



Project Update

Week ending 3 April 2020

QNI project progresses following regulator determination on RIT-T

29 March

The project to upgrade the current Queensland NSW Interconnector, increasing the transmission capacity between the two states, has advanced today following the decision by the Australian Energy Regulator (AER) to approve the Regulatory Investment Test for Transmission (RIT-T).

Executive Manager of Works Delivery Michael Gatt said TransGrid welcomed the Regulator's determination which supports the options assessment, costs and net benefits of the QNI project.

"The QNI upgrade is important because it will increase the capacity to share electricity between Queensland and New South Wales and reduce current and forecast network constraints," said Mr Gatt.

"It will ensure greater reliability of lowest cost electricity, as we enable more efficient sharing on the NEM and introduce more innovative technology to the system. The project is expected to provide net benefits of \$170 million to electricity customers and producers," he said.

TransGrid is upgrading the 20 year old transmission lines and three substations at Tamworth, Dumaresq and Armidale.

"It will allow 460MW more power to transfer into Queensland and 190MW more into New South Wales and the ACT when it's needed and it will link customers to the National Energy Market.



TransGrid began working with Queensland transmission business Powerlink to initiate the RIT T process in November 2018 and a number of network and non-network options were considered.

The project has been supported by the Australian and NSW Governments which have provided joint-underwriting to enable TransGrid to accelerate the delivery of the upgrade.

Mr Gatt says early works have commenced on the upgrade project which is expected to be delivered in September, 2021.

"TransGrid is already working to deliver the upgrade, conducting environmental, geotechnical and site surveys and engaging with communities along the existing transmission line corridor."

For more information about the project, visit: www.transgrid.com.au/QNI

Source: ElectraNet and TransGrid

Genex signs binding Energy Storage Services Agreement with EnergyAustralia for the Kidston Hydro Project

30 March

Highlights:

- Binding Energy Storage Services Agreement signed with EnergyAustralia Pty Ltd
- Full dispatch rights contract with a term of up to 30 years
- Significant step towards achieving financial close of the Kidston Hydro Project

Genex Power Limited (ASX: GNX) (Genex or the Company) is pleased to announce that it has today finalised its offtake arrangements for the 250MW Kidston Pumped Storage Hydro Project (K2-Hydro or the Project) with the signing of a binding Energy Storage Services Agreement (ESSA) with EnergyAustralia Pty Ltd (EnergyAustralia). A summary of the key terms of the ESSA is below:

- A term of up to 30 years, with an initial term of 10 years and two options (at EnergyAustralia's election) to extend for a further 10 years each (Extension Options);
- Genex will provide the full operational dispatch rights for the K2-Hydro plant (including P&L responsibility) to EnergyAustralia in exchange for a fixed annual rental payment, escalating over the total term;
- Following the expiry of the full 30-year term and therefore conditional on the exercise of the Extension Options, EnergyAustralia shall have the right to acquire Genex's shareholding in the Project for a fixed cash payment; and
- The ESSA is subject to a number of conditions precedent, including achieving financial close for the Project, which must be satisfied prior to the financial close sunset date of 31 December 2020.

Genex remains deeply engaged with the other Project stakeholders, including the Northern Australia Infrastructure Facility (NAIF) to complete the restructuring of the project financing on the basis of the agreed terms of

the ESSA. Following today's announcement, and subject to agreeing suitable terms with NAIF and Queensland Government, Genex is now seeking to reach financial close on the Project in the third quarter of the 2020 calendar year. The Company will continue to keep the market informed of developments in relation to this timetable as appropriate.

Commenting on today's announcement, Genex CEO, James Harding stated:

"Since November 2019, Genex has been actively working with all of its project stakeholders, including EnergyAustralia, NAIF and the Queensland Government, to complete the restructuring of the project financing for K2-Hydro and progress to financial close as quickly as possible.

We have been extremely pleased with the support of our stakeholders and counterparties during this period and now believe, with today's signing of the ESSA with EnergyAustralia, that we have the basis to move forward to financial close of the Project.

The K2-Hydro project will be the first pumped storage hydro project in the National Electricity Market in almost 40 years, and the first to be developed under private ownership. It will create over 500 jobs during construction and deliver significant economic benefits to Queensland through providing reliable generation for the grid and applying downward pressure on wholesale electricity prices. We look forward to keeping the market informed as we progress toward financial close, and to commencing construction at Kidston later this year."

Source: Genex Power

PROJECT NEWS

Macintyre Wind Farm

Located approximately 50 km South-West of Warwick and 60 km South-South-East of Millmerran, the proposed [MacIntyre Wind Farm](#) is expected to have an export capacity of approximately 1,026 MW and up to 180 turbines.

The MacIntyre Wind Farm will be located within 36,000 hectares of leased land approximately 200 kms south-west of Brisbane and approximately 50 kms south-west of Warwick in Queensland.

The MacIntyre Wind Farm will be constructed on land predominately used for sheep farming. Current farming practices will continue during the construction and operations phases of the wind farm.

The site has been selected due to its exposure to consistent winds across this part of the country and provides a suitable resource for the development of a wind farm.

CURRENT STATUS

The MacIntyre Wind Farm is currently in the development phase of the project. ACCIONA plans to submit a development application seeking a development permit for a Material Change of Use (MCU) to allow construction and operation of the wind farm to the State Assessment and Referral Agency (SARA) in mid 2020.

Expected capacity: 1,026 MW
Number of Turbines: Up to 180
Maximum Tip Height: 285 metres
Anticipated construction commencement: Mid 2021
Anticipated construction duration: 18 – 24 months

BENEFITS:

- Provide significant economic activity across the Goondiwindi, Southern Downs and Toowoomba Regional Council areas

- Generate a workforce of approximately 400 over the life of the project
- Result in the establishment of a Community Enhancement Program to strategically deliver added value to the local regional over the life cycle of the project
- Provide a sustainable and renewable source of energy for the region, with clean energy equivalent to the consumption of around 700,000 homes
- To find out more about the MacIntyre Wind Farm check out the [Fact Sheet](#).

EMPLOYMENT OPPORTUNITIES:

If you are seeking work opportunities, you can submit an 'Expression of Interest' for the MacIntyre Wind Farm Project [here](#).

SUPPLIER AND CONTRACTING OPPORTUNITIES:

- If you are interested in acquiring energy from the MacIntyre Wind Farm, please find more information on Corporate Power Purchasing Agreements (PPA's) [here](#).
- ACCIONA is committed to supporting local industry participation and is encouraging local suppliers and contractors that are interested in conducting business for the project to register through the ICN Gateway – MacIntyre Wind Farm Project page - via this [link](#).

ENQUIRIES AND FEEDBACK:

For further information about the project, or to provide feedback:
Phone: 1800 283 550
Email: macintyre@acciona.com
Post: ACCIONA 5/88 Creek Street, Brisbane, QLD 4000

Source:
<https://www.accionacom.au/projects/energy/wind-power/macintyre-wind-farm/>

Plan for large Rockhampton hydrogen electrolyser

30 March

Renewable hydrogen could be produced on the site of an existing power station in central Queensland.

The plan by the Stanwell Corporation to install a large Rockhampton hydrogen electrolyser alongside its power station has attracted funding from ARENA.

The study will explore whether it is technically and economically feasible for Stanwell to produce hydrogen at scale using a 10 MW or larger electrolyser.

While the electrolyser will be co-located with the existing Stanwell power plant, electricity will be supplied by renewables through a power purchase agreement or large-scale generation certificates from renewable energy sources.

The Rockhampton hydrogen electrolyser study aims to define the highest value end use for renewable hydrogen, and determine the ideal conditions for operating electrolysers at scale. It will assess a range of commercial pathways for renewable hydrogen, including liquid ammonia, compressing the hydrogen for sale as a gas, and use in a gas turbine or fuel cell to generate electricity.

Stanwell's close proximity to the ports of Rockhampton and Gladstone will allow hydrogen to be shipped to domestic and international markets.

Co-locating the facility with an established power station offers a number of benefits. The hydrogen electrolyser can use pre-existing land use approvals and take advantage of the existing connection to the electricity network. The electrolyser can also tap into the site's demineralised water supplies for hydrogen production.

Using the power station's grid connection will also mean the electrolyser could improve system security by participating in Frequency

Control Ancillary Services markets or providing Fast Frequency Response.

This will be important as more renewable energy comes online, as the variability of wind and solar makes it more difficult to maintain the steady 50 Hz frequency the electricity network needs. While these services were historically delivered by fossil fuel plants, work is underway to advance renewable alternatives like grid-scale batteries and even wind farms themselves.

ARENA supporting hydrogen innovations

The project is the latest renewable hydrogen feasibility study to receive ARENA funding. In recent months, ARENA has announced support for Yara Fertilisers, Dyno Nobel and Queensland Nitrates to explore the use of renewable hydrogen to produce ammonia at their large, regional facilities.

The funding has been allocated under the agency's work to position Australia as a leading producer and exporter of renewable hydrogen.

ARENA CEO Darren Miller said the project will help to drive innovations in the hydrogen supply chain.

"Through Stanwell's feasibility study we're showing a new option for producing and using renewable hydrogen. This will create opportunities across the domestic economy and help to position Australia to become a major renewable energy exporter," Darren Miller said.

"The construction and operation of a utility scale electrolyser is important to demonstrate the costs associated with producing renewable hydrogen at scale."

"If feasible, this could help underpin future commercial scale deployments leveraging existing network infrastructure at other power stations, and play a role in driving down the cost of domestic hydrogen production," Mr Miller said.

Following the meeting of energy ministers at COAG in November, ARENA announced a \$70 million funding round for projects that produce renewable hydrogen at scale. A national round of consultations was conducted in February, and applications are expected to open in the coming weeks.

Source: ARENA

AEMO releases final Marginal Loss Factors for FY20-21

31 March

Today, the Australian Energy Market Operator (AEMO) released its final report determining [Marginal Loss Factors \(MLFs\) for the 2020-21 financial year](#). This report builds on the indicative and draft reports released in November 2019 and March 2020, which provided early insights into expected MLF changes across the National Electricity Market (NEM).

In recent years, supply and demand patterns in the NEM have been changing at an increasing rate, driven by new technology and a changing generation mix. This has led to large year-on-year changes in MLFs that applied between 2017/18 the 2019/20 financial years calculated under the current regulatory framework and methodology, particularly in areas of high renewable penetration that are electrically weak and remote from load centres.

The final MLF report highlights small changes between the 2019-20 and the 2020-21 MLFs compared to preceding years, which are mainly due to changes in projected power flow over the transmission network. Driving these changes is an increase in projected output from new renewable generation coming online across the NEM, particularly in Victoria, NSW and Queensland.

System strength limits in north-west Victoria and south-west New South Wales (collectively referred to as West Murray), and in northern Queensland have been included in the MLF

study, to better reflect the forecast operating conditions of impacted generators.

AEMO remains committed to providing the market with as much transparency as possible about where new generation is expected to connect to the grid, publishing MLF updates more frequently to assist in identifying changes and trends, as well as working with industry and the AEMC on possible options to reduce the impact of large year-on-year changes. The forecasts do not factor in the impact COVID-19 may have on the economy and energy sector, including MLFs.

Source: AEMO

\$4 million plus solar farm contract executed

31 March

- Full design and construction contract executed for 5MWAC solar farm
- MPower specifically targeting 5MWAC solar farms
- Contract further strengthens MPower's order book

MPower, Australia's leading specialist renewable energy, battery storage and microgrid business, is pleased to announce that it is proceeding with the full design and construction of a 5MWAC solar farm in South Australia with a subsidiary of Astronergy Solar Australia Pty Ltd.

MPower and Astronergy have executed an Engineering, Procurement and Construction contract valued at over \$4 million in relation to one of the two solar farm projects that MPower commenced work on in January 2020 after securing a Limited Notice to Proceed. The contract execution further strengthens MPower's order book.

MPower is specifically targeting solar projects of this size due in part to their relative ease in connection to the grid. MPower successfully commissioned two 5MWAC solar farms in 2019 at Mannum and Port Pirie in South

Australia and is actively pursuing further projects in this niche part of the renewable energy sector.

MPower and Astronergy are working towards an Engineering, Procurement and Construction contract in respect of the second solar farm project that MPower commenced work on in January 2020. In the interim, the value of authorised work under the Limited Notice to Proceed for that project has been increased from \$125K to \$500K to enable early design and other works to progress.

The two grid-connected solar farm projects developed by Astronergy feature single axis tracking technology and are expected to be completed this calendar year.

Comment

MPower's Chief Executive Officer Nathan Wise commented: "Working with a blue chip company like Astronergy on these solar farm projects is very exciting and is directly in line with our stated strategy of pursuing solar farm projects of this size with asset owners."

"MPower has developed an enviable capability in the successful delivery of 5MW solar farms and continues to strengthen its order book in the growing renewable energy sector."

Source: MPower

CETO Digital Development Pathway milestones achieved

31 March

(Excerpt)

- Achieved first two CETO Digital Development Pathway milestones
- Wave Predictor developed and capable of accurately predicting waves 30 seconds in the future
- Potential standalone commercial applications for Wave Predictor
- Completed generator market study for new electric power take-off (PTO)

Carnegie is pleased to inform shareholders that the team has achieved the first milestones of the new CETO Digital Development Pathway:

- Developed the machine learning based Wave Predictor capable of predicting the characteristics of waves that will reach the CETO Unit up to 30 seconds in the future. This is the first product in Carnegie's suite of intelligent control products which will be capable of increasing the energy captured by a CETO Unit and also has potential as a standalone commercial product.
- Undertaken a comprehensive landscaping & market study on potential generator technologies and suppliers, progressing the development of a new fully electric PTO. The PTO converts the wave-driven motion of the CETO buoy into electricity.

Carnegie's new CETO Digital Development Pathway, as outlined to shareholders in Carnegie's July 2019 Prospectus, aims to optimise the design of the CETO technology to significantly improve performance and reduce cost via the development and integration of several innovations.

Source: Carnegie Clean Energy

Windlab Limited – execution of subordinated loan facility agreement

31 March

Windlab Limited (ASX:WND) ('Windlab' or the 'Company') announced today that it has entered into a \$20m subordinated debt facility agreement with Squadron Energy Pty Ltd ("Squadron") and Federation Wind Acquisition Pty Ltd ("Federation"). The facility provides Windlab with access to the necessary funds to manage liquidity through any future project delays including [Kennedy Energy Park](#) ("Kennedy"). Drawdown of the loan is subject to completion of customary conditions precedent, including the granting of second ranking security across the Windlab group. A waiver to listing rule 10.1 has been granted by the ASX to allow granting of this security. The

terms of this waiver are disclosed as Annexure A to this announcement.

Windlab's Board examined alternative approaches for raising capital to deal with liquidity including potential cash requirements for Kennedy and determined that this transaction was on the most favourable commercial terms and is fair and reasonable from the perspective of Windlab shareholders. The commercial terms of the subordinated debt facility were considered by the Board to be reasonable and on arm's length commercial terms.

The availability of the funding under the subordinated debt facility is not conditional on Windlab shareholders approving the proposed scheme of arrangement announced by Windlab on 4 March 2020.

Source: Windlab

14D confirms capital adequacy

2 April

- Budget review confirms 14D has sufficient funds to maintain technology and project development
- GAS-TESS business case continuing
- Strong interest in the [Aurora Project](#)
- Staff and Board cuts

1414 Degrees is pleased to advise that it has reviewed its budgets and can confirm the Company has sufficient funds to maintain its technology and project development.

Our business case modelling with SA Water for the GAS-TESS integrated into the Glenelg Wastewater Treatment Plant will continue until mid-year after which we are expecting a commercial decision.

Our commercial team has also been working with utilities and financial entities attracted by the TESS-GRID as an energy solution for renewable farms. There is strong interest to develop the Aurora Project in the near term. They have also continued studies with large

industrial sites to evaluate emissions reduction strategies with the TESS.

The Company is adapting to the capital market and business constraints by reducing hours, effecting redundancies and deferring the upgrade of the silicon storage in the GAS-TESS. The board and senior management have participated by agreeing to between 25% to 75% cut in fees and salaries, with the Executive Chairman taking a 50% pay cut. The board will consider issuing shares to key employees to compensate for the reduction in cash salary.

Although we are anticipating commercial decisions within six months, these measures, if carried forward, would reduce cash outflows by about \$2m to support operations into second half 2021.

Source: 1414 Degrees

Sydney Metro Electricity & Offsets Procurement

1 April

Expression of Interest for Pre-Qualification

Tender Details

Supply the electricity consumed by Sydney Metro Northwest and the electricity and offsets consumed by Sydney Metro City & Southwest during augmentation of the City & Southwest line.

This Request for Expression of Interest (EOI) invites Applicants from appropriately licensed, large-customer electricity entities wishing to be short-listed to tender for a contract to deliver Sydney Metro's electricity and offsets requirements from 1 January 2021 to 31 December 2025.

Closes 28-Apr-2020 10:00am

Contact Person

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Rodds Bay Solar Farm issues Notice to Proceed (NTP) to Powerlink

2 April

- 300MW Queensland solar farm achieves major milestone – work set to start

On 31 March 2020, [Rodds Bay Solar Farm](#) (Rodds Bay) achieved a significant milestone by issuing the Notice To Proceed (NTP) under its connection agreement with Powerlink Queensland.

Rodds Bay is a 300MWdc project developed by Renew Estate and will be one of Australia's largest solar projects. It will connect to a strong part of Queensland's 275kV transmission network south of Gladstone between Bororen and Rodds Bay. Rodds Bay has been granted planning approval from Gladstone Regional Council including approval to develop an 82MW | 164MWh battery on site. The project has passed the required tests relating to system strength and generator performance standards and signed a connection agreement with Powerlink in January.

Construction is scheduled to commence by Q3/Q4 2020, making this one of the most advanced solar developments in Queensland that can now be accelerated into construction.

Tom Harrison, Director of Renew Estate, commented "We have enjoyed a close working relationship with Powerlink over the past 2½ years and are very happy to be moving into the next stage of this project. I would like to thank the entire Powerlink team for working so collaboratively with us to realise the project, even amidst the exceptional challenges we have all faced over the past few weeks."

Simon Currie, Director of Renew Estate, commented "We continue to passionately believe that this project will deliver significant and impactful benefits not just to Gladstone, but also the wider regional economy in

Queensland across 2020 and 2021. Our vision for this solar farm has always been to create positive and enduring social and economic legacies, including the creation of hundreds of jobs during construction. It will be one of the first renewable energy projects located close to Gladstone and will play a pivotal role in enabling Gladstone to become the future energy capital of Australia. We are very grateful for the support from the Powerlink team throughout the development cycle."

Mr Currie continued, "Renew Estate's commitment since the beginning of this project to use local service providers, contractors and industry remains steadfast. We currently have nearly 400 businesses and individuals on our database who have registered an interest in the construction or operational phase of the solar farm. This project can play a part in transitioning the local skilled workforce and build resiliency in this critical region for the Queensland economy."

Source: Renew Estate

PROJECT NEWS

Greenough River Solar Farm

Tranex Solar Pty Ltd have completed the Mechanical scope of 30MW [Greenough River Solar Farm](#) stage 2, located approximately 50km southeast of Geraldton, WA.

Greenough River Solar Farm stage 1 (10MW) was the first utility-scale PV project in Australia, commissioned in late 2012.

The second stage of Greenough River project (30MW) was originally announced in November 2017 and was appointed to RCR Tomlinson. However, in the wake of RCR Tomlinson's collapse at the end of 2018, the project came to a standstill.

Following an extensive process associated with RCR Tomlinson's administration and liquidation, the developer (Bright Energy Investments) signed a new contract with the German EPC, juwi Inc. for the project expansion.

While Greenough River 1 supplies power to the WA Water Corporation, Bright Energy Investments has signed a PPA with power retailer Synergy Consulting Renewable Power Sector.

Tranex Solar Pty Ltd have installed over 300,000 of First Solar modules on NEXTracker, Inc single-axis trackers.

Source: Tranex

Hydrogen export study, modelling tool and prospectus

Request for Tender

The Department for Energy and Mining (DEM) would like to invite a supplier to deliver a landmark pre-feasibility study into large-scale clean hydrogen production in South Australia for international export to prospective markets in Asia.

Its findings will inform key considerations such as locations for hydrogen production and export, volume of supply potential, the interdependencies of hydrogen supply chain infrastructure, and the landed cost of clean hydrogen exported from South Australia.

The outcomes of the study will be used by the Supplier to create an online modelling tool and a prospectus to promote the findings of the study to international hydrogen consumers, infrastructure developers, industry investors and other parties as determined by DEM, and support the development of clean hydrogen export projects in South Australia.

For enquiries in relation to this tender, please contact:

Mark Jackson
mark.jackson@sa.gov.au
+61 466 621 976

Source: SA Government

Offshore Wind report released

A new discussion paper released by regional development agency Venture Taranaki has highlighted offshore wind as an important energy opportunity for the region, and the nation, and calls for further investigation of the resource.

The paper, Offshore Wind – An Energy Opportunity for Taranaki, identifies that locations off the Taranaki coastline, especially South Taranaki, offer a promising potential for generating electricity from offshore wind, based on the strength of the wind resource and suitability from a bathymetric - water depth - perspective. Taranaki's deep experience in the marine energy environment also makes it a natural fit for this increasingly-deployed renewable energy source.

The paper highlights opportunities and hurdles in making such an option a reality for New Zealand, including the infrastructure and processes required, consumer demand and economics, the technologies involved, international developments, and the broad range of social, environmental, regulatory and other considerations which would need to be assessed in more detail to enable this new energy source for New Zealand to be developed.

"If New Zealand is to realise its low emission energy goals and meet future energy needs, we will need to look beyond current efforts," says Venture Taranaki chief executive Justine Gilliland.

"Offshore wind generation is a technology already in effect internationally, but which hasn't been fully explored in a New Zealand context. This discussion paper offers a first step in that process and supports the Energy Pathway Action Plan for Taranaki's 2050 Roadmap."

The investigation by Venture Taranaki and Taranaki-based Elemental Group explored both fixed and floating wind turbines as well as two indicative development scenarios - a

200 MW windfarm and an 800 MW windfarm - utilising 7-8 MW turbines.

“These scenarios were chosen on the basis that a 200 MW windfarm would be indicative of a minimum size that could likely be developed and connected to the New Zealand electricity grid, while an 800MW windfarm is indicative of what could be developed in association with a large scale industrial customer, for example a green hydrogen production plant,” says Andrew Revfeim of Elemental Group.

“Offshore wind energy generation is a proven technology being rapidly developed and harnessed internationally, while at the same time costs are reducing significantly.”

“The two scenarios were explored for both South Taranaki and North Taranaki waters, and showed that they would occupy around 30km² and 120km² respectively with turbines spaced approximately 1km apart.”

The paper also highlighted areas potentially suitable for offshore wind utilising fixed turbines. A 1,800km² area off the South Taranaki coast could accommodate up to 12GW, while a 370 km² area off North Taranaki could host 2.4GW. Together these would almost effectively double New Zealand’s electricity supply.

If floating wind turbines were utilised, a further 14,000 km² of suitable area could be developed, with the potential to deliver an additional 90GW for industrial application.

“This is a considerable resource and if fully developed could provide sufficient, sustainable energy for New Zealand to meet its projected needs for the next three decades,” says Justine.

“It could also open opportunities for energy exports and help New Zealand and Taranaki contribute to the reduction of global emissions. It is an energy resource that has the potential to be globally significant.”

“We expect that there will be a range of responses to the idea of wind energy generation off our coastline, and many steps would be required before any developments occur.”

Such steps range from solving the fundamental engineering issues of fixing turbines to the sea floor and managing the impacts of strong swell on foundations, to support vessel provision during construction and maintenance to regulatory implications, the extensive environmental considerations, and the economics of investment, as well as cultural and community buy-in.

“There is a real opportunity to grow offshore wind as a renewable energy resource that could provide large quantities of low-cost clean energy, while using many of the complementary skills and resources that service the existing energy sector in New Zealand,” Justine says.

“In terms of skills, bathymetry and wind resource, Taranaki is perfectly positioned to lead New Zealand in the development of offshore wind energy generation. This paper presents the first step of many by identifying the resource and proposing its potential to make a significant and positive impact on New Zealand’s energy landscape.”

Read the report [here](#).

Source: Venture Taranaki

Pilbara electricity reforms pass State Parliament

2 April

- Electricity Industry Amendment Bill 2019 passes State Parliament today
- Reforms expected to benefit large consumers and boost regional development and jobs in the Pilbara

The McGowan Government has delivered on its commitment to design a fit-for-purpose regulatory framework and system operator

for the Pilbara region with the passing of the Electricity Industry Amendment Bill 2019.

The Pilbara is critical to Western Australia's economy, yet it labours under an electricity system that is fragmented, high-cost and uncompetitive. These reforms will improve the efficiency of electricity services in the region and support economic growth and development through:

- enabling a competitive market that will lower the cost of electricity for large consumers;
- more efficient use of existing infrastructure, and improved investor confidence and opportunities for new mining and renewable projects; and
- enhancing the security and reliability of electricity services in the region.

The reforms have been designed in close consultation with industry and this will continue through the development of the subsidiary legislation.

The Bill includes provisions to support Western Power's use of stand-alone power systems and storage devices in the Great Southern, Goldfields, Wheatbelt, Mid-West and Geraldton.

Stand-alone power systems have proven to be more cost-effective, safer and reliable than traditional poles and wires in some areas - while storage devices such as batteries will assist in managing some of the challenges related to the high uptake of rooftop solar panels.

Comments attributed to Energy Minister Bill Johnston:

"The Pilbara energy reforms have been talked about for 30 years - passing the Bill marks a key milestone in the McGowan Government's energy reform agenda.

"The reforms will reduce the regulatory burden placed on Pilbara electricity owners and provide greater certainty to access seekers wishing to invest.

"Greater competition for industrial users will reduce the cost of electricity, and encourage investment and create jobs in the region.

"The reforms will assist in Western Australia's economic recovery post the COVID-19 crisis."

Source: WA Government

Restarting the power system: new rule to aid blackout recovery

2 April

A new rule announced today by the Australian Energy Market Commission will make it easier to prepare for and respond to major supply disruptions – or black system events.

The changes include expanding the type of technologies that can provide system restart ancillary services (SRAS) after a major blackout and clarifying the processes for testing restart paths along the network. They will mean that the Australian Energy Market Operator (AEMO), transmission network service providers and others involved in resolving blackouts can operate more effectively to restore the power system.

The rule change is critical to managing system security concerns and is particularly relevant given the extra pressures the energy sector is facing as the nation responds to the fast moving COVID-19 threat. It is important in these times that Australia's energy systems and markets are operating in a safe and secure state with adequate consumer protections, including available mechanisms to overcome major disturbances or shocks to the power system.

The AEMC is also currently working closely with our colleagues at AEMO and the Australian Energy Regulator to consider the implications of the pandemic for our broader workplan and implementation timeframes.

This final rule makes changes to the way SRAS is procured, tested and deployed. AEMO procures these system restart services to kick-start the process of restoring supply after a black system event. Generators with the capability to start or remain in service without drawing power from the grid provide system restart services by delivering energy to other generators, which in turn restore supply to customers.

The rule change will take effect in advance of AEMO's next round of SRAS procurement contracts and responds to two rule change requests from AEMO and the Australian Energy Regulator. In particular, the final rule:

- allows AEMO to procure a broader range of services as SRAS. There are fewer traditional sources of SRAS (i.e. large, synchronous generators) available in some regions, and those that remain may be potentially less capable of restoring the power system. By expanding the definition of SRAS, new generators and other technologies, such as utility scale batteries, can offer these services
- establishes a transparent framework for the physical testing of system restart paths along the network. This will complement the existing testing of SRAS generators that is routinely undertaken
- clarifies the communication processes parties must follow with respect to SRAS
- clarifies that AEMO can take long-term costs into account when procuring SRAS. This will make it easier for AEMO to enter into long-term contracts with new SRAS providers where this will result in the lowest long-term costs for consumers.

Source: AEMO

Pumped hydro plant could unlock New England Renewable Energy Zone

2 April

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced it is providing \$951,000 to [Oven Mountain Pumped Storage](#) Pty Ltd (OMPS) to undertake a study analysing the benefits that Pumped Hydro Energy Storage (PHES) would have on the development of the New England Renewable Energy Zone (REZ) in northern NSW.

OMPS will investigate how their proposed Oven Mountain 600 MW / 7,200 MWh PHES facility between Armidale and Kempsey can provide system-wide benefits, by storing and enabling variable renewable energy generation, improving system strength, unlocking network constraints and helping to reduce marginal loss factors.

The study will examine the degree to which the proposed PHES plant could unlock further renewable energy investment and the development of the proposed New England REZ.

A REZ is a region that has characteristics that could make a substantial contribution to increasing the supply of renewable energy such as having excellent wind and sun conditions.

Alinta Energy has partnered with OMPS in the \$2.2 million study which is being undertaken with the assistance of consultants Lloyd's Register, EY and SMEC, along with the involvement of Australian Energy Market Operator and TransGrid. The study will also inform the development of the Oven Mountain PHES project, which is supported by the NSW Government's Emerging Energy Program.

The proposed Oven Mountain site is an ideal location for PHES due to its steep topography, high hydrological head and the short distance between two reservoirs. If built, the proposed

PHES plant could provide system strength to the wind and solar farms in the New England area, provide rapid grid power response and meet requirements during peak demand.

AEMO's draft 2020 Integrated System Plan forecasts Australia's generation to be dominated by large-scale solar PV and wind by 2040, which requires new flexible and dispatchable technologies to ensure Australians have access to reliable electricity when and where it is needed. PHES can help to play a vital part with large amounts of storage capacity.

ARENA CEO Darren Miller said this study will help to provide vital knowledge on the positive impacts pumped hydro can provide in the development of REZs.

"Pumped hydro projects like Oven Mountain can play a key role in the provision of firming up and balancing the grid as increased levels of variable renewable energy generation such as wind and solar come online.

"Renewable Energy Zones like New England are sunny and windy areas with natural renewable energy resources, but they may be in weak areas of the grid. Pumped hydro can provide system security services like frequency and voltage support and it can provide bulk energy storage to help meet the evening peak," he said.

OMPS Director Dr Jeremy Moon said the New England REZ "sits close to the border of NSW and Queensland, and its abundance of renewable resources places it strategically between the two states."

"Pumped hydro technology evolution can support Australia's generation transition. With its natural high hydrological head over a distance of around two kilometres, the Oven Mountain site allows for highly responsive synchronous machines to provide grid stability services that have traditionally been provided by fossil fuel generation."

"We are excited for the opportunity to work with ARENA to demonstrate how pumped hydro can provide large scale storage and support the New England Renewable Energy Zone, networks, system security and increasing levels of low cost, dispatchable power," he said.

Alinta Energy Executive Director of Merchant Energy Ken Woolley said "what we really like about this project is its potential to pair with low cost renewables and help us deliver more affordable and reliable energy for our customers."

Source: ARENA