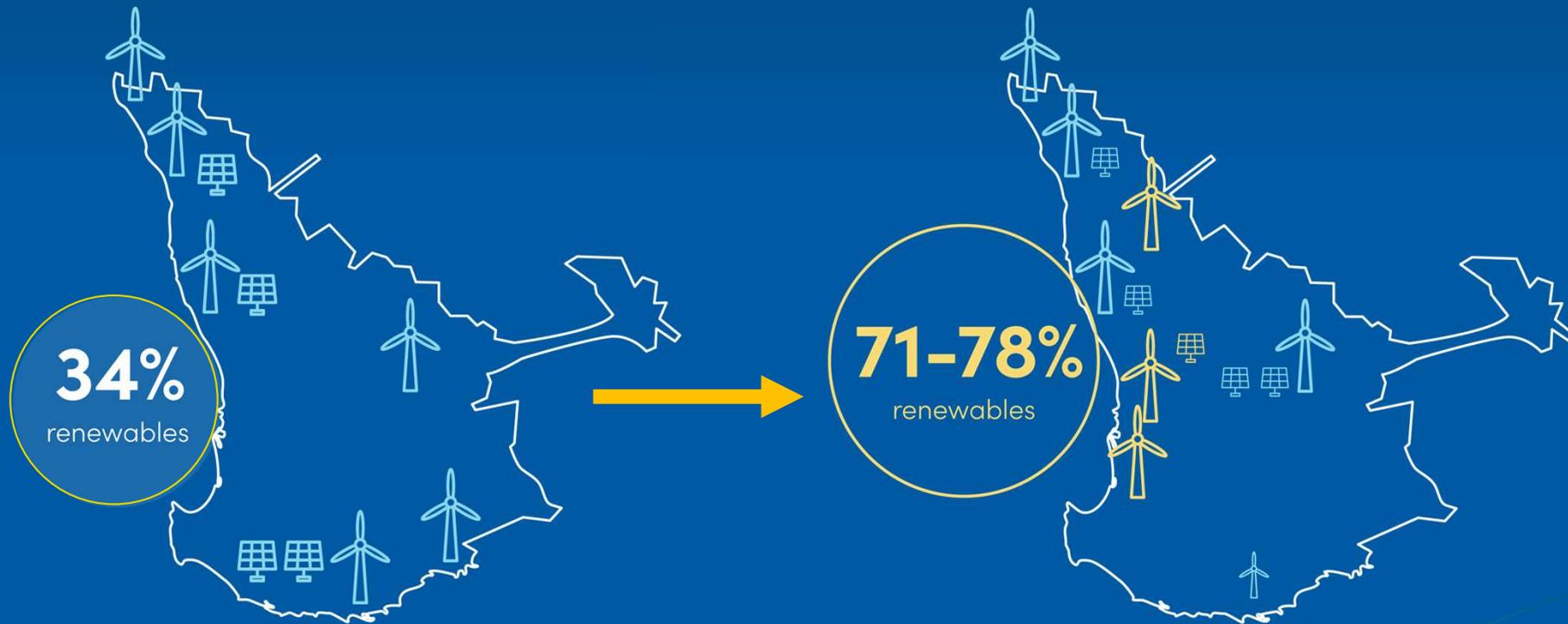


Government is enabling the change



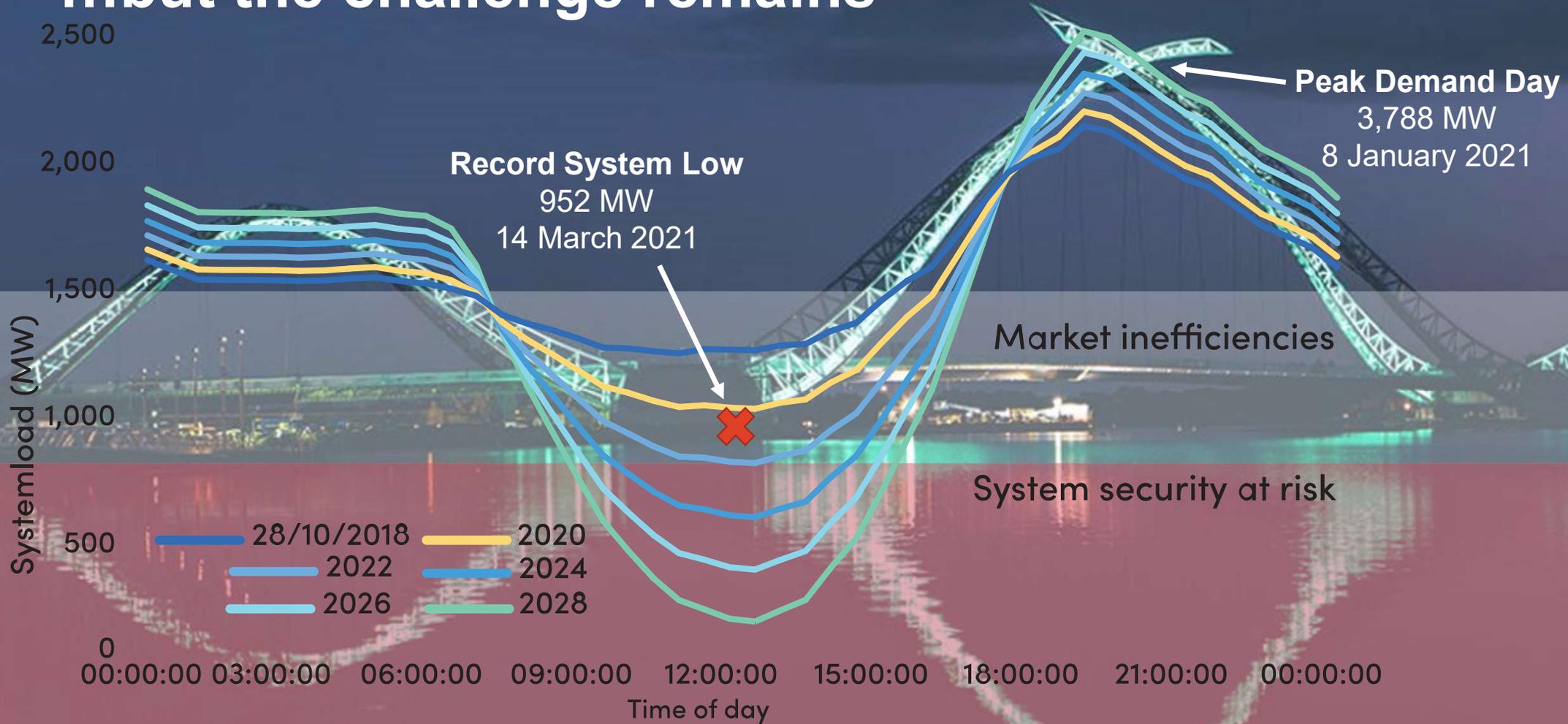
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We are on the right track...



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...but the challenge remains



Source: AEMO

The SWIS Load Curve

North West Interconnected System (NWIS)

- The NWIS is not centrally planned and operated. It has suffered from a fragmented approach to system operations.
- The introduction of the Pilbara Independent System Operator (ISO) to oversee the NWIS as part of a new “light handed” access regime will improve system security and reliability
- The Pilbara ISOC Co was registered in June 2021 and is currently building capacity to take on the functions prescribed under the Pilbara Networks Rules.
- Essential system services will be procured centrally to improve efficiency and security
- ISO will prepare and publish information and plans to assist investors and new entrants to the NWIS
- A fit for purpose regulatory regime will assist Government, consumers and stakeholders to plan the future direction of the NWIS, including reducing emissions, whilst also ensuring system security and reliability for the Pilbara region.

CHALLENGES TO REDUCING EMISSIONS FOR OFF GRID PROJECTS

Motivation

- Reduce up front costs
- Reliability is paramount

Business case can be difficult to make

Life of project

- Often planned to be 4-5 years

Less than payback period for some renewables

Sunk and committed costs

- Reduces scope to retrofit renewables or improve efficiency

Business case can be difficult to make

Lack of knowledge

- Expertise in operations, not electricity supply

Tend to stick to trusted technologies

Weather

- Needs to be built to withstand extremes

Increases cost

Government Policy Support

- The Government's 2021 Jobs Plan committed to
 - establish a team to work with manufacturers and the mining industry to increase the uptake of locally manufactured renewable energy options for remote mine sites.
- Energy Policy WA is currently establishing the Energy Industry Development team. It will be consulting on how to best support industry and other contributors, such as MRIWA , the Cooperative Research Centres and industry initiatives like Charge On and the Electric Mines Consortium.
- The Government is building the State's capacity to grow new businesses and jobs based on new clean energy technologies, for example through the Renewable Hydrogen Strategy and Future Battery Industry Strategy, and by targeting local content when the Government owned electricity businesses procure Stand Alone Power Systems and other clean energy technologies.
- \$66.3 million renewable energy technology package within the WA Covid 19 Recovery Plan
- The Government is working bilaterally with the Commonwealth Government to secure a fair share of Commonwealth energy, climate and clean technology funding for WA projects.

We are already making progress



- Across Western Australia there are already several mine sites operating hybrid renewable microgrids including:
 - Gold Fields, EDL and ARENA - Agnew mine site (18MW wind, 4MW Solar PV, 13MW/4MWh BESS)
 - Gold Fields and Unlimited Energy Australia - Yanmarna Exploration camp (187kW Solar PV, 408kWh TESVOLT lithium energy storage) –
 - Gold Fields, Gold Road, Juwi Renewable and APA – Gruyere Mine (13MW Solar PV, 4.4MW/4.4MWh)



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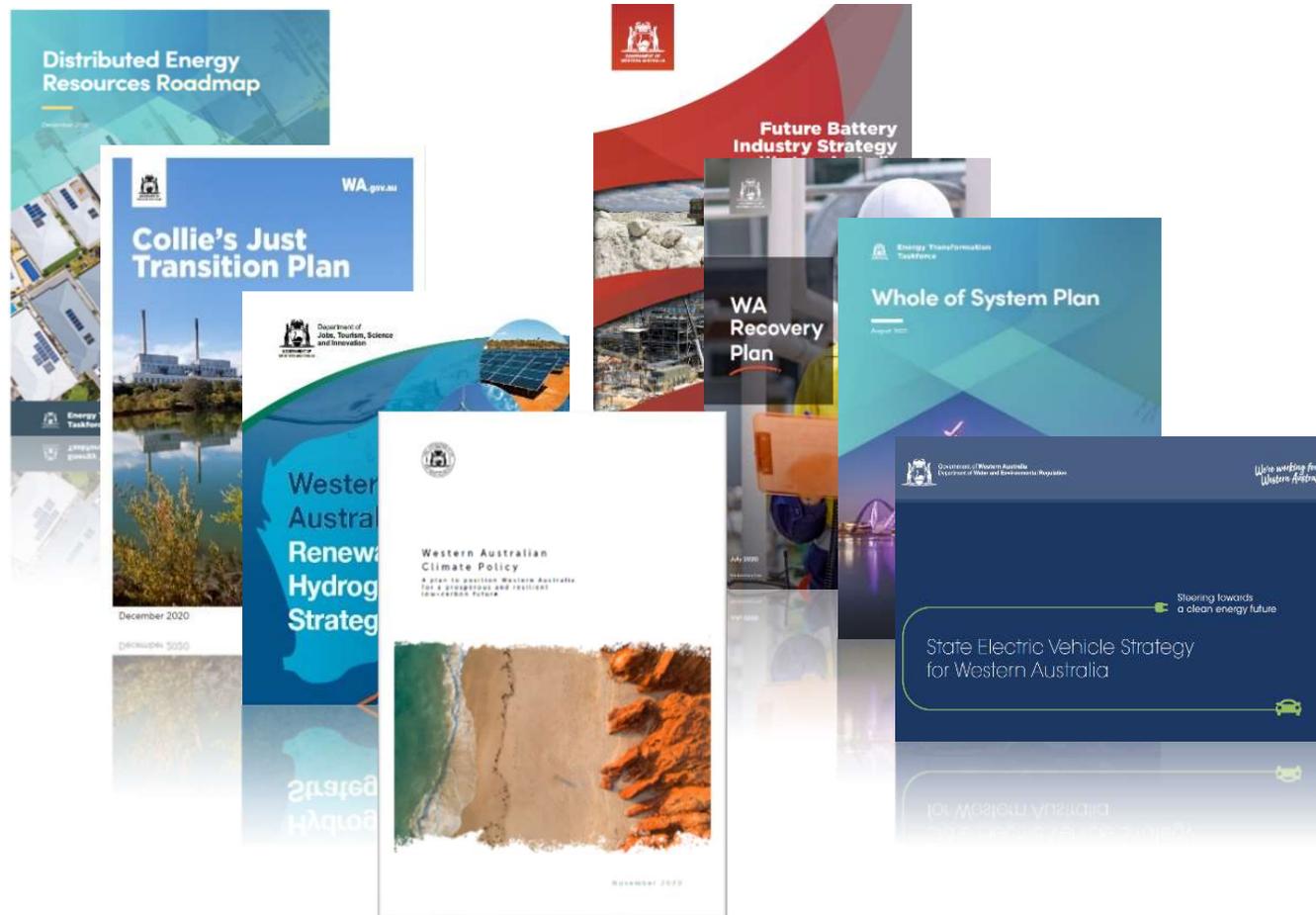
Clean Energy Future Fund

- To support the implementation of innovative clean energy projects in Western Australia.
- The Ministers for Environment and for Energy have joint responsibility for the Fund.
- The State Government announced an additional \$10 million investment in the Fund as part of the \$66.3 million renewable energy technology package within the WA Recovery Plan.
- Applications to the second round closed on 22 April 2021.



In January 2021, ResourcesWA and Nomadic Energy were announced as successful applicants to the first funding round. The two Goldfields-based projects will receive over \$2.6 million to deploy innovative renewable energy and storage technology to mine sites.

There's more in our #brighterenergyfuture



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