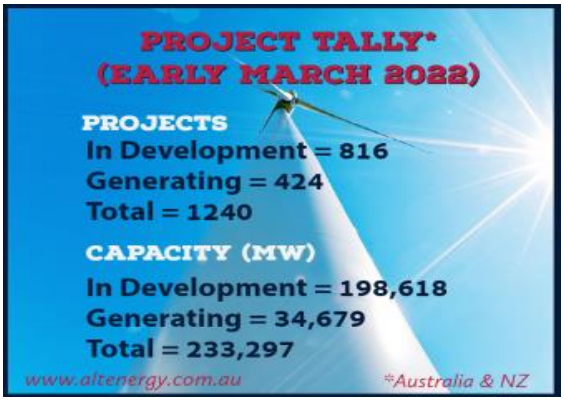
WATTS NEWS

Week ending 18 March 2022



In this week's edition…

Renewable energy company Sun Cable announces AUD210 million Series B capital raise

14 March

Sun Cable has completed a AUD210 million Series B capital raise with their existing shareholders to fund the development work of the Company's marquee project, the Australia-Asia PowerLink (AAPowerLink), as well as accelerate the progress of the Company's portfolio of multi gigawatt generation and transmission projects.

Led by Grok Ventures and Squadron Energy (a wholly owned subsidiary of Tattarang), the capital raise will support Sun Cable's development of the world's largest intercontinental renewable power system, connecting Australia to Singapore, and its mission, to supply renewable electricity from resource abundant regions to growing load centres, at scale. Enabled by a team of over 80 experts, Sun Cable has developed unique intellectual property to facilitate the optimal design of complex dispatchable renewable electricity generation and transmission projects.

Sun Cable's flagship project, the AAPowerLink will harness and store solar energy from the Northern Territory in Australia and transmit it to Darwin and Singapore via a high voltage direct current (HVDC) cable transmission system.

David Griffin, Sun Cable Founder & CEO says "We have developed a world leading capability in four short years. We are thrilled to have materially strengthened our resources with the support of all of our shareholders, who are such strong advocates for our mission. This capital raise will enable the delivery of renewable solar power from Australia to Singapore, advance our other multi gigawatt scale projects, and support the progress of key facilitating assets.

"We are buoyed by the level of support from our investors and key stakeholders including governments, offtakers, suppliers, and the communities in which we operate," he continues.

Dr Andrew Forrest AO, Chairman of Tattarang says "Sun Cable's vision will transform Australia's capability to become a world-leading generator and exporter of renewable electricity and enable decarbonisation. I'm proud to be a cornerstone investor in Sun Cable, its team and its vision. This capital raise is a critical step in developing the Australia-Asia PowerLink and I applaud Sun Cable realising this mission."

Mike Cannon-Brookes, Principal of Grok Ventures says, "This brings Australia one step closer to realising our renewables exporting potential. We can power the world with clean energy and Sun Cable is harnessing that at scale. It's a blueprint for how we export energy across the world. We fully back this vision."

Source: Sun Cable

CEFC, Octopus Australia and Hostplus power green makeover with Gippsland Clean Energy Park

15 March

A joint venture between the CEFC and Octopus Australia to develop renewable energy assets has attracted the might of leading superannuation fund Hostplus to deliver a large-scale clean energy park in Gippsland that will accelerate the region's transition to a clean, green future.

In a major boost for energy supply in the region, the Gippsland Renewable Energy Park (GREP) will deliver clean energy to the National Electricity Market, to help replace the fossil fuel supply that will be lost when the Yallourn coal fired power station closes.

Hostplus will invest via an Octopus Australia-managed platform to help develop the GREP – a pioneering investment by a super fund in an early-stage renewable energy project. The investment will sit alongside CEFC finance of up to $8.5 million on behalf of the Australian Government.

Octopus Australia will also invest into the project, in collaboration with the investments made by the CEFC and Hostplus.

The GREP development will be a multi-staged project and will investigate the deployment of various technologies at utility scale, including solar, wind, battery storage and the potential of green hydrogen.

The 3000-hectare GREP site is in the heart of the proposed Gippsland Renewable Energy Zone (GREZ). Octopus Australia estimates that construction and development of the GREP will generate several hundred jobs in a region that has been hit by bushfires and the decline of local industries including timber and coal-based generation.

CEFC CEO Ian Learmonth said: "Gippsland has been a powerhouse for the National Electricity Market for many years. This development will contribute to the region's transition to a clean energy future, while continuing to supply the power that helps keep Australia's lights on.

"With the planned construction of both solar and storage at the site, the GREP also offers an exciting opportunity for the Gippsland community to benefit from the clean energy economy.

"We are delighted that Hostplus has come on board, building its future green investment pipeline on behalf of its diverse 1.4 million members, and delivering on the CEFC commitment to attract private sector capital to renewable energy developments."

The GREP adds to an impressive portfolio for the CEFC and Octopus Australia joint venture, following on from the recent acquisition of the Perry Bridge and Fulham solar farm development projects, also in the Gippsland region. The solar farms, along with the GREP project, are a critical part of the new energy generation that will be required to replace the Yallourn power station, which is due to close in 2028.

Octopus Australia entered the Australian market over four years ago and is a subsidiary of the Octopus Group. It currently manages more than $1 billion in assets under construction and operations on behalf of its investors. Founded in 2000, the Octopus Group is one of the world's largest investors in clean energy, with more than $6 billion deployed across more than 300 projects.

Octopus Australia Managing Director Sam Reynolds said: "We are very excited to be able to work with such well respected partners in bringing the GREP project to life. It is a great opportunity to combine the resources and capital of each group into a collaboration that can build GREP in a way that benefits not only Australia's clean energy future but equally as importantly, the local Gippsland community."

Hostplus CEO David Elia said: "Today is an especially historic day for the fund as we announced this morning our commitment to Net Zero by 2050. We're privileged to take part in this pioneering venture, which has the potential to aid Australia's transition to a low-carbon economy and generate valuable jobs in Gippsland, all while delivering the potential for strong investment outcomes to our members."

The CEFC investment supports the Australian Government Technology Investment Roadmap energy storage targets.

Source: CEFC

NEW PROJECT

Hunter River Solar Farm

Location: Denman, within the Muswellbrook Shire Local Government Area of NSW
Capacity: 84 MW DC / 60 MW AC
Developer: BayWa r.e. Projects Australia
Status: Scoping report submitted to state government
Description: The Hunter River Solar Farm indicative project site development area is 110ha which would house:
- Up to 200,000 PV modules
- An up to 60 MW AC / 180 MWh energy storage system
- Up to 18 inverters (typical inverter size being 4200 kVA to 4400 kVA) and up to 18 inverter power stations
- Up to 2,500 single axis trackers
- One on-site substation, associated infrastructure and site facilities such as an operations and storage buildings

A 66 kV Ausgrid powerline passes through the site connecting the Denman Zone Substation with the Mitchell Line Sub-Transmission Substation. A 500 kV TransGrid powerline passes through the south-west corner of the site, connecting Bayswater with Wollar and Bannaby.
Contact: Peter McPherson
Business Development Manager
Email: peter.mcpherson@baywa-re.com

Green Hydrogen and Renewable Energy Expansion Studies underway

15 March

Frontier Energy Limited (ASX: FHE) (Frontier or the Company) is pleased to announce the commencement of a Renewable Energy Expansion Study (Expansion Study) at the Company's Bristol Springs Solar Project (the BSS Project). This Expansion Study will assess opportunities to increase power capacity beyond 500MWdc.

In addition, a Green Hydrogen study (Hydrogen Study) has also commenced. The Hydrogen Study will incorporate future clean energy production from the BSS Project with potential Green Hydrogen production utilising the BSS Project's location and surrounding world-class infrastructure. Both studies align with the Company's long-term strategy to become an Australian focused, integrated clean energy company.

HIGHLIGHTS

- Frontier has commenced a Renewable Energy Expansion Study that will assess opportunities to increase power capacity at the BSS Project beyond 500MWdc
- The Expansion Study will assess the optimisation of solar production, wind energy as well as battery storage
- A Green Hydrogen Study has also commenced. This Study will assess Green Hydrogen production using future energy from the BSS Project whilst leveraging the BSS Project's location
- Accessing infrastructure for Green Hydrogen exportation (power transfer, gas pipeline, ports) and usable water are two of the major barriers for Green Hydrogen production and exportation
- The Western Australian Government aims for WA to become a global leader in the production and export of Green Hydrogen with a target to match its significant current market share in LNG production by 2030 (in 2021 Australia was the world's largest exporter of LNG with WA accounting for more than half)
- WA currently produces no commercial green hydrogen; however, the value of WA's LNG sales in 2020-21 was $15.8 billion [1]
- Both studies are being completed by highly regarded, global energy consultancy Xodus Group with targeted completion by 3Q22

Managing Director Mike Young said, "The Development of our Bristol Springs Project is well advanced, but the current Project (114Mw dc) is only the first stage of our long-term vision. With vast opportunities for solar expansion as well as other renewable energy solutions, we believe there is future potential to increase the power capacity at the Project to in excess of 500MWdc".

"These studies will be led by experienced consultancy Xodus Group, who will consider a range of clean energy scenarios as well as the potential for Green Hydrogen production. With the Western Australian Government's plans for Green Hydrogen to match LNG market share by 2030, having an early mover advantage in this sector is essential".

"We look forward to the outcome of these techno-economic studies as we continue to enthusiastically advance the development of Bristol Springs Project to potentially have Stage One under construction by this time next year".

Work commences on Renewable Energy Expansion Study

The initial stage of the Company's clean energy strategy comprises development of Stage One of the BSS Project with construction expected to commence in early 2023.

Stage One of the BSS Project will have an installed capacity of 114MWdc and will be connected to the South West Interconnected System (SWIS). Stage One of the BSS Project has received Development Approval from the WA Regional Development Assessment Panel, and an electricity connection application (ETAC) is in progress with Western Power.

In addition to Stage One, the Company has commenced multiple work streams around solar, wind and battery energy storage, to assess increasing power capacity at the BSS Project to more than 500MWdc as outlined below.

Solar Optimisation Study
In addition to Stage One, the Company has identified additional land acquisition opportunities that could allow an increase in solar power generation of up to ~490MWdc. The solar optimisation study as part of the Expansion Study will firstly assess this expansion scenario then expansion beyond 490MWdc.

Solar energy is dominated by rooftop solar in WA, but according to RenewEnergy.com.au, there are currently only five industrial solar projects (200MWdc total capacity) connected to the SWIS in Western Australia (WA). The BSS Project Stage One alone would account for approximately 36% of this production by 2024 based on current projections.

Wind Energy Integration Study
The Company will complete a preliminary wind resource assessment combined with a concept design and cost modelling. Specifically, the study will assess scenarios for incorporating wind to determine the optimal solar / wind mix at the BSS Project.

Battery Energy Storage Optimisation Study
The Company will evaluate incorporating an onsite battery energy storage system (BESS) for the Stage One, 114MWdc solar farm and future expansion scenarios with and without wind. The study will review appropriate and emerging battery technologies and develop high level cost estimates. The battery study will also evaluate energy arbitrage opportunities and optimise grid stabilisation and feed-in controls as these options can add significant value to the project economics.

Green Hydrogen Study Underway
A component of the Company's future strategy is to consider the development of Green Hydrogen production using clean energy from the BSS Project. The Western Australian Government has highlighted the need for WA clean energy projects and hydrogen manufacturing capability to help meet the WA Government's plan to produce and export green hydrogen by 2030 to achieve the same market share as LNG now produced for export.

The Company believes it can play an important role in this new energy market and that this is an ideal opportunity for the Company.

The planned work programs include a hydrogen market assessment, along with a distribution analysis that will drive the techno-economic evaluation for the production, storage, and export of green hydrogen produced by the Company using clean energy from the BSS Project.

The preferred case will then be carried forward to the techno-economic study where electrolyser options (PEM, alkaline, solid oxide etc), storage options, feedstock (water) requirements will be used to determine optimal hydrogen production rate and storage vessel sizing.

In parallel, the Company will complete a hydrogen market assessment to identify potential offtake partners and market prices for green hydrogen.

The assessment will consider domestic demand (power, transport and industrial) as well as international export markets and other global opportunities. The optimum commercial pathway for large-scale hydrogen production, including location of infrastructure will be defined during the study phase.

1 Western Australian Government LNG Profile (November 2021)

Source: Frontier Energy

Fluence's AI-powered bidding application selected by Gransolar to maximise performance of its first Australian storage system

15 March

Fluence (Nasdaq: FLNC), a leading provider of energy storage products and services and digital applications for renewables and storage, today announced that the Spanish renewable energy company Gransolar Group's battery division, E22, has signed an agreement with Fluence to deploy the Fluence IQ Bidding Application at its first battery-based energy storage project in Australia – a 5 MW / 7.5 MWh system in Victoria. This project represents an exciting new market segment for Fluence in providing digital products to the emerging small grid-scale (<5 MW) energy storage market. It also demonstrates Fluence's independent, technology-agnostic business model and ability to provide digital products and services to third-party project developers and energy storage system providers.

Located in Longwarry, Victoria, the lithium-ion battery project is under construction and expected to achieve energisation in mid-2022. The Longwarry energy storage system will give full support to the distribution network operator Ausnet via a Network Support Agreement (NSA) during times of high congestion in the summer and will participate in wholesale markets the rest of the time. The Fluence IQ Bidding Application will optimise the bidding strategy of the Longwarry energy storage system to ensure it maximises wholesale market revenue whilst also delivering on its commitments to support the local distribution network.

"Fluence's Bidding Application will allow us to maximise the revenue performance of our first energy storage project in Australia, as well as meet our requirements as part of our Network Services Agreement with Ausnet. In addition to the Longwarry project, we are excited by the prospect of a continuing collaboration with Fluence in Australia," said Jaime Vega, General Manager at E22.

The Bidding Application analyses thousands of variables to provide leading price forecasting and optimisation using proprietary machine learning algorithms, enabling battery asset owners and operators like Gransolar/E22 to optimise bidding and dispatch in Australia's National Electricity Market (NEM). The resulting market-compliant bids can increase revenue for energy storage owners and operators, whilst also incorporating complex off-market contract structures such as NSAs.

"We are very pleased to help Gransolar/E22 maximise the performance of its first energy storage project in the NEM and navigate the volatility and complexities of Australia's energy market. As grid-scale energy storage plays an increasing role in Australia's clean energy transition, we see a growing need for AI-based bidding software to manage these renewable assets. Co-optimising the full value stack of wholesale market participation simultaneously with the demands of a network support agreement is a complex task that requires a powerful software layer." Fluence's Chief Digital Officer Seyed Madaeni commented.

Source: Fluence

PROJECT UPDATE

Bellambi Heights Project

Vena Energy has renamed its Gulgong Solar Farm project as the Bellambi Heights Renewable Project, located approximately 1.5km south east of Beryl and 7km north west of Gulgong in NSW. After community consultation and feedback the project has been scaled down from three stages to a single one, with a reduction in the development footprint from 820ha to 304ha. The originally proposed 500 MW solar farm was reduced to 200 MW and the 600 MW Battery Energy Storage System reduced to 200 MW over two stages. More information is available on the project website at https://www.venaenergy.com.au/all_projects/belambi-heights-renewable-project/.

WIRSOL adds another 313MW of solar to their O&M portfolio across QLD and NSW

15 March

Last week our Operations and Maintenance team commenced the O&M contracts for the following large-scale Solar Farms, totalling 313MW across the three projects:

- 175MW Finley Solar Farm (NSW)
- 69MW Whitsunday Solar Farm (QLD)
- 69MW Hamilton Solar Farm (QLD)

We are proudly providing efficient and safe operations across our portfolio of 721MW solar PV and 25MW/50MWh battery storage. The team has continued to grow exponentially on the field and in our Sydney office, whilst providing preventative and corrective works to ensure optimum performance ratio and availability are reached and maintained across the portfolio.

Whilst Whitsunday and Hamilton Solar Farms are our own Group assets, we are delighted to announce that WIRSOL has secured and commenced the O&M contract as Third-Party Service provider for 175MW Finley Solar Farm, located 6km west of Finley, New South Wales.

Owned by John Laing, the Finley Solar Farm has been operational since 2019 and generates a valuable source of renewable energy within the region whilst providing enough electricity to power over 60,000 homes.

Our unique position here in Australia as Owner-Operator allows our experienced team to manage the plants within our portfolio from an Owners perspective providing efficient and safe execution of site operations, supporting their capability for optimal performance.

In addition to focusing on the operations of assets, our wider team pride ourselves on the strong relationships we hold across our O&M portfolio of ~ 721MW.

From the landowners and their local communities, asset managers, suppliers and contractors, we ensure project objectives are delivered to the highest standard throughout their lifespan, and we look forward to building these relationships during our time at Finley Solar Farm, Whitsunday Solar Farm and Hamilton Solar Farm.

Source: Wirsol

Modern manufacturing grant for BlueScope in the Illawarra

15 March

BlueScope and its partners are delighted to have received a Modern Manufacturing Initiative (MMI) grant from the Federal Government, which will enhance Australia's sovereign manufacturing capability, and ensure we can make a substantive investment to get on with the job of making essential components for the clean energy transition including wind towers and solar farm componentry.

"The grant, which is $55.4 million, will catalyse a further $161.6 million of investment by BlueScope and its partners Keppel Prince, Bisalloy, and the University of Wollongong, and will create approximately 200 new jobs in steel manufacturing, plus up to 1000 jobs in associated industries," said BlueScope Managing Director & CEO, Mr Mark Vassella.

"The investment – which will create an Advanced Steel Manufacturing Precinct at Port Kembla Steelworks – will see the building of a new fabrication facility to manufacture components for the renewable energy, defence and other sectors, as well as upgrades and modernisation of BlueScope's Plate Mill.

"Today's announcement is an example of BlueScope and its partners 'walking the talk' and taking practical action to help deliver a low emissions future for Australia," Mr Vassella concluded.

Source: BlueScope Steel

New package to advance environmental law reform

15 March

As part of our plan for a stronger future, the Morrison Government has announced a $128.5 million Budget reform package to provide greater certainty around environmental protection, streamline assessment and decision-making processes, and strengthen compliance.

Minister for the Environment Sussan Ley said that the measures, to be included in this month's Federal Budget, will help protect the environment, while supporting economic recovery and helping to create jobs in regional and rural communities.

- $62.3 million will be invested in the delivery of as many as 10 regional plans in priority development regions. These will protect areas of environmental significance, streamline assessments and manage cumulative impacts.
- $37.9 million will support the streamlining of assessment processes including $10 million to progress single touch approval process and $27.9 million to continue on time assessment determinations which have risen to 96% in the last three years.
- $28.4 million will support informed decision making including $12 million to modernise the environmental offsets policy, $9.5 million to improve compliance, $4.9 million to strengthen our knowledge base of protected plants and animals and $2 million to scope a new advisory committee to provide expert industry and technology advice to government.

"This is a package that will improve the quality and reliability of data used in assessments and decision making, ensure greater transparency and flexibility around environmental offsets and reduce duplication and delay in the assessment and approval process," Minister Ley said.

"It represents another important step in delivering much needed environmental reform that reduces unnecessary delay and duplication, while strengthening safeguards."

Minister for Resources and Water Keith Pitt highlighted the importance of regional planning in further streamlining environmental approvals.

"The 10 new regional plans will streamline development approvals, including those for crucial resources projects, by removing the need for a project-by-project approval under national environment law," Minister Pitt said.

"This will boost investor confidence by identifying areas within a particular region where development activities may be undertaken while ensuring that strong environmental protections are maintained."

Today's funding announcement comes on top of a $47 million expansion of the Digital Environmental Assessment Program to ensure assessments are based on consistent data allowing them to be made more quickly and with greater transparency.

Source: Federal Government

Early works start on Transgrid's major transmission project EnergyConnect

15 March

Preliminary works are underway to build workers' camps and numerous studies are being undertaken now to prepare for the start of construction on Transgrid's once-in-a-generation transmission project EnergyConnect.

"It's exciting to see early works underway on EnergyConnect and we are proud to be working with local community representatives to deliver this transformational project," said Executive General Manager of Delivery Craig Stallan.

"Commencing the pre-construction activity is the result of years of planning and

demonstrates that we are well on the way to building the grid of tomorrow which will enable the integration of renewables for a clean energy future, reduce the nation's carbon emissions and help drive down the cost of wholesale electricity," he said.

Transgrid and its construction delivery partner SecureEnergy are progressing a 700-kilometre section of the 900-kilometre project from the South Australian border to the regional energy hub of Wagga Wagga.

"Not only will the new interconnector enable the sharing of electricity between New South Wales, South Australia and Victoria; it will also save NSW energy customers $180 million a year and generate up to 1400 new jobs."

The project involves nine different NSW Councils and more than 300 stakeholders including a range of road, rail and river users.

The bulk of the pre-construction activities are currently being undertaken on the western alignment, between Wentworth and Buronga. Some preliminary geotechnical activities are being conducted on the eastern section around the proposed camps and laydown areas.

David Whatmough, SecureEnergy Project Director said "It's great to get underway and SecureEnergy is currently completing a number of pre-construction activities on the western alignment before construction begins with many of these works occurring simultaneously."

The preconstruction activities include:
- Construction of access points to camp and laydown areas
- Geotechnical investigation works
- Undergrounding activities
- Road dilapidation inspections
- Survey works
- Ecological surveys
- Cultural heritage works

Main works are expected to begin on the western alignment in mid-2022, with construction of the camps and laydown areas expected to begin in the final quarter of 2022. The construction of the eastern alignment, (Buronga to Wagga Wagga) is due to commence in 2023.

Source: TransGrid

GE and Iberdrola to develop onshore wind farm in New South Wales, Australia

16 March

- The 145 MW wind farm will power the equivalent of 86,000 homes
- GE to supply and install 38 wind turbines
- This is GE's seventh wind farm development in New South Wales
- GE's installed wind capacity expected to reach 2.5 GW in Australia by 2024

GE (NYSE:GE) today announced an agreement with Iberdrola Australia to supply and install 38 wind turbines for the Flyers Creek wind farm project located 25 kilometers south-west of Orange in New South Wales, Australia. Upon completion in 2023, the 145.5 MW wind farm will power the equivalent of 86,000 average Australian homes.

The Flyers Creek wind farm is GE's seventh project in New South Wales, a region with a compelling wind resource and some of Australia's most promising onshore wind development potential. By 2024, GE's installed onshore wind capacity is expected to reach 2.5 GW generated from 13 winds farms across Australia.

Gilan Sabatier, GE's Chief Commercial Officer of Onshore Wind International, said: "Australia is an important country for renewable energy with strong underlying fundamentals for wind power. We are proud to be working with Iberdrola to support Australia's transition to a cleaner, modern energy system and to be helping the country to achieve its renewable energy targets."

Chief Executive Officer and Managing Director of Iberdrola Australia, Ross Rolfe, AO, said: "We are delighted to be progressing with the construction of Flyers Creek Wind Farm. The project will make a meaningful contribution to economic development in and around Blayney Shire and Cabonne Shire. We'd like to thank our local communities and landholders for their support and we look forward to working closely with them in the future. We'd also like to thank Newcrest, operator of Cadia mine, and Essential Energy, for the roles they played to facilitate grid access for Flyers Creek Wind Farm."

GE will deliver 38 of its 3.8 MW turbines with 137m rotors and will also provide a 10-year full-service agreement to maintain the windfarm over its lifetime.

According to the Australian Government's Department of Industry, Science, Energy and Resources, renewable energy has almost doubled in Australia over the past decade, with 24% of Australia's total electricity generation coming from renewable energy sources in 2020. Wind power is one of the main renewable energy sources in Australia and contributed 9% of electricity supplied in 2020. The Australian Energy Regulator reported registered wind power capacity of 8,047 megawatts (MW) in December 2021, with significant additional projects expected to enhance capacity already committed or under construction.

GE Renewable Energy is committed to enabling the energy transition by supporting the work of its customers. As part of that responsibility, the business is focused on supplying and maintaining a global fleet of renewable energy assets, helping reduce the cost of renewable energy, ensuring grid resiliency, efficiency, and reliability, and making renewable energy function in a more dispatchable fashion. GE Renewable Energy also supports the energy transition by pursuing a strategy that reflects a commitment to sustainable, circular design.

Source: GE Renewable Energy

Pacific Energy, Hybrid Systems & Gumala unite to deliver reliable, hybrid power solutions for remote Aboriginal communities

16 March

Pacific Energy, together with its integrated renewable subsidiary Hybrid Systems Australia (HSA), is pleased to announce a joint three-year Memorandum of Understanding (MOU) with Gumala Aboriginal Corporation (GAC).

GAC is one of Australia's largest Aboriginal corporations, serving the Banjima, Yinhawangka and Nyiyaparli people of the Pilbara region in Western Australia.

Under the MOU, which has an initial three-year term, GAC will identify remote communities in the Pilbara for the introduction of sustainable, renewable energy, reducing reliance of fossil fuel generators. Hybrid Systems will be converting those remote communities to hybrid power by incorporating solar and battery storage with existing generators through the installation of Hybrid Systems' industry leading Stand-Alone-Power-Systems (SPS).

SPS' consist of reliable renewable energy supplied from solar panels, battery storage, and a backup generator. The Hybrid Systems' SPS units utilise world-class componentry, with all design, manufacturing, assembly, installation, commissioning, operating and maintenance occurring in-house and locally in Perth, Western Australia, with a proven record of quality, reliability, and performance in remote conditions.

The programme will provide remote communities with reliable power supply, alongside environmental and cost benefits.

Two replacement SPS units have already been successfully installed at the Bidiltha and Wirrillimarra communities, with further installations to be rolled out over the course of the joint partnership.

Pacific Energy CEO Jamie Cullen noted the importance of the partnership with GAC:
"We are delighted to have entered this partnership with GAC and to be able to utilise our skills and experience in remote, hybrid energy generation to add to the incredible work and initiatives that GAC undertakes to benefit the lives and futures of the Banjima, Yinhawangka and Nyiyaparli Traditional Owners"

"This is a practical, useful and environmentally responsible way that Pacific Energy is utilising our specialist capabilities to give back to local communities"

Executive Officer, Justin Dhu stated that Gumala Aboriginal Corporation is extremely excited to have formed this partnership with Pacific Energy and Hybrid Systems. "Through the leadership of the Gumala Board, we are dedicated to investing into sustainable power solutions in our Homeland communities to improve the quality of life and living standards of our members. We are looking forward to seeing the outcome of this partnership over the next three years".

Source: Pacific Energy

Wambo Wind Farm to propel renewable energy transformation

17 March

Wambo Wind Farm – a proposed 252 MW wind farm project in the Western Downs region of Queensland – has been shortlisted to receive investment through the Queensland Renewable Energy and Hydrogen Jobs Fund under a potential joint venture arrangement between Stanwell Corporation (Stanwell) and project developer, Cubico Sustainable Investments (Cubico).

Stanwell could receive up to $192.5 million from the Queensland Renewable Energy and Hydrogen Jobs Fund to deliver its proportion of the project, pending the successful outcome of a Board approved Business Case and subsequent shareholding Minister approval.

Cubico has proposed to deliver Wambo Wind Farm in two stages, with the first stage to consist of approximately 42 turbines, and the second stage contingent upon grid availability and feasibility studies.

The project will employ around 200 people during construction, and up to 8 ongoing operations and maintenance jobs. Construction is expected to commence in 2022, with commercial operations expected from 2024.

Cubico's Head of Australia, David Smith said Cubico was proud to partner with Stanwell on the Wambo Wind Farm project.

"We have been developing the project since 2019 and are fully supportive of the Queensland Government's goal to deliver on its renewable energy target while maximising local jobs and industry benefits," Mr Smith said.

"As a sign of Cubico's commitment to local employment we have undertaken an extensive supply chain mapping process that gives suppliers in the region the best opportunity to understand what is needed for the construction and operation of the wind farm and make their goods and services known to our contractors.

"We have also developed a local content charter that commits us to a procurement process that provides maximum opportunity for companies in the neighbouring area to be involved."

Stanwell CEO Michael O'Rourke said Wambo Wind Farm was one of a number of strategic partnerships Stanwell was pursuing to support the diversification of its business.

"We are developing a pipeline of renewable energy projects to meet the growing commercial and industrial customer demand for low emission energy solutions, and to

provide opportunities for our people," Mr O'Rourke said.

"Our proposed joint venture with Cubico could see Stanwell own 50 per cent of the Wambo Wind Farm's output and dispatch the remaining 50 per cent of the power generated under a power purchase agreement.

"Wambo Wind Farm is strategically located within the Southern Renewable Energy Zone and is in close proximity to our existing operations, which may allow for additional opportunities for our workforce to provide asset maintenance services to the wind farm."

Source: Stanwell

NEW PROJECT

Keri Keri Renewable Energy Project

Location: South-east of Keri Keri within the Murray River Shire LGA of NSW
Capacity: Up to 1500 MW
Developer: ACCIONA
Status: Preparing EIS
Estimated investment: Up to $2300mil
Description: The Keri Keri Renewable Energy Project, located within the South-West Renewable Energy Zone (REZ) in NSW, is proposed to host up to 1GW of wind via 176 X 5.7 MW wind turbines, with potential for up to 400 MW Solar PV and 100 MW Battery Energy Storage System (BESS) in future. The project sits across 18,000 hectares of pastoral land with the planned Project EnergyConnect NSW/SA Interconnector proposed to cross the southern portion of the site. Construction is anticipated to start in late 2024.
Contact: ACCIONA
Tel: 1800 283 550
Email: kerikeriwindfarm@acciona.com
Website: www.acciona.com.au/keri-keri

ZEBRA project achieves key milestone with production of the first prototype of its recyclable wind turbine blade

17 March

- World's largest thermoplastic blade manufactured at LM Wind Power plant in Ponferrada using Arkema's Elium® resin and Owens Corning new high performance Glass materials
- Project partners, with the support of IRT Jules Verne's expertise, advancing in the development and optimization of the manufacturing process using automation to reduce energy consumption and production waste.
- Full-scale structural lifetime testing of the prototype will begin in the next weeks and validation of the recycling methods is scheduled for December 22

The ZEBRA (Zero wastE Blade ReseArch) consortium is today marking a new step forward on the industry's transition to a circular economy with the production of the first prototype of its 100% recyclable wind turbine blade. The 62m blade was made using Arkema's Elium® resin, which is a thermoplastic resin well known for its recyclable properties together with the new high performance Glass Fabrics from Owens Corning.

Launched in September 2020, the ZEBRA (Zero wastE Blade ReseArch) project is a unique partnership led by French research center IRT Jules Verne and brings together industrial companies including Arkema, CANOE, Engie, LM Wind Power, Owens Corning and SUEZ. Its purpose is to demonstrate the technical, economic, and environmental relevance of thermoplastic wind turbine blades on a full scale, with an eco-design approach to facilitate recycling.

Within the project, LM Wind Power has designed and built the world's largest thermoplastic blade at its Ponferrada plant in Spain. This milestone is achieved after a year of

material development and testing backed by sub-component level process trials by the consortium partners.

The liquid thermoplastic resin is perfectly adapted for the manufacturing of large parts by resin infusion, combined with Owens Corning high performance fabrics. The resulting composite material is delivering similar performances to thermoset resins but with a key unique benefit: recyclability.

Elium® based composite components can be recycled using an advanced method called chemical recycling that enables to fully depolymerize the resin, separate the fiber from the resin and recover a new virgin resin & High Modulus Glass ready to be reused, closing the loop. This method, developed by Arkema and CANOE partners, are tested on all composite parts including waste generated from production. Owens Corning is also in charge of finding solutions for fiberglass recycling through remelting or reusing in various applications.

In addition to material testing and process trials, the companies have also made progress on developing and optimizing the manufacturing process by using automation, to reduce energy consumption and waste from production.

LM Wind Power will now start full-scale structural lifetime testing at its Test and Validation Centre in Denmark, to verify the performance of the composite material used in making the blade and its feasibility for future sustainable blade production. Once these tests are finished, the End Of Life recycling methods will also be validated.

The next steps are the recycling of production waste, the dismantling and recycling of this first blade and the analysis of the test results. By the end of the project in 2023, the consortium will have met the challenge of bringing the wind energy sector into the circular economy loop in a sustainable manner, according to the principles of eco-design.

“Work on the ZEBRA project is progressing according to schedule, which has all the necessary expertise for the deployment of sustainable thermoplastic wind turbine blades. The manufacture of this first blade is a great success for the entire consortium and for the wind industry in general," Céline Largeau, Project Manager, IRT Jules Verne.

“With this project we are addressing two crucial industry challenges. On one hand, we are progressing on our Zero Waste Blades vision by preventing and recycling manufacturing waste. On the other, we are taking blade recyclability to a new level: the end-of-life thermoplastic composite blade material has high value in itself and can be readily utilized in other industries as material compounds but can also be depolymerized and the resin reused in the production of new blades,” states John Korsgaard, Senior Director, Engineering Excellence, LM Wind Power.

Source: LM Wind Power