Project Update

Week ending 16 August 2019

Delivering clean energy for the Natimuk community

12 August

The Andrews Labor Government is supporting Natimuk – a small Victorian wheat belt town – to reach its goal of being 100 per cent powered by renewable energy by building its own community owned solar farm.

Minister for Energy Environment and Climate Change Lily D’Ambrosio today announced a funding grant of $339,000 to bring to market a 1.6MW community solar farm and create jobs in Natimuk.

Natimuk Community Energy Inc intend to build a 100 per cent community-owned solar farm, which will be capable of producing the equivalent of the town’s annual energy needs – a huge step towards being greenhouse gas emissions free.

The project is entirely community driven, with Natimuk locals combining commercial viability, strong community participation and social equity to deliver clean, affordable renewable energy and increase energy security.

The grant will assist the project to finalise the necessary approvals, connection studies, develop detailed design and operational plans and develop a financial model and market prospectus to attract investment for the construction phase.

This funding is being provided through the Labor Government’s $20 million New Energy Jobs Fund, which is supporting renewable energy projects by providing grants to companies and community groups.

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

“We’re working with communities like Natimuk to help them achieve their goal of moving to 100 per cent renewable energy.”

“Through this grant we are empowering the Natimuk community to fully harness the benefits of locally produced clean energy and cut their power prices.”

“By transitioning to renewable energy we are protecting our environment, supporting new industries and creating local employment, education and training opportunities.”

Source: Victoria Government

HELP US TO KEEP OUR DATABASE UP TO DATE

AltEnergy is put together and maintained by a small team and while we are ever vigilante to keep our database as up to date as possible we are always grateful for assistance from subscribers. If there’s been a significant change with one of your projects - maybe the capacity has increased, you’ve received development approvals, or there is a new contact - drop us an email at editor@altenergy.com.au to let us know.
Partners Group adds third Australian wind farm to Grassroots Renewable Energy platform

12 August

Partners Group, the global private markets investment manager, has, on behalf of its clients, invested in Bango Wind Farm ("Bango"), a 244MW construction-ready project in the state of New South Wales ("NSW"), Australia, with a total project value of AUD 500 million.

Partners Group will also lead the operational roll-out of Bango, which will comprise 46 GE Cypress 5.3MW turbines, with a total nameplate capacity of 244MW. Bango will be the first wind farm globally to use this type of turbine, which is the largest onshore wind turbine currently in production. Construction of Bango will commence in August 2019, with the farm expected to be operational by mid-year 2021. Once completed, Bango is projected to generate enough clean energy to power over 100,000 households, and would save over 600,000 tonnes of carbon emissions every year. It has already secured a 15-year contract with Snowy Hydro, an investment grade off-taker, for 100MW of its capacity.

Bango is the third project under Grassroots Renewable Energy ("Grassroots"), a large-scale renewable energy platform in Australia established in May 2018 by Partners Group and CWP Renewables. On behalf of its clients, Partners Group has committed a total of AUD 700 million of equity investment into Grassroots. Bango was preceded by investments in the 270MW Sapphire Wind Farm and the 135MW Crudine Ridge Wind Farm in 2016 and 2018, respectively, both of which are also located in the state of NSW. Sapphire Wind Farm became operational in December 2018 and was recently announced as a supplier of renewable energy to the Sydney Opera House via its power purchase agreement with energy provider Flow Power.

Andrew Kwok, Managing Director and Head Private Infrastructure Asia, Partners Group, comments: "We are excited to deploy our significant industry expertise and value creation resources on behalf of our clients to build Bango Wind Farm. Bango will be Partners Group's fifth renewables project in Australia, bringing our total renewables commitment in the country to almost AUD 1.2 billion to-date."

Benjamin Haan, Operating Partner, Partners Group, and Chair of Grassroots Renewable Energy, states: "Despite ongoing market challenges related to grid congestion and uncertainty in future green energy policy, there remains a compelling market opportunity for experienced developers and investors in renewable energy in Australia, particularly in New South Wales. With a potential project pipeline of 1.3GW of wind and solar generation capacity, we are pleased to continue to work with the CWP team to develop Grassroots into a renewables platform of significant scale, offering attractive off-take solutions across a diversified portfolio, and supporting the generation of clean energy in Australia."

Source: Partners Group

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**PROJECT NEWS**

St Patricks Plains Wind Farm

The federal Department of the Environment & Energy has invited public comment on Epuron's proposed St Patricks Plains Wind Farm in the Central Highlands of Tasmania. The project is proposed to have up to 67 turbines, with each turbine generating approximately 3.6 - 6.2 MW per turbine, subject to available technology at the time of infrastructure procurement. However, only up to 300 MW of power generating capacity will be constructed. Each turbine will connect to the switchyard via a network of underground cables. However, the distance between the northern and southern clusters of turbines may necessitate a limited network of overhead powerline(s). All power will be directed to the on-site Palmerston to Waddamana TasNetworks-owned powerlines via a new switchyard to be developed on site.
GE Renewable Energy has been selected to supply 46 of its Cypress platform onshore wind turbines to the 244 MW Bango wind farm

12 August

Sydney, Australia, August 12th, 2019 - GE Renewable Energy announced today that it has been selected by investors Partners Group and CWP as the wind turbine supplier for the 244 MW Bango wind farm near Yass, New South Wales. The project, which will use 46 of GE’s Cypress onshore wind platform, is a significant milestone for GE and represents the company’s first Cypress-equipped wind farm in Australia and the largest globally to date.

The construction of the project will commence shortly and will be fully commissioned and operational by 2021. The construction phase will create up to 120 regional jobs and once complete the wind farm will deliver five full time jobs. The proposed project capacity is approximately 244 MW, which would generate enough energy for over 100,000 homes* and would save over 600,000 tonnes of greenhouse gas emissions every year.

The Cypress onshore wind platform enables significant Annual Energy Production (AEP) improvements, increased efficiency in serviceability, improved logistics and siting potential, and ultimately more value for customers. The two-piece blade design enables blades to be manufactured at even longer lengths and improving logistics to drive costs down and offer more siting options, in locations that were previously inaccessible.

Steve Oswald, Country Leader GE Renewable Energy Onshore Wind in Australia, commented: “With 1 GW of installed wind capacity and another 600 MW under construction here, GE remains deeply committed to Australia’s energy future, and with the Cypress platform we’re ensuring that we are bringing the very latest technology to this market. This new platform will help lower the cost of energy for Australian households and businesses and will create a significant number of regional jobs throughout the construction phase."

Announced last year by GE Renewable Energy, the Cypress is the most powerful and efficient wind turbine in operation. So far, the platform has been embraced around the world with orders confirmed in Germany, Turkey and Australia. As the largest order of the platform globally, the Bango wind farm shows clear demand in Australia for the latest and best in wind technology and GE anticipates further interest in the Cypress platform in the market.

* Based on an average NSW household electricity consumption of 7.3 MWh annually

Source: GE Renewable Energy

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**PROJECT NEWS**

**Wallawalla Solar Farm**

FRV Services Australia has acquired the proposed 300 MW Wallawalla Solar Farm project in NSW from original developer Bison Energy. The solar farm was planned to occupy around 614 hectares of rural land currently used for primary production (cropping and grazing). The proposal infrastructure includes solar arrays, trackers, modules, invertors, a substation, underground cabling, security fencing and a cable run to connect the solar farm to TransGrid’s 330 kV line. Bison Energy had not intended to install a battery storage facility initially but was considering adding one in future years. The project was submitted to the state government for approvals in February this year.
Downer awarded wind project  
**12 August**

Downer has been awarded an $80 million Balance of Plant contract for the Bango Wind Farm project (Bango). This will see Downer deliver road upgrades, internal access tracks, cabling, turbine foundations and other site facilities.

Project partners include GE, which will supply the GE Cypress 5.3 MW turbines, the largest onshore wind turbines in production, and TransGrid, which will deliver the substation.

Owned by Grassroots Renewable Energy, a partnership between CWP Renewables Australia and Partners Group, Bango is a proposed development of up to 46 wind turbines and associated infrastructure, located ~30 kilometres north of Yass, NSW.

Bango’s proposed capacity is approximately 244 MW, which would generate enough energy for over 100,000 homes and save over 600,000 tonnes of greenhouse gas emissions every year.

The Bango site was selected due to its reliable wind resource, low density of residential dwellings and proximity to existing transmission infrastructure.

In addition to the environmental benefits, Bango will contribute to the local economy of the Yass Valley region, which is experiencing a growth in renewable energy trades and qualifications.

Bango is scheduled for completion in 2021 and will be operational for approximately 25 years, providing around 10 full time jobs as well as numerous supply and service opportunities throughout the project.

Downer’s Executive General Manager for Renewables and Power Systems, Lena Parker, said: “We look forward to working with CWP, Partners Group and GE to deliver the Bango Wind Farm and contribute to the local region.

Source: Downer

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CEFC drives $1 billion in smaller-scale clean energy projects as Bank of Queensland comes on board  
**13 August**

The CEFC has marked a major milestone in Australia’s clean energy transition, helping drive more than $1 billion in new investment in smaller-scale clean energy projects Australia-wide.

The milestone coincides with the launch of the CEFC’s latest co-financing program, a $100 million agreement with the Bank of Queensland’s BOQ Finance (BOQF) division, to help businesses switch to solar, energy storage and electric vehicles.

In the past six years, the CEFC has worked with major banks and non-bank lenders to deliver tailored co-finance programs to businesses to encourage investment in clean energy technologies which can reduce their use of grid energy as well as lower their carbon emissions.

The CEFC finance has been used in more than 11,300 projects, ranging from $10,000 to $5 million. The average investment is $125,000. Businesses drawing on from these programs include manufacturers, agribusinesses and building owners.

CEFC CEO Ian Learmonth said: “We’re making a real difference for businesses across the country, by working with leading Australian lenders to provide competitive finance for clean energy investment. These co-finance programs have proved to be efficient, effective and easy to access for borrowers, who have used them to help finance more than $1 billion in new investments in clean energy.

“The co-finance programs allow us to rapidly extend the reach of our finance across a diverse range of projects, delivering real and measurable benefits to the economy and to our environment. We are delighted to now include Bank of Queensland Finance in this program.”
The CEFC’s co-finance programs have financed:
• More than 1,000 hybrids, battery electric vehicles and plug in hybrid electric vehicles.
• More than 4,400 rooftop solar projects, with a total investment value of more than $110 million.
• More than 400 projects for a variety of energy efficiency upgrades, including heating, ventilation and air conditioning projects, refrigeration upgrades, lighting improvements and a range of other qualifying energy efficiency technologies. The total investment value exceeds $260 million.
• More than 1,000 projects for a range of on-farm and agribusiness projects, with a total investment value of more than $340 million.

BOQF is a leading player in the mid-market asset financing segment across Australia and New Zealand, delivering asset, cash flow and structured finance solutions to customers across a number of business lines.

BOQF Chief Executive Officer Verity Gilpin said: “We pride ourselves on our innovative approach to finance and delivering end-to-end solutions that transform the way our partners operate.

“An increasing number of our customers are seeking clean energy alternatives, and we are pleased to be working with CEFC to make the up-front investment in sustainable solutions simpler and more affordable.”

Source: CEFC

**More renewable energy to boost jobs and cut power bills**

13 August
The Andrews Labor Government is boosting renewable energy in Victoria – creating thousands of jobs, putting more energy into the grid and driving down energy prices.

The Labor Government will today introduce a Bill into parliament to legislate increasing Victoria’s Renewable Energy Target (VRET) to 50 per cent by 2030 – as promised at last year’s election.

The Renewable Energy (Jobs and Investment) Amendment Bill 2019 builds on the Government’s VRET legislation, which will ensure 25 per cent of our electricity generation comes from renewable sources by 2020, and 40 per cent by 2025.

A strong renewable energy target boosts the pipeline of renewable projects and encourages businesses to invest in the local supply chain, boosting employment – particularly in regional Victoria.

An increased VRET will create around 24,000 jobs by 2030 and provides certainty and investor confidence for the renewable energy industry, driving an additional $5.8 billion in economic activity in Victoria.

The Government’s VRET is not only creating thousands of jobs, it’s boosting TAFE enrolments – with Federation University establishing a dedicated Global Wind Organisation Standard Course to give Victorians the skills they need for work in this booming industry.

Putting more renewable energy on the grid will also drive down the cost of power for Victorians – delivering savings of around $32 a year for households, $3,100 a year for medium businesses and $150,000 each year for large companies.

The increased target will also help drive down emissions – achieving a VRET of 50 per cent by
2030 is the equivalent of taking 655,000 cars off the road for a year.

The VRET is part of the Government’s ongoing work to help Victorian families take back control of their energy costs – with Solar Homes delivering solar panels to 700,000 homes, solar hot water systems to 60,000 homes and solar batteries to 10,000 homes over the next 10 years.

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

“VRET has helped create a jobs boom – increasing it will mean more jobs, more investment and lower power bills.”

“These targets help industry to invest with certainty, creating local jobs – particularly in regional Victoria.”

“Victoria is the renewable energy capital of Australia and strengthening the VRET in law will keep it that way – boosting jobs, reducing emissions and driving down energy prices.”

Source: Victoria Government

### UPC\AC Renewables invests in Baroota Pumped Hydro and Solar projects in South Australia

**13 August**

UPC\AC Renewables is pleased to announce that it has entered into a conditional share purchase agreement for the acquisition of shares in the Baroota Pumped Hydro and the Bridle Track Solar Farm projects (Projects) from Rise Renewables.

Under the terms of the agreement, UPC\AC Renewables intend to accelerate remaining development, fund construction and to retain long-term ownership of the Projects.

UPC\AC Renewables sees the Baroota Pumped Hydro Project as a leading example of low cost long hours energy storage providing firm generation that is needed in South Australia as well as in the wider National Electricity Market. The capability of the pumped hydro project will provide a valuable contribution to UPC\AC Renewables development portfolio across the National Electricity Market.

Baroota Pumped Hydro will consist of 2 by 125 MW units and the construction of an upper storage, penstock, pipeline and power station with the utilisation of the existing SA Water Baroota Reservoir as a lower storage. The Baroota Pumped Hydro project is located strategically in the Mid North of South Australia and within 1 km of the 275 kV Bungama to Davenport transmission line.

The Bridle Track Solar farm project has approval for 300 MW located next to the Baroota Pumped Hydro project. Both projects will share a connection point to the 275kV Bungama to Davenport transmission line.

CEO Anton Rohner said:

“One of the key aspects of the NEM as we transition to a low carbon emissions system is the need to build and operate longer term storage projects like Baroota. Dispatchable power such as Baroota coupled with

### PROJECT NEWS

**Agnew Gold Mine Power Station**

EDL Agnew Pty Ltd awarded Southern Cross Electrical Engineering the Battery Energy Storage System and electrical balance of plant contract for the Agnew windfarm near Leinster in Western Australia. The works are part of the 22 MW [Agnew hybrid renewable energy project](#). Stage 1 is a new off-grid 23 MW power station incorporating 16 MW gas and 3 MW diesel generation and 4 MW photovoltaic solar. Stage 2 includes 18 MW wind generation, a 13 MW battery and an advanced micro-grid control system. The wind farm will consist of five GW140/3.57 MW Goldwind wind turbines.
renewables like wind and solar will smooth the transition to a low emissions system”.

“We will now focus on an accelerated timeline to financial close and issuing NTP with construction starting soon thereafter. We are aiming to have the 250 MW of capacity operational by the summer of 2023, the first expected summer without the Liddell power station.”

“Baroota Pumped Hydro and Solar Farms, fit well with our other developments across the NEM in New South Wales, Victoria and Tasmania to achieve a balanced portfolio of reliable renewable generation in the NEM.”

Baroota Pumped Hydro and Solar Farm projects have been developed by Rise Renewables and have achieved development approval and have detailed design costings. Rise Renewables have worked with stakeholders to develop a cost competitive renewable energy capacity opportunity for the NEM.

Brer Adams, a director of Rise said:
“Rise Renewables is very pleased to have reached agreement with UPC\AC Renewables for the acceleration of the Baroota Pumped Hydro and Bridle Track Solar Projects”.

“Pumped hydro energy storage is the missing link in Australia’s electricity network, offering the potential for long-hours energy storage and on-demand generation. Bridle Track Solar Project will be co-located adjacent to the pumped hydro project offering significant locational and shared infrastructure advantages. The Projects will provide network services, helping to balance variable generation and supporting further development of South Australia’s electricity market”.

“Rise Renewables is delighted to be working with a highly experienced developer and owner UPC\AC Renewables as these projects are brought to market”.

Source: UPC Renewables

$40 million funding for South Australia’s first pumped hydro plant
14 August
On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced up to $40 million in funding towards the deployment of a Pumped Hydro Energy Storage (PHES) project in South Australia.

ARENA’s funding will help to fast track development of South Australia’s first PHES plant. The successful funding recipient will be at least 200 MW in capacity, and must reach financial close by 30 June 2020.

Four proposed large-scale PHES projects in development in South Australia have sought ARENA funding, and have been assessed favourably under our Advancing Renewables Program.

ARENA will invite these projects to put forward proposals for further assessment that outline how the project will reach financial close, and includes their lowest funding request from ARENA.

After proposals are received by October, ARENA will undertake further assessment and due diligence on the four advanced projects to select a single funding recipient, with a funding decision to be made by late 2019.

ARENA will work with both the Australian Government’s Underwriting New Generation Investments (UNGI) program which has shortlisted 12 projects including six PHES projects, of which three are in South Australia, and the South Australian Government’s $50 million Grid Scale Storage Fund (GSSF) to support the development of PHES in South Australia.

As South Australia continues to increase its renewable energy make up, large-scale storage such as PHES and grid-scale batteries are needed to supply system strength, energy reliability and inertia to the region.

Source: UPC Renewables
The development of a large-scale PHES plant would balance and firm up variability in the South Australian National Electricity Market region, providing a range of services to support grid reliability and security — including essential stability services as well as “intraday” storage for six to eight hours duration.

ARENA CEO Darren Miller said pumped hydro will play a growing role as the share of renewables increases.

“With 50 per cent of total energy generation in South Australia coming from variable renewable energy in 2018, and an expectation that this will increase in the next two years, there is an increasing requirement for energy storage to firm and balance the system in that state. As part of this, pumped hydro has an important role to play in Australia’s energy transition,” he said.

“Several potential pumped hydro projects are being developed in South Australia, which are well advanced and have been rigorously assessed as high merit. Based on the market need and high construction costs, we expect to fund only one project at this stage,” he said.

“This funding envelope, and this further assessment, is designed to ensure the best project proceeds with the least Government support,” he said.

ARENA has previously supported a range of PHES feasibility studies including Snowy 2.0, Hydro Tasmania’s Battery of the Nation initiatives that include potential PHES sites, Genex’s Kidston Stage 2 PHES facility in Queensland and the proposed expansion of Origin’s Shoalhaven PHES plant in NSW.

Source: ARENA

Lightweight solar panels power up Maritime Museum

14 August

Australia’s largest lightweight solar panel system has been installed on the roof of the Australian National Maritime Museum’s Heritage Centre by Australian solar company Energus using innovative new light, flexible panels.

The Southern Cross Renewable Energy Fund (Fund), supported by the Australian Renewable Energy Agency (ARENA), provided a $6.6 million investment into Sunman Energy Co Ltd — parent to Energus — to develop “eArche”, the new lightweight, flexible solar panel technology, made from a polymer composite material.

eArche is a glass-free lightweight solar PV panel that can be fitted on any surface including curved surfaces. Being 70 per cent lighter than conventional solar panels, eArche can be fitted to roofs with weight constraints while still having the same capacity for generation.

A 235 kW array of 812 panels have been installed at the Museum’s Wharf 7 Maritime Heritage Centre building in Darling Harbour, which due to its weight constraints and heritage status could not use conventional solar panels. The array will now reduce the Museum’s electricity consumption by approximately 25 per cent.

Last year, eArche solar panels were also installed on the world’s first solar powered train in Byron Bay.

ARENA and the Fund’s co-investor Softbank China Venture Capital have each contributed $3.3 million to the Fund’s investment.

The Fund provides management expertise and makes equity investments in early-stage renewable energy companies to help them overcome capital constraints, develop technologies, increase skills and forge international connections.
ARENA CEO Darren Miller said eArche opens up solar PV technology for new applications.

“This solar technology, created by SunMan, is an innovative and versatile alternative that can help to incorporate solar into more buildings, making solar a key part of the building process, and allowing solar to be installed on curved surfaces or heritage buildings.

“The Southern Cross Renewable Energy Fund supports innovative companies and challenges entrepreneurs to think outside the box and SunMan has achieved this,” Mr Miller said.

Energus / SunMan founder Dr Zhengrong Shi said: “When I developed eArche, I knew it could unlock the potential for solar on buildings which were previously unable to support conventional glass solar panels.

“eArche’s light weight, flexibility, high performance and competitive costs means that solar can now be applied to any building design,” Dr Shi said.

Maritime Museum Director and CEO, Mr Kevin Sumption PSM said the museum had been exploring installing solar panels to Wharf 7 for several years, but found conventional solar panels were too heavy and rigid.

“We came across a unique glass-free solar panel from SunMan. The 5.5 kg lightweight panels could overcome the building’s structural challenges and also have the same power output as 20 kg conventional panels” he said.

The installation has also been made possible through the Australian Government’s Modernisation Fund.

Source: ARENA

PROJECT NEWS
Avonlie Solar Farm
On 8 August 2019, the Executive Director granted consent to the development application for the Avonlie Solar Farm subject to conditions, under delegation from the Minister for Planning and Public Spaces and section 4.38 of the Environmental Planning and Assessment Act 1979 (the Act). RES Australia Pty Ltd proposes to develop a new 200 MW solar farm with 10 MW/10 MW-hour (MWh) of battery storage approximately 20 km southeast of Narrandera in the Riverina Murray Region of NSW. The project site is located in close proximity to the Sturt Highway and has direct access to the electricity network via two TransGrid transmission lines which traverse the site.

The project includes:
- approximately 670,000 single-axis tracking solar panels (up to 4 m high) and 41 inverters (up to 3 m high);
- a lithium-ion battery storage facility (10 MW/10 MWh);
- an on-site substation and two connection points to TransGrid’s 132 kV transmission lines;
- internal access tracks, staff amenities, maintenance building, offices, storage shed (up to 6 m high), laydown areas, car parking and security fencing; and
- subdivision of land within the site to be retained by the landowner and for the substation.

Project area 802 ha (with a 550 ha development footprint)

Review of the System Black Event in South Australia on 28 September 2016
Overview
The COAG Energy Council has asked the AEMC to review the factors which contributed to the "black system" event experienced in South Australia on 28 September 2016. The AEMC’s review is a forward looking assessment of what changes to the regulatory frameworks
are needed to manage new risks faced by the power system.

The review draws on what has been learned since the South Australian black system event in 2016, to identify any structural changes that need to be made. The goal of the review is to reduce the risk of another black system event occurring again in future.

**Discussion paper**
On 15 August 2019 the project team published a discussion paper on how to better manage security risks in a changing power system.

The discussion paper considers key policy areas including:
- treatment of uncertainty from variable generation
- mechanisms to provide increased resilience to high impact, low probability events.

Stakeholders are invited to provide submissions to the discussion paper. Submissions are due by 6 September 2019.

**Technical working group**
The Commission is convening a technical working group to provide feedback on policy options under development. This group includes representatives from the South Australian government and network businesses, the AER and AEMO, consumer representatives as well as industry representatives nominated by the Clean Energy Council, Australian Energy Council and Energy Networks Australia. The first meeting will be held on 16 August 2019. Minutes of the meeting will be published on this page.

**Next steps**
The Commission plans to publish a draft report in late September 2019 and a final report in December 2019.

**Issues and approach paper**
On 18 April 2019 the Commission published an issues and approach paper to facilitate stakeholder feedback on the systemic issues arising from the SA black system event and the Commission’s approach to the review. Submissions can be found below.

**Background**
The COAG Energy Council’s terms of reference require the Commission to build on AEMO’s and the AER’s findings regarding the black system event. With the publication of both the AEMO incident report and the AER pre- and post-event compliance report by December 2018, the Commission commenced its review as required by COAG Energy Council in January 2019.

Specifically, the following are addressed:
- contingency classification and the pre-event management of risks to power system security
- system restoration following the black system
- market suspension, and
- arrangements to enhance power system resilience to high impact low probability events.

On 7 August 2019 the AER commenced legal proceedings in respect of market participant compliance during the black system event period. As legal proceedings are currently underway, the Commission is not considering specific issues arising during the period between the loss of the transmission lines in South Australia's mid North and the occurrence of the black system condition. This review is only considering specific matters in respect of the pre- and post-stages of the event.

Further information is available [here](#).

Source: AEMC
AEMO's 2019 forecasting and planning scenarios
15 August
AEMO delivers a range of planning and forecasting publications for the National Electricity Market (NEM), including the NEM Electricity Statement of Opportunities (ESOO), the Gas Statement of Opportunities (GSOO) and the Integrated System Plan (ISP).

The use of scenario planning is an effective practice to manage investment and business risks when planning in an uncertain environment, particularly through disruptive transitions. Scenarios are a critical aspect of forecasting, providing the information needed to assess future risks, opportunities, and development needs in the energy industry.

Scenario planning enables options to be identified, which are robust across multiple future states. It is vital that the dimensions of scenarios chosen cover the potential breadth of plausible futures impacting the energy sector and capture the key drivers of these possible futures in an internally consistent way.

AEMO has adopted five scenarios, which have been developed through extensive consultation with members, participants and other stakeholders to provide a suitably wide range of possible industry outcomes differing with respect to the growth in grid-scale renewable generation resources, the uptake of distributed energy resources, and the level and breadth of decarbonisation policies.

The five scenarios are:
- **The Central scenario**, which reflects the current transition of the energy industry under current policy settings and technology trajectories, where the transition from fossil fuels to renewable generation is generally led by market forces and supported by existing federal and state government policies.
- **The Slow Change scenario**, which reflects a general slow-down of the energy transition. It is characterised by slower advancements in technology and slower reductions in technology costs, low population growth, and low political, commercial and consumer motivation to make the upfront investments required for significant emissions reduction.
- **The High DER scenario**, which reflects a more rapid consumer-led transformation of the energy sector, relative to the Central scenario. It represents a highly digital world where technology companies increase the pace of innovation in easy-to-use, highly interactive, engaging technologies. This scenario includes reduced costs and increased adoption of distributed energy resources (DER), with automation becoming commonplace, enabling consumers to actively control and manage their energy costs while existing generators experience an accelerated exit. It is also characterised by widespread electrification of the transport sector.
- **The Fast Change scenario**, which reflects a rapid technology-led transition, particularly at grid scale, where advancements in large-scale technology improvements and targeted policy support reduce the economic barriers of the energy transition. This includes coordinated national and international action towards achieving emissions reductions, leading to manufacturing advancements, automation, accelerated exit of existing generators, and integration of transport into the energy sector.
- **The Step Change scenario**, which reflects strong action on climate change that leads to a step change reduction of greenhouse gas emissions. In this scenario, aggressive global decarbonisation leads to faster technological improvements, accelerated exit of existing generators, greater electrification of the transport sector with increased infrastructure developments, energy digitalisation, and consumer-led innovation.

The scenarios inform and facilitate the realisation of economically efficient solutions to support the energy system in transition. They inform risks, and enable prudent decisions to be made that take risks into account, enabling developments that adapt to differences in the pace or nature of change. The ISP uses scenarios to develop a whole-of-system plan that manages the ultimate cost
and risk of this transition in the long-term interests of customers.

Further information on inputs and assumptions associated with each scenario can be found in the 2019 Planning and Forecasting Consultation responses on Scenarios, Inputs, Assumptions and Methodology report.

A summary of stakeholder submissions and AEMO’s responses to these is available here

Source: AEMO

### PROJECT NEWS

**Bookaar Solar Farm**

On review the Victorian Civil and Administrative Tribunal (VCAT) has refused to issue a planning permit for the [Bookaar Solar Farm](#) after the Corangamite Shire Council rejected the project in September last year. Bookaar Renewables Pty Ltd proposed the facility on part of the Meningoort property at Bookaar, near Camperdown in south-west Victoria. The facility would comprise up to 700,000 solar panels, with an installed generation capacity up to 200MW, on a site of 588ha. The electricity generated by the solar panels would connect to the existing 220-kV transmission line that traverses the land. Amongst the many issues raised by the parties, the Tribunal identified six issues that it considers to be determinative to the decision whether to grant a planning permit for the solar energy facility at Bookaar. These are:

- Planning policy support for renewable energy facilities.
- The loss of productive agricultural land.
- Significant landscape values and/or visual impact.
- Hydrological issues such as drainage, runoff and flooding.
- Bushfire management.
- The adequacy of the information and plans in support of the application, including site layout plans.

Source: Komo Energy

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**Goulburn taps Komo for community solar farm development**

Clean Energy 4 Goulburn (CE4G) have signed up with Komo Energy for development services of their proposed community owned solar farm. This innovative project will be Australia’s largest community owned solar project, and already has strong community interest.

Komo Energy will provide development services to finalise property, planning and procurement of EPC services for the solar farm. This will progress the project to investment readiness for community investment.

Based 2 hours out of Sydney, in Goulburn, CE4G have been developing a community solar project in recent years. This has included support and seed funding for a feasibility study, planning submission and grid connection enquiry. Komo Energy contacted CE4G when it was announced the project was put on hold due to energy policy uncertainty. Subsequent investigations on the project by Komo found an opportunity to restructure the project and bring it to realisation.

This project aligns perfectly with Komo Energy’s mission, to provide development services to advance distributed energy.

The project has now also applied for grant funding, which will see battery storage added to the site to provide grid services and tap into higher wholesale prices in mornings and evenings. The 1.8 MW DC / 1.2 MW DC ground mount solar project is expected to reach investment readiness in 2019 with construction soon after.

Source: Komo Energy