



# Project Update

Week ending 11 October 2019

## Pumped and primed for a bigger Marinus Link

5 October

With a strong portfolio of future pumped hydro energy storage opportunities, Hydro Tasmania welcomes news that TasNetworks is assessing options for Marinus Link to provide up to 1500 MW of new interconnection between Tasmania and the rest of the National Electricity Market (NEM).

Hydro Tasmania Chief Executive Officer Steve Davy welcomed TasNetworks' plans, saying Hydro Tasmania stands ready to respond to the needs of the market.

"More interconnection will unlock Tasmania's full renewable energy potential, providing clean, reliable and affordable energy to support a resilient future energy market, Mr Davy said.

"We have more than 400 MW of latent capacity and ample opportunities, both in optimising our existing asset base and in our highly competitive pumped hydro development options. In particular, our existing and potential long duration (deep) storages allow us flexibility in optimising our assets and operations to best meet future market requirements.

"Hydro Tasmania's recently completed pre-feasibility study, jointly funded with the Australian Renewable Energy Agency (ARENA), has identified a strong portfolio of cost-competitive future pumped hydro opportunities, with a combined capacity of 3400 MW.



"This is the sort of long duration storage the future electricity market will need as it transitions to greater penetration of variable renewable sources.

"Work has already begun on a full feasibility assessment of our three top priority pumped hydro opportunities at Lake Cethana and Lake Rowallan in the North West and near Tribute Power Station on the West Coast. Geotechnical work has started in the Mersey-Forth, with site preparations to allow for the start of geotechnical drilling in October.

"As well as these promising sites, the pre-feasibility study has identified another three options that form a future pipeline of potential pumped hydro development – at yingina / Great Lake in central Tasmania, Lake Parangana in the state's North West and between Lakes Margaret and Burbury on the West Coast.

"This pipeline of future projects brings significant optionality and flexibility, as these opportunities can be developed in stages as the electricity market transforms.

"Hydro Tasmania will continue to work with TasNetworks and the Federal and Tasmanian Governments to identify options that maximise the value of any interconnector investment and ensure best outcomes for Tasmanians and customers in the broader national electricity market," Mr Davy said.

Source: Hydro Tasmania

## Solar powers Queensland

6 October

Queensland solar panels can now produce twice as much electricity as the state's biggest power station.

Energy Minister Dr Anthony Lynham said rooftops and solar farms together had just passed the 4000 megawatts milestone for generating capacity.

That's compared to the 1680 megawatts of capacity of the state's biggest power station at Gladstone.

"More than 560,000 Queensland rooves now sport solar systems and 30 solar farms are now generating across the state," Dr Lynham said.

"The incentives in the Palaszczuk Government's Affordable Energy Plan are fuelling the renewable energy switch by Queenslanders and unlocking new market segments and jobs for solar installers.

"Under our solar and battery scheme that provides loans and grants, almost 2500 households and small businesses have installed a battery system with a further 1500 people with approval to do so before the program ends mid next year

"Queenslanders are embracing solar energy because they know that solar reduces power bills and carbon emissions."

Dr Lynham said Queensland was on track to achieve its 50 per cent renewable energy target by 2030, and was forecast to hit 20 per cent next year.

"And we are also turning our remote isolated communities renewable, like Lockhart River and Doomadgee Aboriginal communities, where solar is replacing expensive, high emission diesel," he said.

"Work is underway extending an existing solar farm at Doomadgee, Mapoon is next cab off the rank, and government officials have

started talks with Pormpuraaw Aboriginal Shire and the Northern Peninsula Area Regional councils."

Solar success stats:

- One in three Queensland households has solar, making Queensland a world leader.
- We have more solar systems than any other state.
- Queensland boasts six of the top ten solar postcodes in Australia.
- Queensland has about 800 watts of solar, or about three solar panels, per person.
- In August alone, almost 5000 business and residential solar systems were connected across Queensland.
- In the past 12 months, about 1400 megawatts of solar energy has come on line.
- In 2018, a new solar system was installed every 12 minutes.

Source: Queensland Government

### NEW PROJECT

#### Ravenswood South Solar Farm

Location: Ravenswood South, Victoria

Capacity: 63MW AC

Developer: FRV Services

LGA: Mount Alexander Shire Council

Estimated cost: \$107mil

Status: Development application lodged with council.

Description: The proposed solar farm would consist of approximately 185,000 solar panels and include a 20MWh battery energy storage system. The site covers an area of 306 hectares currently used for grazing and has good access to the electricity network. Up to 150 construction jobs and five ongoing operating jobs would be created by the project.

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## Response to media speculation

7 October

New Energy Solar Manager Pty Limited, the Investment Manager for New Energy Solar (NEW, or the Business), notes the recent media speculation from news service SparkSpread regarding a potential asset sale.

While NEW intends to be a long-term owner of solar power assets, from time to time the Business tests the market value of selected assets. Such market value testing informs and, typically, reinforces the Business' portfolio value. It also allows the NEW Board to regularly assess the risk-adjusted returns available from divestment compared to long-term asset ownership.

At this stage no decision has been made to proceed with any asset sale. NEW will keep investors informed if any decisions are made in this respect.

Source: New Energy Solar

### PROJECT NEWS

#### Limondale Solar Farm

- Foundations for all 57 inverter stations at [Limondale Solar Farm](#) complete
- 35 of the inverter stations have so far been installed Cabling works are progressing well
- The main transformer for the substation of the bigger second part of the site (Limondale 1) has been installed by grid operator TransGrid
- The substation for the smaller first part of the site (Limondale 2) has successfully been energised and we generated the first electricity from Limondale on 12th August
- Over one third of the solar farm's 58,000 piles are now installed
- The new O&M building and adjacent store are nearing completion, which will house Limondale's operational team

Source: Belectric

## New campaign demands 'Solar for All' Australians

8 October

A coalition of 20 community groups has launched a 'Solar for All' campaign calling on state governments to end solar lock-out and give all Australians access to safe and affordable energy.

More than one third of Australians are locked out of access to clean energy because they rent, live in apartments, have unsuitable rooftops, or cannot afford the upfront cost of solar panels.

The coalition, led by the Community Power Agency, is calling for policy and funding support for solutions to solar lockout, including solar gardens. These are centralised solar arrays that people can purchase a small share in; the electricity generated by these arrays is credited on consumers' bills.

"Solar energy reduces people's electricity bills and cuts climate pollution. Everyone deserves to access these benefits, regardless of their living arrangements or income levels," said Nicky Ison, founder and co-director, Community Power Agency.

"Governments can easily fix this unfair situation in Australia by funding solar garden trials and solar rebates for low-income and locked-out households.

"These simple solutions can help state governments deliver lower costs of living, better physical and mental health, and meaningful action on climate change. There are no downsides to this," said Ison.

Solar gardens are a proven concept. In the United States, 1.3GWs of solar gardens are operating across 40 states are saving communities hundreds of dollars per year, while reducing emissions.

Liuanga Palu, Marrickville renter and co-lead of Sydney Alliance's Voices for Power campaign, said: "I keep my heater and air conditioning use to a minimum because

electricity is just too expensive—you can imagine how miserable that is on a freezing winter day or a scorching summer one.”

“It’s frustrating to know that solar could cut my household bills by hundreds of dollars a year, but that I can’t tap into these benefits because I can’t afford the upfront costs or to buy a home yet.

“Climate change is making our summers hotter every year. I want my elected leaders to quickly support solar gardens and rebates, because we all deserve healthy and safe lives,” said Palu.

Source: Community Power Agency

#### **NEW PROJECT**

### **Baroota Solar Farm**

Location: Baroota, South Australia

Capacity: 5 MW

Developer: Flagstaff Enterprises Pty Ltd, a 'Special Purpose Vehicle' formed solely to build, own and operate the Baroota Solar Farm. Director Jeff Packer, as principle of Watt Power Brokers Pty Ltd, will act in the capacity of Executive Offer of Flagstaff Enterprises Pty Ltd.

LGA: Mount Remarkable District Council

Status: Flagstaff Enterprises is seeking a Generation License in anticipation of commissioning.

Description: Baroota Solar Farm is located immediately north of, and adjacent to the Baroota 132/33 kV substation. It will have a maximum export capacity approximately 5 MW and has been granted an exemption from obtaining AEMO Registration as a Generator.

The project consists of:

- 2 x SMA MVPS2500 Inverter/Transformer stations;
- Belectric PEG Solar Array;
- The array will consist of 23,200 JA Solar JAM72S09 385/PR (385 watt) Solar Modules.

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## **Risen Energy's construction of the Merredin Solar Farm set to peak from October**

*8 October*

Construction works at the 132 MWdc [Merredin Solar Farm](#) site will hit their peak between October and December.

“We expect up to 300 construction workers on site over the coming months with about 100 of them locals from the Merredin area. Originally, we thought 200 workers would be needed, however delays due to the harder than expected ground conditions mean that more construction workers will be required to meet our timeline,” said Risen Energy (Australia)’s, Merredin Solar Farm Project Manager Patrick O’Neill.

“We have been getting three to four phone calls each day from interested workers as well as plenty of CVs. All of these are being passed onto our Perth-based primary contractors Monford Group,” said O’Neill.

Monford Group will be installing the panels, torque tubes, trackers inverters and building the new substation. High voltage conductors to connect the substation to Western Power’s Merredin Terminus have been strung and will be energised once the substation and solar farm are substantially complete.

There were project design changes when early civil works undertaken by Perth-based drilling and piling company, Pilecom, encountered more granite than forecasted by the original surveys. Pilecom adopted different methods to drill post holes into the areas of granite, with steel posts sunk to depths between 1.5m to 3.2m. These posts are for the installation of the tracker system which is required to mount the solar panels and allow them to follow the sun.

Over the past few months, the 360,000 panels and trackers have been delivered to the site in 550 containers.

The 132 MWdc Merredin Solar Farm will use Risen Energy's 375W Mono solar panels. These panels will cover approximately 260ha of the 460 hectare farm leased by Risen Energy.

The major construction and movement of heavy vehicles is limited to daylight hours for safety reasons. "We've looked into the process of installing panels during the evening. It worked well on our other projects, especially in north eastern Queensland, where we worked a night shift. There was no noise – we were installing panels in well-lit areas with safety supervision on site, and people actually enjoyed working at night rather than in the heat of the day," said O'Neill.

"We have approached the Shire of Merredin Council about our proposal to work night shift and they saw no issues with that. Noise will be kept to a minimum as there will be no heavy vehicle and equipment movement during the night – only personnel installing PV panels onto the tracker system by manual labour. The lighting towers will be restricted to direct overhead lighting and focus on the work area below. This will minimise any chance of the lighting being a nuisance to residents and motorists in the area. If any issues did arise, we will tend to the matter with absolute urgency," explained O'Neill.

The site will be busy until March when Risen Energy aims to start commissioning its new substation. The Merredin Solar Farm staff have been working closely with the Shire of Merredin to deliver the approvals for the Merredin Solar Farm project and will continue to liaise with the council and government agencies to ensure any requirements are satisfied.

#### Merredin Solar Farm

Risen Energy (Australia) is developing the Merredin Solar Farm, the largest solar farm committed to construction in Western Australia. Once completed the solar farm will have an expected output of 281GWh of electricity annually, generating enough green

energy to power approximately 42,000 Western Australian homes.

The Merredin Solar Farm is located on 460ha of former farming and grazing country adjacent to the Western Power Merredin Terminal and will connect to this facility at 220kV.

A diesel power station is also located adjacent to the Terminal on Robartson Road. Full construction of the solar installation will continue through to early 2020. Merredin Solar Farm will commission and commence power sales in Q2 2020.

"As owners of the Merredin Solar Farm project, Risen Energy (Australia) will progress the project from detailed engineering design, through construction, commissioning and ultimately the operation of the solar farm. We are using our latest PV panel technology to allow it to supply power to the grid. Ultimately, integrated battery storage will be incorporated in the solar farm to provide continuous power during periods of peak demand" said Eric Lee, General Manager Risen Energy (Australia).

The Merredin Solar Farm will endeavour to use as many local resources as possible including labour, equipment, contractors and accommodation. At the height of construction, it is estimated that 300 personnel will be working on the solar farm site.

Local businesses are benefitting from this work in the area including Topline Earthmoving, Merredin Freightlines, Holcim, Wheat Belt Uniforms, Signs and Safety, Landmark Agriculture, Two Dogs Hardware, Merredin Crane Hire, Ron Bateman & Co, Wheatbelt Liquid Waste and Merredin Skip Bins. Perth-based Monford Group and Pilecom are also contracted for the construction of the Merredin Solar Farm. Monford Group have hired a local company to clean and maintain the construction site facility on a weekly basis.

Monford and Risen Energy will continue to seek local services as the project progresses and further services are required. 22 houses are currently being rented to accommodate the solar farm personnel.

Once operational, the solar farm will require 3-5 full time workers to maintain the installation.

[www.merredinsolar.com.au](http://www.merredinsolar.com.au)

Source: Risen Energy

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## Australian cleantech firm wins global innovation award

8 October

Breakthrough solar energy generation and storage technology developed in Australia has won the Technology Innovation Award at the International Energy Agency's SolarPACES 2019 conference.

Australian concentrated solar thermal power (CSP) company Vast Solar was recognised for developing its world-first CSP technology that can deliver dispatchable energy more efficiently and cost-effectively than traditional CSP by using a modular tower system with liquid sodium as the heat transfer fluid.

Vast Solar has proven its technology at a grid-connected pilot project in regional New South Wales that has been operating since early 2018. At [commercial scale](#), it is predicted the technology will produce electricity at lower cost than other dispatchable renewables or fossil fuels, while providing a storage capacity of more than 10 hours.

Vast Solar's fundamental innovation has been the combination of the advantages of central tower CSP systems with a modular solar array architecture. The technology effectively combines the best elements of molten salt tower and thermal oil trough systems to achieve very efficient distributed energy collection at high temperatures.

The use of liquid sodium as the heat transfer fluid to transport energy from the receivers to the molten salt storage tanks has enabled a modular design that delivers very high optical efficiencies and excellent thermal performance and control. SolarPACES is the International Energy Agency's CSP-focused collaborative program.

Robert Pitz-Paal, Chairman of SolarPACES, said: "We are happy to recognise Vast Solar for its highly innovative technology that makes significant steps towards cost competitiveness of CSP and is thus fully in line with our award criteria. The Company's work has advanced the industry and we are looking forward to the ongoing development of the business as it takes its technology to the commercial stage."

Dr Luis Crespo, President of Protermo Solar, the Spanish Solar Thermal Electricity Industry Association, said: "The SolarPACES Technical Innovation Award is the most prestigious of its kind in the world and historical winners have gone on to make significant contributions to global energy markets."

"What Vast Solar has achieved through its innovative use of sodium and modular solar arrays is an important step in CSP's evolution."

Craig Wood, CEO of Vast Solar, said: "This award is further proof that our technology has the potential to transform energy production in sunny places around the world."

"We are now totally focused on developing our Reference Plant which will prove the technology at commercial scale. From there, we anticipate our technology playing a critical role in energy production in suitable climates around the world, generating clean, reliable energy at low cost.

Vast Solar's success at SolarPACES comes shortly after winning the Technology Innovation Award at CSPPLAZA's Annual Conference in China, in July 2019.

Source: Vast Solar

## **Australian Energy Regulator (AER) publishes SA Power Networks' Draft Decision for the 2020-2025 regulatory period**

8 October

Spark Infrastructure notes that the AER has released its Draft Decision on SA Power Networks' 5-year regulatory period which will commence on 1 July 2020.

SA Power Networks is reviewing the Draft Decision and will continue to consult with the AER and stakeholders throughout the process.

The Final Determination is expected to be released in April 2020. Spark Infrastructure notes that the Draft Decision provides for a WACC of 4.95% which incorporates a regulated equity return of 4.98%, subject to the regulatory forecast of inflation of 2.45% being achieved.

Spark Infrastructure reiterates its view that the rate of return is not adequate to provide both a competitive and predictable return to long term owners of network assets, as required under the National Electricity and Gas objectives.

This puts at risk efficient investment in energy network assets, to the long-term detriment of consumers. The Draft Decision can be found on the AER website at [www.aer.gov.au](http://www.aer.gov.au).

Source: Spark Infrastructure

### **NEW PROJECT**

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## **New renewable hydrogen project at Australia's best combined solar and wind site announced**

8 October

Hydrogen Renewables Australia (HRA) has proposed the Murchison Renewable Hydrogen Project – a large scale (up to 5,000 MW) combined solar and wind farm to

produce low-cost renewable hydrogen or 'green hydrogen' on Murchison House Station in Western Australia (WA).

Situated just north of the coastal town of Kalbarri in WA's mid-west region, the location is proposed as it has one of the best combinations of wind and solar capabilities\* in Australia that could facilitate cost-effective production of green hydrogen for local industry and global export. In a significant milestone, HRA has entered into a Heritage Agreement with the local Nanda Aboriginal Corporation (NAC) who have given formal support for the Section 91 Licence needed to allow resource monitoring process to proceed. HRA and NAC have commenced the development of an Indigenous Land Use Agreement that is planned to be finalized during 2020.

"We believe that Murchison Renewable Hydrogen Project's location is the best in Australia for combined solar and wind, making it one of the most cost-effective spots to produce clean energy," said Terry Kallis, Executive Chairman of Hydrogen Renewables Australia.

"We also believe that the project will contribute significantly to the national, state and local objectives for new investment, new jobs, renewable energy sources and new export markets."

"This project will not only help local industry but also the growing demand for green hydrogen from Asian and other markets," said Mr Kallis. "Imagine exporting West Australian sunshine and wind to the world in the form of hydrogen."

The Murchison Renewable Hydrogen Project is proposed to be developed in stages:

- A demonstration phase providing hydrogen for transport fuels
- An expansion to blend with natural gas in the nearby Dampier to Bunbury pipeline.
- A large expansion to produce hydrogen for the Asian markets, notably Japan and Korea.

The proposed plant's technology partner Siemens welcomed the focus on hydrogen in Australia. Siemens Australia Pacific CEO Jeff Connolly said, "Australia has potential like no other country in the world for hydrogen production and export – as long as we act upon the opportunity quickly."

"It's heartening to see strong recent bipartisan leadership at both federal and state levels for hydrogen. There is a clear appetite for hydrogen around the world due to the energy transition away from fossil fuels and the need to decarbonise industry, transport systems and more. Not only Asia, but also Europe and other parts of the world are eyeing Australia as potential giant in hydrogen," said Mr Connolly.

Germany itself aims to exit coal-fired power generation by 2038 at the latest. The majority of people in Germany oppose nuclear power and the country plans to close all of its nuclear reactors by 2022.

"The Murchison Green Hydrogen project has great potential due to the enviable wind and solar conditions. Our modern electrolyser technology (Siemens Silyzer) is very suited to the flexible nature of renewables," said Mr Connolly. "And Western Australia is well positioned to be part of the local and global needs for hydrogen."

The project's initiatives are also aligned with WA's Renewable Hydrogen Strategy designed to help put the state at the forefront of what will be a major new global energy industry. The strategy cites hydrogen as a means to export the state's world-class solar and wind resources to help international trading partners meet their emissions reduction goals, as well as supporting local industries transition to a lower carbon future.

HRA has undertaken preliminary discussions with key representatives of the Western Australian and Commonwealth Governments, the local Northampton Shire Council, the local Nanda Aboriginal Corporation and several other key local stakeholders.

The project has received favourable initial response from key stakeholders. A comprehensive communications and stakeholder engagement process with the local community is being planned to commence in Kalbarri for November 2019.

\*Based on an independent AECOM study (Co-location investigation: a study into the potential for co-locating wind and solar farms in Australia, AECOM, 2016) of the best combined wind and solar resources across the country that were used to find the best location after considering permitting/environmental and land issues.

Source: Hydrogen Renewables Australia

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## **CopperString 2.0 to make case for unlocking more NQ infrastructure investment**

*9 October*

The Senate of the Parliament of Australia has established a Senate Select Committee "on the effectiveness of the Australian Government's Northern Australia agenda" and will be holding public hearings in Townsville and Mount Isa on the 9th and 10th of October respectively.

CopperString 2.0 Director, Joseph O'Brien, will be providing evidence to the Senate Select Committee in Townsville, highlighting the rapidly growing opportunities for Northern Queensland from our minerals and energy resources, and the imperative for State and Federal Governments to demonstrate resolve and collaboration to realise the North's potential.

CopperString 2.0 is in the fortunate position of having received strong support, including financial commitments from the Morrison and Palaszczuk Government's. To take major infrastructure from the conceptual stage, through early development and on to construction, it is vital for Governments to show resolve and work collaboratively by

providing policy and if required investment support.

CopperString 2.0 is believed to be the largest single investment contemplated by the Northern Australia Infrastructure Facility (NAIF), and the largest mature common-use infrastructure project in Northern Australia. CopperString 2.0 is approximately the same scale and cost as other major transmission developments currently being undertaken in the National Electricity Grid including the \$1.5 billion South Australia to NSW Interconnector (SANI) and the \$1.3-\$3.1 billion Project Marinus (creating a second connection to Tasmania) for which the Australian Government has provided \$56 million of development funding.

Speaking ahead of the Committee hearing in Townsville, Mr O'Brien says that the Australian Government's Northern Australia agenda, including the NAIF, is having a positive impact and that barriers still exist which result in less game-changing infrastructure investment in Northern Queensland than in southern regions.

Mr O'Brien will tell the Committee that collaboration across State and Federal Government is essential. The willingness of both levels of Government to throw their support behind CopperString 2.0 has been one of the key contributors to the Project's recent progress, and that early-stage funding for infrastructure development adds significant value to existing policy initiatives.

"The unique economic environment across Northern Australia, including the Townsville to Mount Isa minerals processing and export corridor, combined with the region's broad geography and isolation from established finance centres, means it is more expensive to develop projects and more difficult to attract private-sector financing for early-stage investment and development activities".

"The potential for Northern Queensland is no pipe-dream, we have the natural resources for food and mineral production, and we can

see global demand for our high-value products growing, these are facts.

"Good work is being done at a State and Federal level, there are just some policy gaps that hold us back from delivering game-changing infrastructure that encourages businesses to invest.

"The relatively simple proposition of building a transmission line across Northern Queensland has around \$5 billion of investment associated with it across clean energy and mining in the next 4 or 5 years, without even accounting for opportunities like rare-earth mining, the Hells Gates dam or our immense hydrogen production potential." Mr O'Brien said.

Mr O'Brien will put forward the case that the corridor between Townsville and Mount Isa presents one of the best opportunities in the entire country to drive jobs and economic growth through new investment in minerals mining, processing and new energy development.

"The corridor between Townsville and Mount Isa contains an abundance of the traditional and new economy (or critical) minerals that are in high demand across the world as well some of the best low-cost energy resources that can support existing and new mining and processing operations.

"We are now seeing new projects, including new copper and zinc mines as well as rare earth projects, seeking to progress arrangements for connection to CopperString 2.0 which means more jobs and economic growth in our region.

"We expect CopperString 2.0 will stimulate around \$5 billion of investment over the next five years including the transmission line. This doesn't include the longer-term, but very real prospects of developing highly valuable hydrogen and rare earth mining and processing industries." Mr O'Brien said.

The Federal Government has acknowledged the need for greater investment, and they've taken steps to address the barriers that exist in large-scale investment such as the \$1.5 billion CopperString 2.0 Project.

The NAIF is a valuable pool of capital with a highly capable team and an example of the Australian Government's desire to see more investment in the North. Challenges remain for capital availability in the early stages of project development.

Mr O'Brien says when it comes to large-scale electricity transmission infrastructure there is obvious acknowledgement that Government needs to play a role at some stage of the development and/or investment process. "We are working very positively with the Morrison and Palaszczuk Governments including with their relevant agencies such as the NAIF and the Office of the Coordinator General.", Mr O'Brien commented.

"For CopperString 2.0 and any other large common-use infrastructure investment the capital available from the NAIF is demonstrably positive and an important element of the policy framework. The question for Queensland and Australia is; what else can we do to maximise our prosperity from Northern Australia's resources?" A broader capital investment strategy including for early stage development work and the resolve to bring investments to fruition can create a lot of value for Australia and North Queensland in my opinion." said Mr O'Brien.

Source: CopperString 2.0

## **Butcherbird Manganese Project in Due Diligence Phase with Northern Australia Infrastructure Facility (NAIF)**

*9 October*

Highlights:

- The Northern Australia Infrastructure Facility (NAIF) has determined that it will further investigate the potential to provide debt financing for the Butcherbird Manganese Project
- E25 provided NAIF with strategic assessment information detailing the benefits that will flow from the Butcherbird Manganese Project and its associated infrastructure to the local communities in the Pilbara region
- NAIF has provided written confirmation that the Butcherbird Manganese Project has now completed the Strategic Assessment phase of the NAIF Application and Approval Process and will now proceed to the Due Diligence stage

Element 25 Limited (E25 or Company) is pleased to advise that, after several positive discussions, and providing NAIF with strategic assessment information detailing the Butcherbird Manganese Project (Project), its associated infrastructure requirements and benefits that will flow to local communities in the Pilbara region during and beyond the Project's current mine life, E25 has received written confirmation that the NAIF CEO has considered a Strategic Assessment Paper for the Project and has consented to the NAIF Executive to progress the Project to the Due Diligence stage of assessment. This Strategic Assessment Paper has been noted by the NAIF Board.

This represents the first milestone in E25's engagement with NAIF. The next step for the Company is to submit a formal Investment Proposal. NAIF has not made any decision to offer finance or made any commitment to provide any financial accommodation and there is no certainty that an agreement will be reached between the parties. E25 will continue to assist NAIF with its required due

diligence investigations regarding participation in the debt facilities that will fund the project capital expenditure necessary to develop the Butcherbird Manganese Project.

E25 Managing Director Mr Justin Brown commented, "E25 is enthusiastic about the progression of the Project to NAIF's Due Diligence stage, and looks forward to work with NAIF to achieve a successful funding outcome for the world class Butcherbird High Purity Manganese Project that has the potential to provide benefit to the local community for decades into the future."

"In parallel with the Pre-Feasibility Study, E25 is also actively working on funding solutions for the Project. NAIF's decision to progress to Due Diligence stage is a positive result and an important consideration as E25 looks to complete its Pre-Feasibility Study and implement its funding solution."

"It is also worth noting that manganese was identified as a critical mineral in the Australian Government's recent Critical Minerals Strategy<sup>1</sup> which bodes well for long term demand for this important steel and battery raw material."

The Company's financial adviser in relation to the proposed NAIF funding is BurnVair Corporate Finance.

About the Butcherbird High Purity Manganese Project

The Butcherbird High Purity Manganese Deposit is a world class manganese resource with current JORC resources in excess of 263 Mt of manganese ore. The Company has completed a positive scoping study with respect to developing the deposit to produce high purity manganese sulphate for lithium ion battery cathodes as well as Electrolytic Manganese Metal for use in certain specialty steels. A PFS is currently being completed and is expected to further confirm the commercial potential of the Project.

The Project straddles the Great Northern Highway and the Goldfields Gas Pipeline providing turnkey logistics and energy solutions. The Company is also intending to integrate renewable energy into the power solution to minimise the carbon intensity of the Project as well as further reducing energy costs.

1Reference:

<https://www.industry.gov.au/sites/default/files/2019-03/australias-critical-minerals-strategy-2019.pdf>

Source: Element25

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## Victoria refuses to wait for power security

9 October

The Andrews Labor Government is stepping in to reduce the price of costly reserve power, after calls from the Australian Energy Market Operator (AEMO) were ignored at the Federal level.

Minister for Energy Lily D'Ambrosio said Victoria was sick of waiting for the National Energy Rules to change – and would instead go it alone with the market operator in negotiating cheaper multi-year contracts for additional reserve power.

Currently, outdated energy rules mean AEMO can only negotiate Reliability and Emergency Reserve Trader (RERT) agreements for additional power nine months in advance. That means more uncertainty, less competition, more expensive contracts, and higher costs for Victorians.

AEMO has been calling for national rule changes which would allow them the option of multi-year RERT contracts, where it represents value for money for consumers. Taking this step will help mitigate against the risk of our ageing privately owned coal generators failing when they are needed most.

It will also encourage participation from smaller generators who are better equipped to supply additional power for a longer duration – rather than relying on major electricity users to power down for a short period.

While AEMO has forecast that Victoria’s huge renewable energy push will greatly improve energy supply in the coming years, the existing privatised coal generators can’t be relied upon not to breakdown during prolonged periods of hot weather.

This is why the Labor Government has taken action, requesting an exemption from the Australian Energy Market Commission to allow AEMO the option of negotiating longer RERT contracts, where it’s cheaper to do so.

Updating the wider energy rules will continue to be an important topic at the upcoming Energy Council COAG and we would welcome Federal Government contribution to this important discussion.

However it seems the Federal Energy Minister is more interested in scoring political points, than acting on the advice of the independent market operator or leading national market reform.

Given Mr Taylor has only scheduled this vital meeting just before summer hits, the Labor Government has no choice but to act now to help support Victorians for the summer ahead.

Quotes attributable to Minister for Energy, Environment and Climate Change Lily D’Ambrosio

“The only thing failing more than our ageing coal fired power plants is Angus Taylor.”

“Victoria is not willing to wait on the sidelines when it comes to planning for our energy future – which is why we’re breaking free from the Federal Government’s out-dated rules and getting it done ourselves.”

“Securing longer-term reserve power is not a silver bullet, but it’s important we use everything in our arsenal to help AEMO balance our energy supply and demand during prolonged hot weather.”

Source: Victoria Government

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## **Lord Howe Island finds renewable energy solution with solar and battery storage**

*10 October*

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced that [Lord Howe Island](#) will soon be powered by a solar and battery system that will reduce its reliance on diesel generation.

A minimum 1.2 MW solar PV array and a battery system with over 3.2 MWh capacity will soon be built on the remote island, located in the Tasman Sea 600km from the Australian mainland.

The integrated solar and storage system, purposely designed for a small and remote location, will provide more than two thirds of Lord Howe Island’s electricity, currently powered by diesel generation.

The NSW Government and the Lord Howe Island Board (LHIB), which has care, control and management of the Island, have both agreed to support the \$11.1 million project.

ARENA will provide \$4.5 million in funding towards the project. The NSW Government has provided a loan facility of \$5.9 million and LHIB is making up the balance.

Photon Energy Engineering Australia will install the hybrid solar and battery storage system, after being awarded the tender to deliver the project by the LHIB.

The initial renewable solution was to include solar and wind generation, however, it was determined during the course of the project

that the wind turbine component could no longer be delivered. Further feasibility studies identified that a solar PV and battery storage microgrid would provide the same benefits.

ARENA CEO Darren Miller said: “Lord Howe Island faces a unique set of challenges in supplying and recovering the costs of providing essential services to its community and in protecting Lord Howe Island’s natural environment. We are excited to see a renewable solution will be adopted that will significantly improve the sustainability of the power supply, improve energy security and reduce the impact of future fuel cost increases.”

“Knowledge gained from this project will be shared for the benefit of other isolated and remote communities,” he said.

NSW Minister for Energy and Environment, Matt Kean said: “Lord Howe Island relies on costly diesel power which is subject to volatility in fuel prices and supply. The environmental benefits of this project are both local and national, as every litre of diesel needs to be shipped to the island.”

“The completed project will provide an economic boost to the local economy and to the outstanding environmental credentials of this World Heritage listed island paradise,” he said.

LHIB Chief Executive Officer, Peter Adams stated: “The announcement of this project is a fantastic result for the Lord Howe Island community and visitors alike. The island will be able to reduce its reliance upon imported diesel fuel for generating electricity. We are reducing the environmental impact of our energy supply while also improving energy security. We set a target to reduce our diesel use by two-thirds, and we believe we will not only meet that target, but potentially exceed it. To achieve this result without detracting from the World Heritage values of Lord Howe Island is a result that everyone should celebrate.”

Construction will commence on the hybrid solar and battery system early next year which is expected to be completed by June.

Source: ARENA

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## Climate and Renewables Strategy - draft

Sydney’s Inner West Council has endorsed the public exhibition of the draft Climate and Renewables Strategy.

### What is the strategy about?

The draft Climate and Renewables Strategy is our plan to mitigate carbon emissions and resource solutions to address the climate emergency.

The draft strategy outlines what Council will do to reduce emissions from its own operations and community wide. Actions include:

- Embedding climate action in Council systems and processes
- Establishing the Office of Renewable Energy Innovation
- Rapidly increasing solar and renewable energy generation
- Supporting low carbon urban development
- Eliminating organic waste to landfill
- Helping the community address unsustainable consumption

The draft strategy has been developed with the assistance of the community, including local climate and renewables experts and groups. It is informed by a number of background studies.

Read the draft [Climate and Renewables Strategy pdf](#)

Source: Inner West Council

#### PROJECT NEWS

### Aramara Solar Farm

Boer Energy's proposed [Aramara Solar Farm](#) in North Queensland was declared "not a controlled action" by the federal Department of the Environment & Energy. The proposal is for over 500,000 PV modules covering an area of approximately 326 hectares. The project was acquired by Boer Power from original developer Eco-Energy World Australia. The detailed design, specific layout and electricity generating capacity have not been confirmed. Provision for battery storage is included.

## Stakeholder workshop for the 2020 Integrated System Plan (ISP)

10 October

AEMO is hosting a stakeholder workshop on Thursday 10 October as part of the consultation process for the development of the upcoming 2020 ISP.

AEMO is currently developing the 2020 Integrated System Plan (ISP) which will provide an actionable roadmap for navigating Australia's secure and reliable energy future.

Nearly seven months of consultation and workshops have been undertaken from January this year to define the inputs, assumptions, and scenarios on which the modelling for the 2020 ISP would be based.

The next major step is a workshop to be held on 10 October with participants to share some of the initial outcomes of the modelling that is underway and seek their input and views.

The intent of the workshop will be to:

- Answer questions on how the 2020 ISP is being developed
- Consult with participants on the engagement approach on the draft ISP from January to June 2020
- Explain the key differences between the 2020 ISP and the 2018 ISP, sharing

preliminary outcomes on projected future energy resource mixes

- Discuss preliminary observations with participants, explaining the rationale and reasons for same, and seek views on what we should be considered in the analysis
- Ensure we are meeting stakeholder requirements by:
- Capturing initial reactions to the preliminary energy resource mix outcomes presented, and what areas participants would like more information on
- Seeking views on whether we considering the right options for key transmission and renewable energy Zone developments, and what alternatives we should consider

The core objectives of the AEMO 2020 ISP are to maximise value to energy customers by designing a future-oriented system that minimises total system-cost, enhances optionality to manage key risks and uncertainties and to adapt to possible policy choices.

AEMO will continue to consult and deliver public updates on the development of the 2020 ISP due for release mid-2020, with the next instalment being a draft released for consultation in December 2019.

If you wish you have your say along the way, please email [isp@aemo.com.au](mailto:isp@aemo.com.au)

You can access the full [2019-20 Integrated System Plan Consultation here](#).

Source: AEMO

#### PROJECT NEWS

### Lake Bonney Battery System

Infgen reported that in early October its 25MW/52MWh battery at Lake Bonney, South Australia, achieved energisation and full AEMO registration. The battery is expected to be fully commissioned in H1 FY20.

## Call for community microgrid feasibility studies

11 October

Regional communities will benefit from more secure, affordable and reliable power under the Australian Government's \$50 million program to support feasibility studies into microgrids.

The first round of the Regional and Remote Communities Reliability Fund is now open to applications from across Australia. Up to \$20 million of grants will be awarded through this first round.

The grants will fund community organisations, electricity distribution businesses and other interested entities to undertake feasibility studies on the viability of microgrid solutions in off-grid and fringe-of-grid locations.

Microgrids are stand-alone power systems that can operate independently or maintain a connection to the grid by harnessing distributed energy resources such as solar photovoltaics and batteries.

Microgrid technology is becoming increasingly cost effective, creating the opportunity for a

reliable, low cost, off-grid supply. This is especially useful for customers in remote locations, on the fringe-of-grid, reducing the need for expensive poles and wires.

Supplying remote, grid supplied customers to a self-supporting microgrid could save hundreds of millions of dollars in costly network infrastructure and maintenance while improving reliability. Renewable-based microgrids can also reduce the use of diesel generators in remote communities.

Feasibility studies are the first step to unlocking investment in microgrids, and their benefits for individual communities and the grid as a whole. Where feasibility studies find that microgrids are economically viable, additional support can be sought from the Australian Renewable Energy Agency (ARENA) and Clean Energy Finance Corporation (CEFC).

Round one applications close on 21 November 2019. Further information can be found at [www.grants.gov.au](http://www.grants.gov.au)

Source: Federal Government