



Project Update

Week ending 12 October 2018

Macquarie Group invests into the Asian Renewable Energy Hub, which has expanded to over 11 GW and has achieved Lead Agency Status

8 October

Macquarie Group has agreed to provide development capital to the [Asian Renewable Energy Hub](#) and join the project consortium alongside Intercontinental Energy, Vestas and CWP Energy Asia.

The consortium is developing the large wind and solar hybrid power hub in the Pilbara region in Western Australia.

The hub's generation capacity is being increased from 9 GW to over 11 GW, with more than half now allocated for existing and new energy users in the Pilbara, including mines, mineral processing and anticipated large scale production of green hydrogen. The hub still retains significant generation for direct export to South East Asia via subsea electrical cables, but the emphasis on support for domestic economic growth has grown.

The 11+ GW generation capacity will consist of 7.5+ GW of wind turbines and 3.5+ GW of solar PV arrays, which will generate 40+ TWh of competitively priced clean energy per annum. Total capital investment in the hub is anticipated to be in excess of \$22 billion.

Hub Director Alex Tancock said "The Asian Renewable Energy Hub will supply large scale, low cost, clean energy to enable customers in the Pilbara to grow, unlocking billions of dollars of investment potential throughout



the region. We are excited to have Macquarie Group joining as a consortium member."

The project was recently granted Lead Agency Status, for facilitation by the West Australian Department of Jobs, Tourism, Science and Innovation under the Lead Agency Framework, reflecting the project's development progress and its economic development potential.

Pilbara Development Commission Chairperson Brendan Hammond said a renewable energy development of this scale would be a major boost for jobs in the Pilbara and Western Australia.

"Renewable energy is a key economic diversification opportunity for the Pilbara which capitalises on existing natural wind and solar assets," Mr Hammond said.

"Producing renewable energy in the region would boost the business competitiveness of the Pilbara by significantly lowering the cost of energy to accelerate the rate development in not only mining, but other emerging industries."

As an energy hub, the project is being developed to flexibility meet customer and market requirements in Australia and overseas. Financial Close for the first phase of

the hub is anticipated in 2021. The hub is expected to be constructed in phases over a 6-7 year period.

The project consortium includes Intercontinental Energy (which is developing another renewable energy hub elsewhere in the world), Vestas (the largest wind turbine company in the world), Macquarie Group (a global leader in green energy investment) and CWP Energy Asia (one of Australia's most successful renewable energy project developers).

Source: AREH

WA's national bid to lead battery energy storage research hub charges on

8 October

A Western Australian-led national consortium of industry and universities has been invited to progress to the second stage of its bid to lead a \$100 million Future Battery Industries Cooperative Research Centre (CRC), which aims to position Australia as a global leader for the energy solutions of the future.

In conjunction with a range of industry and education partners, Curtin University is leading the bid for a new CRC with the aim of connecting world-class researchers and industry to develop the processes and battery applications to make the most of Australia's abundant new energy materials.

At the Expressions of Interest phase, the national consortium had raised about \$27 million towards the bid and is seeking \$25 million from the Federal Government through the CRC application process.

Curtin University Deputy Vice-Chancellor Research Professor Chris Moran said the Future Battery Industries CRC would provide national leadership to harness new energy materials, including lithium, vanadium, nickel, cobalt and graphite, for the future of energy storage.

"The Future Battery Industries CRC is seeking to position Australia as a globally competitive provider of the energy solutions of the future by leveraging the country's natural resources and internationally recognised research skills," Professor Moran said.

"The proposal joins industry, government and researchers to solve the grand challenges for a future where Australia is a leader in the manufacture of the next generation of battery energy storage technologies and systems. The Future Battery Industries CRC will also provide important research opportunities for postgraduate students seeking to play a role in this significant initiative."

Bid Chair Mr Tim Shanahan said the proposal was responding to industry calls for Australia to act within the next five years or risk losing the opportunity to overseas competitors.

"The industry is telling us that there is an urgent need for Australia to take the lead in this next phase of our energy future and the Future Battery Industries CRC works to ensure we position ourselves as the global leader in low cost, high quality, technically superior battery materials and technologies," Mr Shanahan said.

"The project will help guide the future of the energy industry by mapping out the pathway for Australia to mine, extract, refine and recycle battery minerals, metals and materials with the required quality controls, as well as completing the value chain through the manufacture, deployment and use of batteries."

Led by Curtin University, the initial proponents of the Future Battery Industries CRC includes BHP Billiton, Yurika, Kibaran, Synergy, Lithium Australia, Galaxy, FYI Resources Limited, The Chamber of Minerals and Energy of Western Australia, Australia's Nuclear Science and Technology Organisation, Pure Battery, DST Group, Clean Teq, Energy Queensland, Minerals Research Institute of Western Australia, Multicom, MRI e-cycle solutions, City of Kwinana, Energetics,

Goldfields-Esperance Development Commission, Total Green Recycling, Syrah Resources, PROXA, Everledger, Tianqi Lithium, Protean Energy, Mining and Process Solutions, Envirostream, the Government of South Australia, Switch Batteries, Live-in Learning, The University of Western Australia, The University of Melbourne, The University of Adelaide, Queensland University of Technology, and Murdoch University.

The Western Australian State Government seeded the bid with a combined \$6 million in provisional funding to support to establishment of the proposed Future Battery Industries CRC in WA.

As part of the CRC application process to the Federal Government, proposals are considered in two stages based on merit and measured against all other CRC applications.

Successful first stage applicants are invited to submit a second stage application, which requires a full written business case.

The Federal Government is expected to announce the successful recipients of the CRC application process in early 2019.

Source: Curtin University

PROJECT NEWS

Granite Hills Wind Farm

The federal government's Department of the Environment & Energy has declared Akuo Energy's proposed 132 MW [Granite Hills Wind Farm](#) in Steeple Flat, New South Wales a controlled action. The relevant controlling provisions are listed threatened species and communities (sections 18 & 18A) and listed migratory species (sections 20 & 20A). The project will require assessment and approval under the EPBC Act before it can proceed.

Get up close and personal with renewable energy at Wind Farm Open Day

8 October

Ten wind farms will open their gates to the public when the Clean Energy Council celebrates Wind Farm Open Day with the Australian Wind Alliance on Sunday 21 October.

Clean Energy Council Chief Executive Kane Thornton said the event is a celebration of the contribution that wind farms make to local communities, as well as the role they play in Australia's clean energy future.

"Wind Farm Open Day is a great opportunity for local residents to get up close and personal with many of the wind farms that are helping to unlock Australia's clean energy future," Mr Thornton said.

"The current pipeline of wind energy projects represents \$7.6 billion in investment and almost 4000 direct jobs. The industry gets more efficient with every wind farm that is built towards meeting the 2020 Renewable Energy Target, and the cost of renewable energy continues to drop as a result.

"Australia has more than 80 operational wind farms delivering significant financial and social benefits to their host communities. The open day allows these farms to welcome communities beyond the gates and gain an understanding of their significant contribution and value not only within these regional towns but also for the country as a whole," he said.

With ten wind farms participating in the day, there will be no shortage of fun and informative activities for all who attend. The following wind farms will be part of the celebrations:

Victoria: Bald Hills Wind Farm, Mt Gellibrand Wind Farm, Salt Creek Wind Farm, Cape Nelson South Wind Farm

NSW: White Rock Wind Farm, Woodlawn Wind Farm, Sapphire Wind Farm, Gullen Range Wind and Solar Farm

South Australia: Hallett Wind Farm

Western Australia: Mumbida Wind Farm

Times and activities vary between each site so check with the relevant wind farm directly prior to attending. For further information specific to each farm, visit [the Clean Energy Council Wind Farm Open Day webpage](#).

Source: Clean Energy Council

Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments

8 October

Limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society, the IPCC said in a new assessment.

With clear benefits to people and natural ecosystems, limiting global warming to 1.5°C compared to 2°C could go hand in hand with ensuring a more sustainable and equitable society, the Intergovernmental Panel on Climate Change (IPCC) said on Monday.

The Special Report on Global Warming of 1.5°C was approved by the IPCC on Saturday in Incheon, Republic of Korea. It will be a key scientific input into the Katowice Climate Change Conference in Poland in December, when governments review the Paris Agreement to tackle climate change.

“With more than 6,000 scientific references cited and the dedicated contribution of thousands of expert and government reviewers worldwide, this important report testifies to the breadth and policy relevance of the IPCC,” said Hoesung Lee, Chair of the IPCC.

Ninety-one authors and review editors from 40 countries prepared the IPCC report in

response to an invitation from the United Nations Framework Convention on Climate Change (UNFCCC) when it adopted the Paris Agreement in 2015.

The report’s full name is Global Warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

“One of the key messages that comes out very strongly from this report is that we are already seeing the consequences of 1°C of global warming through more extreme weather, rising sea levels and diminishing Arctic sea ice, among other changes,” said Panmao Zhai, Co-Chair of IPCC Working Group I.

The report highlights a number of climate change impacts that could be avoided by limiting global warming to 1.5°C compared to 2°C, or more. For instance, by 2100, global sea level rise would be 10 cm lower with global warming of 1.5°C compared with 2°C. The likelihood of an Arctic Ocean free of sea ice in summer would be once per century with global warming of 1.5°C, compared with at least once per decade with 2°C. Coral reefs would decline by 70-90 percent with global warming of 1.5°C, whereas virtually all (> 99 percent) would be lost with 2°C.

“Every extra bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems,” said Hans-Otto Pörtner, Co-Chair of IPCC Working Group II.

Limiting global warming would also give people and ecosystems more room to adapt and remain below relevant risk thresholds, added Pörtner. The report also examines pathways available to limit warming to 1.5°C,

what it would take to achieve them and what the consequences could be.

“The good news is that some of the kinds of actions that would be needed to limit global warming to 1.5°C are already underway around the world, but they would need to accelerate,” said Valerie Masson-Delmotte, Co-Chair of Working Group I.

The report finds that limiting global warming to 1.5°C would require “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities. Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050. This means that any remaining emissions would need to be balanced by removing CO₂ from the air.

“Limiting warming to 1.5°C is possible within the laws of chemistry and physics but doing so would require unprecedented changes,” said Jim Skea, Co-Chair of IPCC Working Group III.

Allowing the global temperature to temporarily exceed or ‘overshoot’ 1.5°C would mean a greater reliance on techniques that remove CO₂ from the air to return global temperature to below 1.5°C by 2100. The effectiveness of such techniques are unproven at large scale and some may carry significant risks for sustainable development, the report notes.

“Limiting global warming to 1.5°C compared with 2°C would reduce challenging impacts on ecosystems, human health and well-being, making it easier to achieve the United Nations Sustainable Development Goals,” said Priyadarshi Shukla, Co-Chair of IPCC Working Group III.

The decisions we make today are critical in ensuring a safe and sustainable world for everyone, both now and in the future, said Debra Roberts, Co-Chair of IPCC Working Group II.

“This report gives policymakers and practitioners the information they need to

make decisions that tackle climate change while considering local context and people’s needs. The next few years are probably the most important in our history,” she said.

The IPCC is the leading world body for assessing the science related to climate change, its impacts and potential future risks, and possible response options.

The report was prepared under the scientific leadership of all three IPCC working groups. Working Group I assesses the physical science basis of climate change; Working Group II addresses impacts, adaptation and vulnerability; and Working Group III deals with the mitigation of climate change.

The Paris Agreement adopted by 195 nations at the 21st Conference of the Parties to the UNFCCC in December 2015 included the aim of strengthening the global response to the threat of climate change by “holding the increase in the global average temperature to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.”

As part of the decision to adopt the Paris Agreement, the IPCC was invited to produce, in 2018, a Special Report on global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways. The IPCC accepted the invitation, adding that the Special Report would look at these issues in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

Global Warming of 1.5°C is the first in a series of Special Reports to be produced in the IPCC’s Sixth Assessment Cycle. Next year the IPCC will release the Special Report on the Ocean and Cryosphere in a Changing Climate, and Climate Change and Land, which looks at how climate change affects land use.

The Summary for Policymakers (SPM) presents the key findings of the Special Report, based on the assessment of the

available scientific, technical and socio-economic literature relevant to global warming of 1.5°C.

The Summary for Policymakers of the Special Report on Global Warming of 1.5°C (SR15) is available at <http://www.ipcc.ch/report/sr15/> or www.ipcc.ch

Source: IPCC

Award of ~\$277 million EPC contract for Sunraysia Project

8 October

- Award of \$277 million EPC contract for the [Sunraysia Project](#) in Balranald, NSW
- Project will be one of the largest solar plants in Australia

Decmil Group Limited (ASX: DCG) (“Decmil” or “Company”) is pleased to announce that it has been awarded a \$277 million EPC contract by Maoneng Australia (“Maoneng”) for its 255MW Sunraysia Solar PV project located near Balranald in New South Wales.

The project is set to be one of Australia’s largest utility scale Solar PV projects and is underpinned by Power Purchase Agreements with the University of New South Wales and AGL Energy.

Maoneng has entered into a long-term equity partnership with global infrastructure investor and manager John Laing Group for the investment and development of the Sunraysia project. In addition, the project has secured debt financing from a consortium of domestic and international banks.

Decmil Managing Director and Group CEO, Scott Criddle, commented:

“Decmil is looking forward to partnering with Maoneng on the Sunraysia project. Both organisations bring together complimentary skills to successfully deliver this project to the Australian renewable energy market.

Decmil has for over 40 years successfully delivered major regional infrastructure and, following a detailed planning process, is operationally ready to deliver this project”.

Maoneng Group Executive Chairman and CEO, Morris Zhou, commented:

“Maoneng welcomes Decmil as partners to successfully deliver the Sunraysia project. We are confident in Decmil’s capability and pleased to see their commitment and resourcing towards this project.

Maoneng is one of the first companies to have successfully developed, built and owned a utility scale solar PV plant in Australia. Our mission is to assist Australia’s transition towards a low carbon society through the development of sustainable social infrastructure”.

The Sunraysia project is Maoneng’s second significant project in the Australian market, the first being the Mugga Lane Solar Park developed and built under the ACT Government’s Reverse Solar Auction.

The project is also Decmil’s second significant solar EPC project, the first being the Gullen Solar farm co-located within the existing Gullen Range wind farm.

Source: Decmil

PROJECT NEWS

Wollar Solar Farm

The federal government’s Department of the Environment & Energy has declared Solar Megawatt Holding’s proposed 400 MW [Wollar Solar Farm](#), 7km south of Wollar in New South Wales, a controlled action. The relevant controlling provisions are listed threatened species and communities (sections 18 & 18A). The project will require assessment and approval under the EPBC Act before it can proceed.

Guiding Victoria with solar farm developments

8 October

The Andrews Labor Government has approved a major new solar farm north of Shepparton and released draft planning guidelines for the development of large solar farm projects across the state.

Minister for Planning Richard Wynne announced today that he has approved the [Congupna solar farm](#) proposal, which will produce 68 MW of clean energy, create around 250 jobs and power approximately 22,600 homes.

The project will be built on non-irrigated agricultural land and drive around \$38 million in capital expenditure.

A decision on the Tallygaroopna, Lemnos and Tatura East solar farm applications has been deferred until further strategic work is completed for the Goulburn Murray Irrigation District.

Minister Wynne also released the draft *Solar Energy Facilities – Design and Development Guidelines* for comment.

The draft guidelines will help inform councils, developers and communities on planning requirements for the large solar farm facilities to ensure they are built in the right locations, are easily accessible to the grid and that proposals give careful consideration to high productivity agricultural areas and sensitive landscapes.

The document was informed by a review of guidelines and best practice standards interstate and internationally.

It also includes a Best Practice Guide for Proponents to help developers engage with communities, and minimise the environmental and social impacts of their proposals.

The Labor Government continues to drive investment in clean, affordable energy projects – with Victoria’s first renewable

energy auction generating six massive solar and wind projects that will produce more than 900 megawatts of energy and create more than 900 jobs.

The Labor Government is also investing more than \$1.3 billion to put solar panels, hot water and batteries on \$720,000 homes across the state – driving down energy prices for Victorian households.

The *Solar Energy Facilities – Design and Development Guidelines* are open for public comment until 1 March 2019 at www.planning.vic.gov.au/policy-and-strategy/solar-energy-facilities-design-and-development-draft-guidelines.

Quotes attributable to Minister for Planning Richard Wynne

“The Congupna solar farm will create more than 100 new jobs and produce 30 megawatts of new, clean energy – helping to drive down energy prices.”

“We’re working with industry and community to make sure solar farm developments deliver the right outcomes for communities, the environment and jobs.”

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

“These new guidelines will provide more certainty to the community, and more confidence to invest in major solar farms like the one at Congupna.”

“We’re creating jobs, driving down power prices and combatting climate change with the biggest investment in renewable energy in Victoria’s history.”

Source: Victoria Government

Creating local jobs of the future through cheaper, cleaner and more reliable power

8 October

The government has announced electricity market reforms to deliver lower cost and reliable power, and meet the government's target of its 50 percent renewables by 2030.

These reforms include a competitive wholesale electricity market consistent with recommendations made by the independent panel in the Roadmap to Renewables report.

Over the next 12 months, a Northern Territory Electricity Market (NTEM), tailored to the Territory's circumstances, will be developed.

This will ensure the growing interest in renewable energy can be facilitated in the Darwin-Katherine power network in a way which will deliver lower cost generation and reliable power to Territorians.

The NTEM is expected to be up and running within 12 months, and government will work closely with stakeholders on design and implementation.

Government will also begin consultation shortly on a review of supply and feed-in tariffs to encourage behind the meter energy storage for those with rooftop solar photovoltaics (PV) and stimulate greater take-up of energy efficient technologies.

This was also one of the recommendations made by the renewables panel to increase system reliability and enable Territorians to reduce their electricity costs during the most expensive times of the day.

The reforms aim to encourage cheaper renewables into the system, putting downward pressure on power prices.

In a major step towards reaching the 50 percent renewables target, the government has approved a 25 megawatt (MW) solar

photovoltaic electricity plant to be developed near [Katherine](#).

The power purchase agreement (PPA) between Jacana Energy and Katherine Solar Pty Ltd will enable the construction of the \$40 million project, create over 100 jobs during construction and be the largest renewable energy generator in the Northern Territory.

This is the first of a number of large-scale solar projects proposed by investors.

More information can be found at: <https://roadmaptorenewables.nt.gov.au/>

Quotes from the Chief Minister:

"Creating local jobs is my number one priority."

"Our election commitment of 50% renewables by 2030 is already paying dividends by creating local jobs in the growing renewable energy sector.

"We have kept our promise to stabilise power prices after massive hikes under the CLP.

"The fact we have also kept public assets in public ownership means we are perfectly placed to transition to more renewable energy while maintaining system reliability.

Quotes from the Minister for Renewables and Essential Services:

"This agreement between Katherine Solar and Jacana will increase renewable energy use in the Territory by between 3 and 4%.

"It's a huge step towards our renewable energy target and will put downward pressure on electricity prices.

"There are lessons learned from the National Energy Market which we have incorporated into the design of this policy.

"This is a common-sense and best practice approach tailored for the Territory's unique circumstances."

Quotes from Martin Poole, Epuron Executive Director:

"Epuron is pleased to be entering into an agreement to sell solar electricity to Jacana. We look forward to the Katherine solar project moving into construction in the coming months."

"The NT has great potential for solar energy, and it is exciting to see the Territory Government's initiatives to enable investors to compete to generate the lowest cost solar power for the grid."

"Epuron owns and operates solar power stations in the NT at Alice Springs, Yulara, Kalkarindji, Ti Tree and Lake Nash / Alpurrurulam and we are pleased to be here at the announcement of our first project in the Darwin - Katherine electricity system."

Source: NT Government

Maoneng Group – Sunraysia Solar Farm 255MWp financial close

8 October

The 255MWp [Sunraysia Solar Farm](#) will be the largest solar farm to have commenced construction in Australia this year and will be one of the largest solar farms in the world upon construction completion. The financial close of the project has been underpinned by the coordinated effort of several hundred professionals across various industries.

Maoneng Australia (Maoneng), one of Australia's leading solar PV developers and owner of renewable energy assets has reached Financial Close for the 255MWp Sunraysia Solar Farm.

The asset is underpinned by two world class Power Purchase Agreements (PPAs) under which UNSW Sydney and AGL Energy (AGL) purchase energy over 15 years.

Maoneng entered into a long-term equity partnership with John Laing for the

investment and development of the Sunraysia Solar Farm. In addition, the project has secured debt financing from Nord L/B, ING, Mizuho, Bank of China and National Australia Bank (NAB).

Decmil has been appointed as the head contractor for the project under an Engineering, Procurement and Construction (EPC) Contract and will also undertake the project's operations and maintenance when the solar farm is in operation.

Maoneng will act as both the construction manager during the construction period and the asset manager during operations.

Acknowledgement of stakeholders

"We would like to acknowledge the contributions from all stakeholders who participated in the development of the project including: town planners, engineers, construction contractors, legal advisers, specialist advisers, financiers and investors, traditional and current land custodians, government agencies, retailers and educational institutions," said Morris Zhou, CEO and Chairman of Maoneng Group.

At the peak of construction, up to 400 people will be working and living in Balranald, creating significant local economic growth and opportunities to engage with the local community with respect to the renewable energy sector.

Financing partners

"We are very pleased to secure our first solar investment in Australia, further enhancing our renewable energy portfolio in the APAC region. After carefully evaluating a number of solar opportunities in the market over the last 2 years, we have invested in Sunraysia Solar Farm, an asset that supports our model to create value through the successful delivery of greenfield infrastructure," said Justin Bailey, John Laing, Regional Managing Director – Asia Pacific.

"The investment from John Laing is a testament to the quality of the assets that

Maoneng develop. We are honoured to have been entrusted by John Laing to deliver the project and operate the solar farm over the long term. John Laing shares in Maoneng's vision in creating sustainable social infrastructure that helps drive communities towards a progressive future," said Qiao Nan Han, Group Vice President of Maoneng.

"The bank group represents the diversity of lenders from various part of the world, who have gathered here in Australia to finance this landmark project," says Qiao Nan Han. "We are grateful for the support of Nord L/B and Bank of China who have previously supported our Mugga Lane Solar Park development and we welcome our new financing partners ING, Mizuho and NAB."

Frank Schrader, Regional CEO Asia Pacific of NORD/LB said, "We are extremely thrilled to be one of the key financing parties for Sunraysia Solar Farm, and have the pleasure to work with Maoneng again and John Laing Group for the first time in Asia. This signifies a landmark deal in NSW, Australia for Nord/LB, adding to our portfolio of 14GW of green energies financed worldwide. We continue to showcase our execution capabilities in Australia as one of the leading banks in the global renewables space. We look forward to extending our pipeline in Australia and provide customized solutions to meet our client's financing needs."

Jules Kaufling, Senior Director Project Finance at Mizuho said, "Mizuho is very excited to be supporting Maoneng and John Laing's development and investment activities in the renewable energy space in Australia. As one of the largest solar farms in the country underpinned by strong offtake arrangements, Sunraysia is a fantastic opportunity for all parties involved, and we are proud to have been able to help the project reach this key milestone. Mizuho has successfully financed a number of important green energy assets in the recent past and Sunraysia is a further testament to Mizuho's established presence in the sector."

Construction partner

"Decmil is looking forward to partnering with Maoneng on the Sunraysia project. Both organisations bring together complimentary skills to successfully deliver this project to the Australian renewable energy market. Decmil has for over 40 years track successfully delivered major regional infrastructure and is operationally ready to deliver this project," said Scott Criddle, Decmil Group, Managing Director and Group CEO.

"This would be Decmil's biggest EPC contract in its renewables portfolio. Decmil beat out its tier one competitors due to their competitive pricing, strong business development acumen and extensive engineering and construction experience in delivering projects in remote regions of Australia. Their project execution team was engaged throughout the whole tender process and we have the utmost confidence in Decmil delivering what will be the largest operating solar farm in the country," said Michael Tran – Maoneng Operations Manager.

"They have been working with us for almost a year, in front end engineering and design, preparatory and planning work, including obtaining the approval for a construction camp to cater for the large workforce that is required to build this solar farm. We are looking forward to a smooth and well-planned construction phase as we continue to have the support from our key suppliers including Jinko, Schneider and NEXTracker," said Qiao Nan Han.

"Schneider Electric is excited to be a key supplier for the Sunraysia Solar Project. We have worked collaboratively with Maoneng from the beginning of 2017, providing ongoing technical support to complete the Generator Performance Standards submission. We look forward to supplying from Schneider owned factories all the Power Conversion Units for this project; consisting of Inverters, Transformers and Ring Main Units. We will also be responsible for providing a full Control and Monitoring system to meet the detailed needs of this complex project. We

are looking forward to the delivery of another successful project with Maoneng,” said Steven Briggs, Director Solar Power Plants – Schneider Electric.

Network interconnection

“The Sunraysia Solar Farm is a very exciting development for TransGrid – over the last 18 months TransGrid has connected over 1GW of renewable energy to the NEM, and we have contracts in place to connect at least that much again this financial year,” said Richard Lowe, TransGrid, Executive Manager Business Growth. “This connection project specifically demonstrates the significant benefits TransGrid can deliver for renewable energy project developers, through a comprehensive build, own, operate and maintain solution for connection services for a 30 year term.”

“Sunraysia Solar Farm will be connecting into TransGrid’s 220kV Substation where substation, Transmission and network augmentation work will be conducted by TransGrid through a Build Own Operate and Maintain (BOOM) model,” said Qiao Nan Han.

Offtake

“The 15-year solar supply agreement with UNSW is the first of its kind in Australia – bringing together a retailer, developer and corporate. We are honoured to allow UNSW to achieve its goal of carbon neutrality on energy use by 2020 and look forward to our long-term partnership,” said Kevin Chen, Director of Project Finance and M&A of Maoneng.

“This milestone brings UNSW Sydney a major step towards receiving emissions free electricity as part of this landmark initiative,” said Professor Ian Jacobs, President and Vice-Chancellor at UNSW Sydney. “The Solar PPA is crucial to the University realising its goal of carbon neutrality on energy use by 2020.”

“AGL’s offtake with Sunraysia Solar Farm forms part of AGL’s NSW Generation Plan and plays an important role in AGL’s transition towards cleaner and more affordable energy,” said Qiao Nan Han. “Energy allocated to AGL

from Sunraysia Solar Farm represents Maoneng’s first contribution towards our long-term relationship with AGL.”

Advisors

“We would like to thank the lawyers from Norton Rose Fulbright Australia and engineers from Jacobs who have worked with us on this project since conceptualisation. We would also like to thank lender’s counsel King & Wood Mallesons who contributed to bringing the project to a successful financial close,” said Qiao Nan Han.

“We are pleased to have worked closely with Maoneng since project conception, and advising them through the project lifecycle to deliver another significant renewable energy project, since advising Maoneng with their first major investment in Australia – the 13MW Mugga Lane Solar Park in the ACT. The Sunraysia Solar Farm is another key project contributing to the changing energy mix in the region, playing an important role towards the transition to cleaner and more affordable energy” said Raymond Lou, Partner, Norton Rose Fulbright.

“It has been a pleasure to support Maoneng’s financiers and Maoneng in achieving close of the project financing of this ground-breaking combination of offtake arrangements” said Scott Gardiner, Partner, King & Wood Mallesons.

Source: Maoneng

Crystal Brook Energy Park – development application panel hearing

9 October

Following two years of project development and continuous community engagement, [Crystal Brook Energy Park](#) will be showcased to the State Commission Assessment Panel (SCAP) in Port Pirie on 10 and 11 October. A part of the Development Application process, the Panel will also consult local community members on their views of the proposal during this session, which spans two days.

Managing Director of Neoen Australia, Franck Woitiez, said:

“The Crystal Brook Energy Park we are presenting this week is the result of an unprecedented level of community engagement. In direct response to feedback from the local community and Port Pirie Council, Neoen has reduced the number of wind turbines proposed by more than 50% to ensure a generous development buffer between the project and the Flinders Ranges.

The Crystal Brook Energy Park represents a potential investment of \$500 million in South Australia. It will create over 200 jobs during construction and around a dozen permanent jobs during operation. As with all our projects, Neoen will ensure that jobs go to local workers and industries wherever possible. Upon completion of the project, we will also create an \$80,000-per-year Community Fund, which will be allocated by local community leaders to community projects that drive environmental and social change.

Neoen is extremely proud of the nearby Hornsdale Power Reserve in Jamestown, which since December last year has been successfully keeping the lights on and cutting electricity prices for South Australians. Crystal Brook is the natural next step, as one of the first and largest projects in the world to integrate wind, solar and storage to provide dependable, dispatchable, baseload renewable power without subsidies.

Neoen is excited to showcase this pioneering project to the South Australian Planning Commission. The project has been designed to meet or exceed all South Australian planning guidelines, and Neoen looks forward to ongoing investment in a state which has shown such leadership on energy policy.”

The Panel will sit on Wednesday and Thursday of this week. Neoen encourages community members with questions or comments to reach out at contact@crystalbrookenergypark.com.au.

Source: Neoen

PROJECT NEWS

Sebastopol Solar Farm

The EIS for Ib Vogt’s proposed [Sebastopol Solar Farm](#) in central west NSW was placed on public exhibition by the NSW Department of Planning & Environment. The proposal includes the construction, operation and decommissioning of a photovoltaic solar farm that would produce up to 108 MW of electricity. Associated infrastructure includes a substation, battery storage, staff amenities, internal access tracks and fencing. Major components include:

- Single axis tracker PV solar panels mounted on steel frames over most of the site (up to approximately 308,000 PV solar panels).
- Battery storage, allowing energy to be stored on-site during periods of low demand and released to the network during periods of higher demand.
- Electrical conduits and transformers.
- On site substation.
- Site office, parking access tracks and perimeter fencing.
- Electrical transmission infrastructure and overhead transmission line to connect the proposal to the existing 132 kilovolt (kV) transmission line.

The project has a capital investment value of \$120,4mil, and would provide 150 construction jobs and 3 operational jobs.

Risen Energy Renewable

Target (RERT) – 2 GW+

10 October

- RERT 1 - [Yarranlea Solar Farm](#) (QLD) Construction Underway
- RERT 2 - [Merredin Solar Farm](#) (WA) Share Purchase Agreement Signed

Risen Energy to acquire Merredin Solar Farm from Ingenious- backed Stellata Energy with the Share Purchase Agreement executed in October 2018.

Merredin Solar Farm is a proposed development for a 100 MW (AC) Solar PV farm at Merredin in Western Australia's central wheatbelt. Merredin Solar Farm – Phase 1 will consist of circa 405,000 tracking solar PV modules covering an area of roughly 350 hectares, with an expected output of 281GWh of electricity per annum.

The Merredin Solar Farm will generate and deliver clean, renewable electricity into the South West Interconnected System (SWIS) each year making a major contribution to Western Australia's greenhouse gas reductions.

Once connected Merredin Solar Farm will generate enough energy to power approximately 42,000 Western Australian homes annually.

Risen Energy Renewable Target (RERT) - 2 GW+

“Risen Energy (Australia) is going to invest progressively in an excess of 2 GW of renewable projects in Australia with further investments in storage in the future. We will be acquiring projects that are shovel ready, projects that are looking for financial and/or EPC partner, projects that are looking for a co-developer.” said John Zhong, Project Development & Investment Director, Risen Energy (Australia).

“Our first acquisition for the 100 megawatt (AC) Yarranlea Solar Farm in Queensland was completed in early 2018 and construction is underway. Merredin Solar Farm is our second

acquisition with the Share Purchase Agreement executed in October 2018.”

“We will aim for completion of the acquisition of Merredin Solar Farm in late 2018 with 100% share outright purchase of Merredin Solar Farm SPV as soon as possible.”

“Risen Energy will fund some equity of the Merredin Solar Farm project with an aim to achieve financial close in late 2018.” continued Zhong.

Sebastian Speight, MD of Ingenious Infrastructure (joint venture partner in Stellata), commented “We are delighted to have reached this milestone with Risen and are looking forward to getting the project into construction at the end of 2018”.

Source: Risen Energy

JA Solar further promotes new energy development in Australia

10 October

JA Solar Holdings Co., Ltd., a world-leading manufacturer of high-performance photovoltaic products, announced that it has supplied all solar modules to South Australian Water Corporation ("SA Water") for its 4.14MW coastal photovoltaic project. The project is part of SA Water's efforts to achieve zero net electricity costs, which is of great significance in promoting the development of new energy in Australia.

SA Water operates more than 27,000 kilometers of water supply pipelines and provides water services to over 1.7 million customers across South Australia. SA Water has some of the highest energy consumption in the state, and hence, a high electricity bill to go along with it. JA Solar's PV modules will be used in the photovoltaic power plants of SA Water's Hope Valley Water Treatment Plant, Glenelg Wastewater Treatment Plant, and Christies Beach Wastewater Treatment Plant to provide reliable and clean energy

used for the safe transportation of clean drinking water and treatment of wastewater. The project is under construction by Enerven Energy, a wholly-owned subsidiary of SA Power Networks. The company's significant industry experience and strong focus on quality provide a guarantee for the successful completion of the project.

The large seasonal temperature variance in South Australia demand stringent requirements for PV module performance, including saline-alkali tolerance, high temperature and extreme cold resistance. The JA Solar PV modules have excellent corrosion resistance and PID resistance performance, offering a strong guarantee for ensuring the stability of the power plant system and optimizing power generation.

Mr. Baofang Jin, President and CEO of JA Solar, said "JA Solar is committed to the research and development and mass production of high-efficiency PV modules. We look forward to providing more customers with high-quality products and services and promoting the development and application of renewable energy around the world."

Source: JA Solar

Connecting NSW businesses to renewables

11 October

Business energy retailer Flow Power has today announced that it has agreed to terms to contract 50MW of the output and associated Large Scale Generation Certificates from [Sapphire Wind Farm](#)'s proposed 270MW project. This landmark agreement will see Flow Power grow its New South Wales presence and add a third wind offering to its portfolio.

Sapphire Wind Farm is owned by Grassroots Renewable Energy, a joint venture of CWP Renewables and Partners Group. Sapphire was developed by CWP Renewables is currently under construction and due for

completion this year. It is located in the New England region of northern NSW. It has two neighbouring wind farms, White Rock and Glen Innes, and as the largest wind farm in New South Wales will help the ACT Government meet its target of 100% renewables by 2020.

Flow Power now has three wind offerings in three respective states – Ararat in Victoria, Australia's third largest wind farm, Lakeland in Queensland, and now Sapphire in New South Wales. The deal builds even more momentum for Flow Power's Corporate Renewable Power Purchase Agreements (PPAs), which they first introduced to the Australian market in 2017. Recent Flow Power research shows that if 670 medium and large-scale businesses across Australia made the decision to contract renewable energy through corporate renewable PPA, this would drive investment in more than 1845 MW of renewable generation.

Sapphire Wind Farm will join Lakeland Wind Farm, Ararat Wind Farm and Kiamal Solar Farm in Flow Power's evolving renewable generation portfolio, the latest phase in its ambitious plans for national growth since the announcement of its change in ownership. In February 2018, Canadian pension trust OPTrust took an ownership stake as part of Flow Power's strategy to expand its offering for corporate clients, which include Olam Orchards, ANCA Machines and Select Harvests.

Matthew van der Linden, Managing Director of Flow Power, comments: "We're proud to reach agreement with Sapphire Wind Farm, and continue to build Australia's growing pipeline of renewable energy projects. This week we also opened a Sydney office to grow our footprint in NSW. We are committed to bringing the benefits of corporate renewable PPAs across Australia, and to reach New South Wales is a milestone for us."

He continues: "With four successful agreements under our belt, we are well positioned to support the integration of

renewable generation and gradually reshape the Australian power market. We are starting to see businesses save on what can be their most costly expenditure – energy – while everyday Australians benefit from greater investment in renewable generation and lower energy costs delivered by wholesale demand response.”

Source: Flow Power

NEW PROJECT

Tilbuster Solar Farm

Location: Approximately 6km north-west of the Tilbuster township in northern NSW

Capacity: Up to 300 MW

Developer: Enerparc

Expected cost: \$300mil to \$350mil

LGA: Armidale

Description: The proposed project would be located on an agricultural property of approximately 150 ha. It is anticipated that the proposed solar farm would include development of the following infrastructure:

- Construction facilities including laydown and parking areas.
- PV modules and inverter stations.
- Single axis tracker or fixed mounting systems on steel frames.
- An energy storage facility. Storage requirements will be 40Mw/h or less, battery technology is yet to be determined and subject to change based on detail design.
- Site office and maintenance building including monitoring container.
- Internal access tracks.
- Transformers and substation, including ancillary equipment.
- Security fence and cameras.
- Electrical cabling including overhead lines and underground electrical conduits to connect the PV arrays onsite to the newly built substation.
- Access road upgrades.
- Construction of creek crossings where required.

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New wind farm developments bring jobs to Geelong

11 October

Two new wind farm developments supported by the Andrews Labor Government’s Victorian Renewable Energy Targets (VRET) reverse auction are delivering new industries and jobs for Geelong.

Minister for Energy Lily D’Ambrosio was in Geelong to announce the development of the Vestas Renewable Energy Hub (VREH) – which will build wind turbines for the 180 megawatt (MW) [Berrybank Wind Farm](#) and the 336MW [Dundonnell Wind Farm](#).

Global supplier Vestas has been nominated as the preferred supplier of wind turbines for the two projects, triggering the investment in the hub.

The VREH will directly employ up to 27 locals, train hundreds of staff in wind turbine maintenance and support local wind turbine manufacturing in Australia for the first time in over 10 years. It will also include:

- A Wind Turbine Manufacturing Facility for the assembly of 100 turbine hubs and 50 drive trains for the Dundonnell and Berrybank projects
- The Western Victorian Service Support Centre to service the successful VRET projects and existing Vestas projects in MacArthur and Challicum Hills
- Wind Turbine Technician Training through a Memorandum of Understanding with Federation -University to support the Ballarat Renewable Training Centre (BRETC), training at least 20 technicians per year
- Australian Main Component Logistics and Maintenance Centre to house wind turbine major components
- The Wind Carbon Research Partnership with Carbon Nexus, a Deakin University initiative to research the next generation of carbon fibre specifically for use in wind turbine blades.

To support long term renewable energy investment in Victoria, Vestas has also signed an agreement with GeelongPort to use its

shipping facilities and 40,000m2 of laydown area located at Corio Quay South.

The Berrybank farm will include 43 turbines, while the Dundonnell facility will feature 80 turbines. Both projects will use 64 per cent local content under the Labor Government's Victorian Industry Participation Policy.

The Labor Government's first renewable energy auction will generate more than 900 MW of new clean energy, driving down energy prices for Victorian families. Together, these projects will generate \$1.1 billion of economic investment in regional Victoria and create more than 900 jobs, including 270 apprenticeships and traineeships.

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

"These wind farms will not only drive down energy prices across Victoria, they will create jobs here in Geelong."

"All of this is at risk under Matthew Guy, who has promised to scrap our renewable energy targets and the thousands of jobs they're creating if he becomes Premier."

Quotes attributable to Member for Geelong Christine Couzens

"This hub will bring more local jobs to Geelong in an industry that is only going to get bigger."

"Unlike the Liberals, we're supporting the renewable energy industry and ensuring it has the certainty to invest in Geelong."

Source: Victorian Government

Vestas boosts Victorian renewable jobs and investment with Renewable Energy Hub in Geelong

11 October

Vestas today announced the establishment of the Vestas Renewable Energy Hub (the Hub) in Geelong, a multi-disciplinary industry development initiative that will support and expand the Victorian renewable energy sector.

Today's announcement is part of Vestas' commitment to supporting the Victorian Renewable Energy Target through developing the Hub concept in direct response to the key initiatives outlined in Victoria's New Energy Technologies sector strategy. This announcement follows the state government's award of State support agreements to the [Berrybank](#) and [Dundonnell Wind Farm](#) projects, both of which are Vestas partners.

The Hub will feature a full range of activities, including turbine subcomponent assembly, wind park maintenance, logistics, and advanced materials and manufacturing sciences. In the process, the Hub will create 25 new local jobs in Geelong and inject up to A\$3.5 million in the local economy.

"As a premier regional port with a highly skilled workforce and world-class research facility, Geelong was the logical choice for our investment," said Anders Runevad, CEO & Group President, Vestas Wind Systems A/S. (<https://www.bloomberg.com/quote/VWS:DC>) "The Hub would not have been possible without the support of the state government and its efforts to secure competitively-priced renewable energy while maximising the positive impact on the community. In addition to directly creating local jobs, the Hub will also present many opportunities for regional businesses and the whole Victorian supply chain".

The Renewable Energy Hub forms part of a multi-disciplinary industry development initiative by Vestas, which also includes:

1. Establishing the Western Victorian Service Support Centre, to service the growing Vestas turbine fleet in Western Victoria;
2. Entering into a multi-year partnership with Federation University's Ballarat Renewable Training Centre to deliver training and employment opportunities for wind turbine technicians;
3. Establishing the Vestas Australian Main Component Logistics Centre in Geelong, a specialist facility for the largest turbine spare parts;
4. Manufacturing wind turbine assemblies in partnership with local contract manufacturers;
5. Forming a partnership with Deakin University's Carbon Nexus to research the next generation carbon fibre to use in making wind turbine blades longer, stronger and more productive.

With its regional headquarters in Victoria and the new renewable energy hub in Geelong, these initiatives demonstrate not only the strength of Vestas' existing presence in the region, but also its long-term commitment to supporting the renewable energy sector in Victoria.

Source: Vestas

Monash and Indra secure ARENA funding for Smart Energy City

12 October

Monash University continues to play a leading role in the transformation of Australia's electricity system, with the launch of the Monash Smart Energy City project.

Monash, with industry partner Indra and the Australian Renewable Energy Agency (ARENA), today announced they have been successful in receiving \$2.9 million through ARENA's Advancing Renewables Program for the Monash Smart Energy City project.

Launching the funding at Monash's Clayton campus today, Monash University President and Vice-Chancellor, Professor Margaret Gardner AO, said the Smart Energy City project demonstrated Monash's commitment to working with industry to develop solutions for pressing global issues.

"This project builds upon the University's \$135 million commitment to reach net zero emissions by 2030, and to develop strong partnerships with industry to help modernise Australia's energy system," Professor Gardner said. "It will leverage Monash's investment to date, and provide a platform for our academics to deliver industry-relevant research and teaching."

The Smart Energy City project will see the development of a Microgrid at Monash Clayton. Using Indra's Ingrid AGM software platform, the Microgrid will enable control of various distributed energy resources deployed as part of the Net Zero Initiative, including a minimum of 1MW of solar panels, 20 buildings, electric vehicle charging stations and 1 MWh of energy storage.

Giovanni Polizzi, Indra Australia's Energy Solutions Manager, said, "Indra actively invests in emerging technologies and innovative projects and we forge strong partnerships with organisations developing cutting-edge technologies. We're pleased to be a key technology partner in this leading initiative in which Indra's intelligence leverages edge computing using both centralised and distributed components to monitor and control distributed grid elements in real-time. It will allow Monash to control and optimise when and how energy is used across the campus."

The Microgrid will enable Monash to demonstrate how a 100 percent renewable electricity system can operate reliably, and the value it can provide to consumers and the broader energy network.

"Through the Net Zero Initiative, we will be sourcing 100 percent of our electricity from

renewable sources by 2030. The Microgrid will enable us to demonstrate how smart control of our distributed energy resources can enable this, whilst providing benefits to our customers on campus and the broader energy network,” said Scott Ferraro, Program Director of Monash’s Net Zero Initiative.

As Australia’s largest University, Monash will be using the Smart Energy City project to undertake world-leading research and teaching.

“The Microgrid provides a living laboratory for our researchers and students to tackle the pressing issues facing Australia’s electricity sector,” said Director of the Monash Energy Materials and Systems Institute, Dr Jacek Jasieniak.

The funding from ARENA will bring the total project funding to \$7.1 million, and will provide for deployment and integration of Indra’s software platform onto the University’s assets. Indra will work in

partnership with Monash’s Buildings and Property Division to deploy and operate the Microgrid over the two-year project timeframe.

ARENA CFO Ian Kay said the project would help Monash University transition to renewable energy.

“The project will use Monash University as a ‘living laboratory’ that will help universities form their own microgrids and take control of their energy usage.

“Universities use a significant amount of power during the day, Indra and Monash have offered a solution that can reduce peak demand and place the education sector on a path towards renewables,” Mr Kay said.

For further information on Monash’s Net Zero Initiative, visit the [Zero Net Initiative](#) website.

Source: Monash University