



Weekly News

7 May 2021

CLP to replace Liddell coal giant with hydrogen-ready gas power plant

Energy Australia, part of Hong Kong-listed CLP Holdings, has decided to invest A\$300 million (\$232m) to expand its Tallawarra power plant after having received A\$83 million in state funding. The plant will be upgraded to hydrogen co-firing and help balance a looming capacity deficit when AGL retires its large Liddell coal power unit in 2023.

The Tallawarra B unit will be built in Yallah, a western suburb in the city of Wollongong, New South Wales. It is scheduled to start operating in time for Australian summer season at the turn of the year 2023-24, directly after the planned closure of the Liddell power station in late 2023.

Once fully operational, it will supply 300 MW of flexible electricity to the power grid in New South Wales. Federal energy minister Angus Taylor said welcomed the FID announcement, saying Tallawarra B will be "the first dispatchable energy generation project to be built in NSW in over a decade," in contrast to the



A dual fuel, hydrogen-gas power plant will be built in Yallah, NSW.

otherwise dominant renewable build-out.

Financial close on Tallawarra B comes after Australia's federal government has urged the private sector to sign off on investment by April. The aim was to get some visibility if enough new-build capacity will be forthcoming in time for the Liddell closure. The government

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Rotterdam Port aspires to take FID on H-Vision initiative in 2021

The Port of Rotterdam plans to take a financial investment decision on its H-Vision project this year, with a view to producing hydrogen from natural gas and refinery fuels gas by the end of 2026. Such fossil fuel-based, "blue" hydrogen projects, however, do not enjoy the same support as "green" hydrogen projects, based on renewables.

Project partners in the H-Vision project also include BP, Equinor, ExxonMobil and Shell as well as the storage operators TAQA and Vopak, and the Dutch grid operator Gasunie.

The H-Vision initiative envisages a first 750 MW hydrogen production plant to be built and operational by the autumn of 2026, followed by a second hydrogen plant that will boost total production capacity to over 1,500 MW. The 'blue' hydrogen, produced through steam reform-



ing with carbon capture storage, is meant to be used as a low-carbon fuel for industrial processes or for power generation.

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wants to secure at least 1,000 MW of new flexible, fast-ramp capacity to avert the risk of price spikes and power shortages.

Kick-starting the NSW hydrogen industry

According to EnergyAustralia's outgoing Managing Director Catherine Tanna, the plant will also "help to kick-start the green

hydrogen industry [in the region]."

GE has been contracted to supply and install the turbine for the Tallawarra B project – the first in the world to use one of its new hydrogen-compatible turbines; and EnergyAustralia offered to 200,000 kilograms of green hydrogen annually for use as fuel at the 300 MW plant from 2025. If realised, that would be 200,000 kilograms of green

hydrogen per year.

New South Wales has "an enormous opportunity to lead the world in the production of green hydrogen," Mr Barilaro said in a statement. Fast-tracking new projects like Tallawarra B, in his view will help the state remain at the forefront of developing green technologies while decarbonising existing industries. ■

Siemens Energy lowers sales outlook though Q2 orders surge 39%

Siemens Energy has posted substantial rise in second quarter orders, up 39% to €10.5 billion, largely driven by the wind turbine segment. Looking ahead, the German manufacturer lowered the upper end of its revenue growth forecast for fiscal 2021 to 3-8%, owing to weaker-than-expected demand and project delays.

Revenues are no longer expected to grow by up to 12% in the year to September, with the upper end of the forecast adjusted to a more moderate 8% growth. According to Refinitiv estimates, sales are likely to increase 6% to €29.1 billion.

The downward revision in Siemens Energy's growth outlook comes just days after offshore turbine maker Siemens Gamesa Renewable Energy (SGRE) issued a warning that customers were deferring projects amid the ongoing impact of the

Covid-19 crisis in India and Brazil.

Growth in SGRE helps offset losses in gas and power

New order at SGRE more than offset a clear decrease in new contract wins in the gas

and power segment. Revenue fell slightly, notably in the gas and power sector. Service revenue came in moderately below the first quarter, as the clear increase in the SGRE segment helped offset falling revenue from gas and power servicing.

Christian Bruch, Siemens Energy CEO said the company is "on track to reach [its] targets for the fiscal year despite a challenging environment." In this context, he singled out the strong order intake especially in the company's sustainable product portfolio.

In the second quarter, orders rose by 39% while sales fell 4.4%, the company said, adding operating profit – adjusted earnings before interest, tax and amortisation – more than doubled to €197 million. ■



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Timeline uncertain amid lack of incentives

Costs to construct the H-vision hydrogen production units are pegged at approxi-

mately €1.3 billion. When factoring the necessary technical adaptations on the side of industrial hydrogen end users, the total cost could amount to over €2 billion.

Investors had hoped to take FID on the project in 2021, though there seems not to be enough policy incentives for blue hydrogen to date. "Policy instruments have been lagging behind until now as there is no arrangement to financially support low-carbon/blue hydrogen when this is applied as fuel," a spokesman for the Port of Rotterdam said, specifying that project partners have demanded clarification about this issue from the Dutch government.

Standing their ground, project partners strive to have the plan up and running in about five years time. "We still aim to have the first plant operationally ready at the end of 2026, but at the moment I don't have a detailed timeline, including FID, that I can share," he told S&P Global Platts.

From blue to green hydrogen

The large-scale production and utilisation of blue hydrogen is meant to allow local industry in Rotterdam to substantially reduce its CO2 emissions, well before 2030.

According to project developers, H-Vision will help save up to 2.2 million tons of carbon emissions by 2026, and up to 4.3 million by 2031. When compared with the total emissions of Rotterdam's industrial sector, the switch to blue hydrogen would reduce industry emissions by around 16%.

In the long-run, H-vision anticipates the arrival of green hydrogen, which is produced via electrolysis using power sourced from renewable sources like offshore wind farms. Investors stressed "this means that H-vision can become the seed of a new hydrogen economy in Rotterdam providing an opportunity to develop itself into a major hub for the production, uptake and trading of hydrogen." ■

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Trials for hydrogen co-firing at Portuguese CCGT slated for early 2023

Energias de Portugal (EDP) is preparing to install a Power-to-Hydrogen system at its Ribatejo combined-cycle gas power plant (3 x 392 MW), situated some 30 kilometers northeast of Lisbon. The three units, powered by Siemens V94.3A gas turbines in single shaft configuration, have a combined capacity of 1.176 MW. Trial runs are due to start in March 2023.

Installation and commissioning of the developed technologies at Ribatejo plant will start in September 2021. Siemens, the subcontractor for the project, will

handle the retrofit of the combustion chamber as other components.

Co-firing reduces Opex

Hydrogen and ammonia, produced at low cost from excess supply of wind and solar power, can be stored and used as a cheap fuel by retrofitted combined-cycle gas power stations. Co-firing capability reduces the plant's operating cost which can help increase their current low operating-hours.

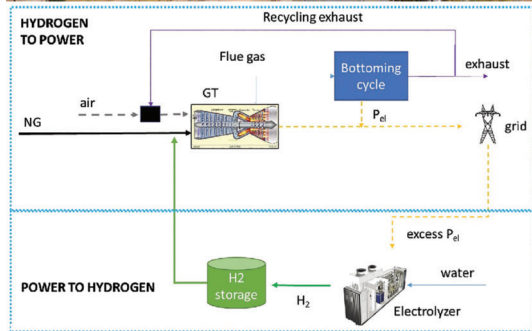
To balance the combined-cycle load, excess thermal electricity can also be converted into hydrogen or ammonia for re-use in the same power plant, if and when needed to respond to varying demand. The new technical layout is improving the fuel flexibility of gas-fired power plants and their overall efficiency. It can be retrofitted to combined heat and power units, flexible combined-cycle units or integrated coal gasification unit.

Eager to commercialise hydrogen co-firing technology, the European Turbine Network (ETN) and its partners have embarked on the FLEXnCONFU project, short for FLEXibilize combined cycle power plant through Power-to-X solutions using non-CONventional Fuels. Partners include Backer Hughes, Cummins affiliate Hydrogenics, Proton Ventures, Tirreno Power, ENGI Laborelec, EDP, ICI Caldaie, and MAS Advanced Technologies.

Micro-turbine trials with ammonia

Apart from hydrogen trials, ETN is also supporting the installation of a Power-to-Ammonia system at a micro gas turbine operating in a smart grid context at the Savona lab. In addition, tests with up to 100% ammonia co-firing at a heavy-duty gas turbine will be performed at Cardiff University's combustion lab.

The overarching FLEXnCONFU project has a total budget of 12.6 million Euros and runs from April 2020 to the end of March 2024.



Ireland's ESB orders Siemens grid stabilizer for Green Atlantic project

Electricity Supply Board's (ESB), Ireland's largest utility, has ordered a grid stabilizing system from Siemens Energy for Moneypoint power station where ESB launched a 'Green Atlantic' project. The coal power site in County Clare will be transformed into a green energy hub, based on renewables and hydrogen with a view to powering 1.6 million homes.

ESB already started to transform its Moneypoint coal power station and will be breaking ground on a new €50 million Sustainable System Support facility in the coming weeks. A floating offshore wind farm of 1,400 MW will be developed off the coast of Counties Clare and Kerry in two phases by ESB and joint venture partner Equinor.

Reactive power to grid-integrate wind energy

With the rising share of wind and solar power, along with the shutdown of coal-fired generators, synchronous condensers are increasingly important to stabilise the grid. By means of the rotating mass of a conventional generator, the solution adjusts conditions on the transmission grid, provides the necessary inertia to support the grid frequency and short-circuit contribution. It also provides or absorbs reactive power which gives the operator of the synchronous condenser an additional revenue stream, which can be an important cash

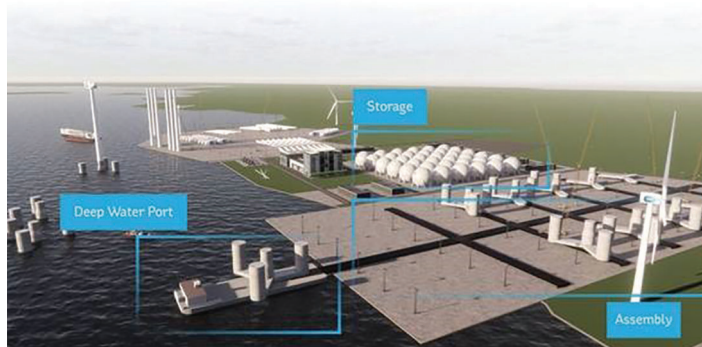
flow contribution.

Under the contract, Siemens Energy will supply and install a synchronous condenser and incorporate the world's largest flywheel used for grid stability. The system will allow ESB to integrate rising volumes of inherently intermittent wind energy into the regional power grid by providing sufficient inertia for frequency support, short-circuit power for system strength and reactive power for voltage control. Commissioning of the new plant is planned for mid-2022.

Aspiring to produce green hydrogen by 2030

Going forward, ESB announced plans to invest in a green hydrogen production, storage and generation facility at Moneypoint

ESB's Moneypoint coal power plant will become a Green Energy Hub



towards the end of the decade. Produced largely from wind power, the green hydrogen will be used as a fuel in the transport sector and will help decarbonise a wide range of industries such as pharmaceuticals, electronics and cement manufacturing.

Pat O'Doherty, ESB Chief Executive, pointed out the "Green Atlantic @ Moneypoint is a key part of our Brighter Future strategy and will contribute significantly to achieving the Irish Government's target of a 51% reduction in emissions by 2030."

Tesla urges German gov' to speed up permits for Berlin Gigafactory

US electric car maker Tesla has said it was "irritated" by administrative delays to the construction of its new Gigafactory and urged the German government to speed up the permitting process. Construction of Tesla's new factor is already advancing in Grünheide near Berlin, even though the project has not yet received final approval.

By summer 2021, Tesla's new Gigafactory near Berlin was scheduled to start producing some 500,000 electric cars; but this timeline has slipped. Though construction is advancing rapidly, the final approval for the project is still pending due to an ongoing court case.

At a later stage, the Gigafactory could also produce utility-scale batteries for energy storage. Though there was no official mention of battery cell production in the building application filed by Tesla in January, an environmental impact assessment included a floor plan with an area labelled "Cell," meaning battery production will take place there.

Legal obstacles

These days, however, Tesla is disgruntled about the low permitting process and obstacles in the German approval law for industry projects. The "most glaring problem," according to Tesla's Brandenburg subsidiary, was that current procedures and laws treat projects that combat climate change and

those that accelerate it the same. Hence, the current permit framework "discourages necessary investments in clean energy projects and infrastructure and makes it virtually impossible for Germany to achieve its climate targets."

Andreas Scheuer, the German federal transport minister, agreed that approval processes need to be simplified and noted the ministry has already initiated four laws to speed up procedures.

Latest KBA statistics show that Tesla care sales have soared over 80% in Germany in the first quarter of 2021, compared to the same period in 2020 - not least due to generous subsidies for first-time buyers as Angela Merkel's coalition government is pushing for a green post-Covid19 recovery.

To revive the economy, the German government coalition in July 2020 agreed a €130 billion stimulus package. Measures includes VAT reductions, lower levies on power prices for households and small businesses as well as a €50 billion 'future package' for investments e-mobility and hydrogen technologies. ■

“...the current permit framework “discourages necessary investments in clean energy projects and infrastructure and makes it virtually impossible for Germany to achieve its climate targets

”
-Tesla's Brandenburg subsidiary



Render of Tesla's Gigafactory at Grünheide near Berlin



NEWS NUDGES

Cummins Q1 revenues up 22%

Cummins today posed a 22% rise in first quarter revenues to \$6.1 billion. Sales in North America increased 7% while international revenues surged 45% largely due to strong new product sales in China and India. Based on latest developments, Cummins raised its full year 2021 revenue guidance to 20-24%, a considerable rise from previous 8 - 12% forecasts.

RIX launches mobile hydrogen system

California-based RIX Industries has launched an industry-first mobile hydrogen generation unit, part of its M2H2-Series of scalable Methanol-to-Hydrogen systems. Able to generate hydrogen onboard and on demand, the system is applicable for ships and remote small-scale production of the green fuel with the aim of replacing diesel for power generation. The M2H2 systems, combined with fuel cells, can produce electricity without any NOx, SOx, or particulate matter and Net Zero CO2 emission with renewable methanol.

Siemens Energy Q2 orders surge 39%

Siemens Energy today posted a substantial rise in second quarter orders, up 39% to €10.5 billion, driven by the wind turbine segment. However, the German OEM lowered the upper end of its revenue growth forecast for fiscal 2021 to 3-8%, amid weaker-than-expected demand and project delays.

US gas future hit 7-year high

US natural gas futures have increased over 2% to a seven-week high as LNG exports go from strength to strength, while domestic production eased off slightly. Moreover, a return of colder-than-average weather has pushed up gas demand for heating significantly so that utilities had to withdraw gas from storage, which is rather unusual in April.

Germany hikes renewable goals for 2022

The German parliament has voted in favour of higher tender volumes for next year's wind and solar PV installations. However, parliamentarians did not yet agree on a new renewable target for 2030, even though this has become necessary after the EU raises its overall emission reduction target to 55%. ■



Flurry of CCGT projects underway in PJM amid abundance of cheap gas

Abundant and comparatively cheap supply of shale gas in Pennsylvania, Ohio, and West Virginia is encouraging the development of combined-cycle gas power plants. About one-third of new-built CCGTs in the United States since 2010 are situated in PJM Interconnection. They reach a utilization rate of 71% – substantially more than thermal coal units.

The utilization rate, also known as the capacity factor, is the time ratio that the power station is being dispatched to generate electricity compared to the time it could be in use. High efficiency CCGTs produce electricity at a cheaper cost than open-cycle gas or coal power stations, hence their higher capacity factor.

Efficiency vs. fuel cost

Two factors affect the utilization of a combined-cycle natural gas generator: the efficiency of the generator and the delivered cost of natural gas. Newer CCGT use more efficient turbine technology and tend to be larger than older units. Older units tend not to be used when natural gas prices rise because they are less efficient and more expensive to run than newer technology units.

Analysts at the US Energy Information Administration (EIA) have classified turbines in PJM into three groups:

- Units built from 1990 to 1999: these are B-, D-, and E-class gas turbines with

80 - 110 MW capacity and average heat rates than 8,000 Btu per kWh) in combined-cycle mode

- Units built from 2000 to 2009: those are "first generation" F-class gas turbines with 160 MW–190 MW capacity and average heat rates of 7,300 Btu/kWh in combined-cycle mode
- Units built from 2010 to 2020: these can be either "next generation" F-class GTs with 200 –225 MW capacity and

average heat rates of 7,000 Btu/kWh in combined-cycle mode

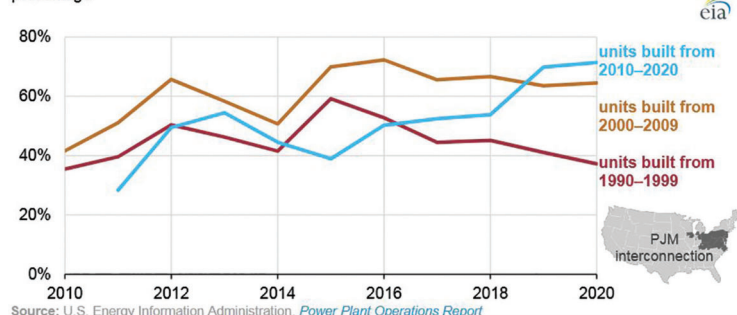
- or "First generation advanced" H- and J-class GTs with 265–340 MW capacity and 6,700 Btu/kWh heat rates in combined-cycle mode.

Prioritising low-cost turbines

Grid operators, such as PJM, generally dispatch power generators in a sequence starting from lowest to highest costs. Given that

CCGTs built from 2010 to 2020 generally have the lowest operating costs, they are dispatched more frequently. In contrast, units built from 1990 to 1999 are less efficient and more likely to be the marginal generators in the dispatch order.

Natural gas combined-cycle capacity factor by generator age, PJM Interconnection (2010–2020)



Source: U.S. Energy Information Administration, *Power Plant Operations Report*

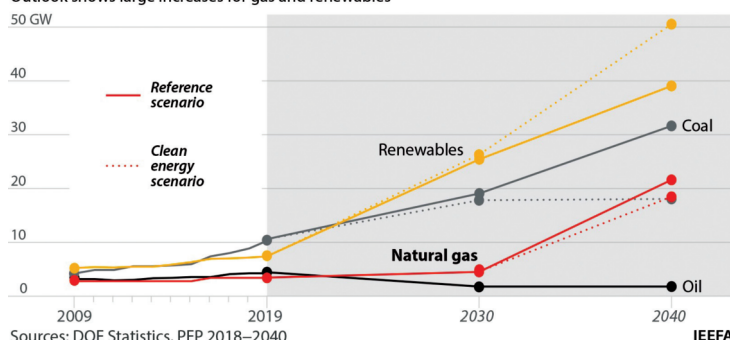
Philippine LNG-to-Power plants at risk of becoming stranded assets

The rapid build-out of Philippine LNG import and power project puts many assets at risk of becoming stranded. The total investment in ports, LNG regas facilities, pipelines and power plants is estimated at over \$13.6 billion (PHP 653.5bn), but much might be underutilized, analysts warned, as renewables become cheaper.

Officials in the Philippines have given the green light for multiple LNG import facilities due to the anticipated depletion of the Malampaya deepwater development, the country's only domestic source of natural gas. "The United States, in particular, has encouraged legal and regulatory reforms to stimulate LNG demand creation," said Sam Reynolds, energy finance analyst at the Institute for Energy Economics and Financial Analysis (IEEFA). He warned, however, not to assume investments in LNG-fired power

Philippines' Plan for Future Power Generation

Outlook shows large increases for gas and renewables



plants will face negligible development risks and reap all-but-guaranteed returns.

Renewables may outcompete gas power

Since there are no available government-backed power purchase agreements (PPAs) or guarantees, investors in LNG-fired power plants will be highly exposed to market risks arising from changes in the commercial and regulatory landscape. On the commercial side, they have to factor in the steep fall in renewable energy price trajectories which

make it difficult to produce electricity from imported LNG at a competitive price.

"As renewables prices continue to drop and global LNG markets tighten to increase fuel costs, LNG-related investments

will become increasingly uncompetitive in the Philippines market, especially as smaller electricity consumers become eligible to choose their retail suppliers," the IEEFA analyst forecast.

"Rapidly declining cost curves for renewables demonstrate that long-term pricing has shifted in favour of renewable energy growth," he noted. As policies in the Philippines accelerate the transition to clean energy, gas-fired power plants reliant on volatile imported LNG prices are likely to be dispatched less-than-anticipated which reduces long-term guaranteed returns.

No existing gas T&D infrastructure

Moreover, there is no existing transmission and distribution infrastructure to supply non-power consumers. Industrial, commercial, residential, and transport sectors will require massive investment in gas transportation infrastructure, yet the Department of Energy expects industrial natural gas demand to grow at a negligible rate of 0.4% per year to 2040.



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Mitsubishi to help Washington State utility to reach Net Zero by 2045

Washington State's largest utility, Puget Sound Energy (PSE), has signed a joint development agreement with Mitsubishi Power Americas to implement large-scale hydrogen generation and hydrogen-fired turbines, renewables and battery energy storage into PSE's service territory. The aim is for PSE to become a "Beyond Net Zero Carbon" energy company by 2045.

In January 2021, PSE set its "Beyond Net Zero Carbon" energy company goal with the aim to not only curb its own emissions but also to help other sectors to abate emissions across Washington state. As the state's largest utility PSE serves 1.1 million electric customers and nearly 900,000 natural gas customers.

Mitsubishi Power – a first mover in hydrogen-enabled gas turbines and energy storage – has developed and patented the world's first integrated green hydrogen package. The Hydaptive pack optimises the dispatch of multiple different assets, notably wind and solar, large energy storage systems, and hydrogen co-fired gas combined-cycle power plants. All power generation technologies work together to minimize emissions.

Cross-sector decarbonisation

In addition, Mitsubishi is also looking to pursue cross-sector decarbonisation opportunities to create synergies between the power sector and other industrial sectors in the region, including refineries, transportation and distribution.

As part of the deal, Mitsubishi Power and



Magnum Development will jointly develop green hydrogen storage assets in PSE's service territory. Mitsubishi Power and Magnum Development introduced green hydrogen storage at grid scale in May 2019 with the Advanced Clean Energy Storage Project in the town of Delta, Utah.

Paul Browning, President and CEO of Mitsubishi Power Americas said the company's firm belief was to firm belief that "to achieve net zero carbon emissions by 2045, we need to develop and deploy renewable energy storage projects of all durations in the

decade of the 2020s. This means lithium ion battery storage for short-duration storage, and green hydrogen for long-duration storage."

Headquartered in Lake Mary, Florida, employs more than 2,000 experts and the company's power gen portfolio is focussed on natural gas, steam, aero-derivative, geothermal, distributed renewable technologies, environmental controls, and services. Energy storage solutions include green hydrogen and battery energy storage systems. ■

Cummins develops autonomous truck based on gas powertrain

US engine maker Cummins and PLUS, developer of self-driving vehicles, are working on a driver-in, supervised truck, powered by compressed gas engines. The engines will be provided by Cummins and have been certified to near-zero emissions. Deployment is due in 2022.

The certified engines reduce smog-forming emissions by 90 percent compared to current EPA standards for nitrogen oxide air pollutants. Furthermore, trucks powered by Cummins and integrated with the Plus autonomous driving system are more fuel efficient due to Plus's

AI-enabled fuel optimization algorithms and Cummins powertrain features.

Work on the new research initiative has already started, as the project build on ongoing collaboration to develop fuel-efficient autonomous trucks. Cummins will contribute its world-class engineering expertise

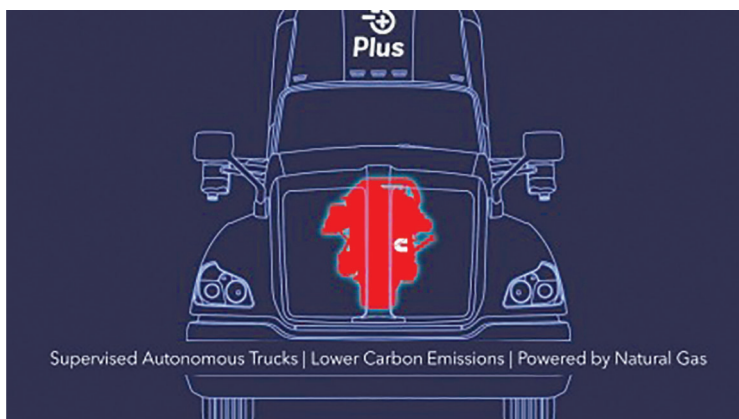
and a suite of advanced features to seamlessly integrate its natural gas powertrain with Plus's supervised autonomous driving system, PlusDrive.

"Integrating Cummins natural gas-powered engines into Plus's autonomous

trucks offers customers greater choices to meet their emissions goals," said J. Michael Taylor, General Manager, Global Powertrain Integration, Cummins. "Our engines can power nearly every type of vehicle and application globally, so the integration of our gas powertrains for autonomous driving applications is a logical next step," he said.

Plus will begin mass production of its PlusDrive system this summer, and plans to deploy the supervised autonomous trucking system globally across the United States, China, Europe and other parts of Asia.

Headquartered in Silicon Valley, Plus was founded in 2016 by a group of serial entrepreneurs and industry veterans each with 20+ years experience in automotive technology and artificial intelligence. Today, the company specialises in full-stack self-driving technology to enable large scale autonomous commercial transport. ■



Nexif reaches financial close for 154 MW plant in South Australia

Singapore-based utility Nexif Energy, backed by Denham Capital, has reached financial close on its 154 MW Snapper Point power plant, under construction in South Australia. The peaking power plant is based on five converted GE gas turbines that have been leased for 25 years from the South Australian government.

The turbines, converted and upgraded from diesel to natural gas as primary fuel, are currently being transported to the new site at Outer Harbour where the project's EPC contractor, RJE, has already begun preparation works. Outer Harbour is situated at the northern tip of the Lefevre Peninsula about 22 kilometres north-west of Adelaide.

Plant due operational before year-end

RJE is contracted to commission, relocate and re-commission the five GE TM2500 gas turbine units and ensure fuel, electrical and water systems are in place and functioning. The five converted turbines are slated for commissioning in December to get the Snapper Point peaking plant into full commercial operation before the end of 2021.

Project sponsors have raised a limited recourse debt facility from In-

vestec to finance the turbine relocation and upgrades, as well as the construction of the new fast-response power plant.

Peaking plant to backup wind farm

Once fully operational, the 154 MW gas peaking plant will be used to backup the Nexif Energy's Lincoln Gap wind farm, also situated in South Australia.

Nexif founder and co-CEO, Matthew Bartley explained through the investment in dispatchable generation at Snapper Point, the utility can offer customers "firm baseload

style contracts" from existing and future development stages of its Lincoln Gap Wind Farm project.

"We are in the process of doubling the wind farm and battery project from its existing 222 MW to 474 MW through the addition of a further 252 MW of wind capacity. The Development Approval for the expansion of the wind farm was recently granted by the state," he explained, noting the Snapper Point gas peaking plant will enable and backup the plant build-out of wind power capacity at Lincoln Gap.

The Lincoln Gap wind farm also includes a battery-based energy storage, 60% of which is already operating and the remainder due completed in the autumn.

Hailing the swift progress of the project, Denham Capital Managing Director Saurabh Ananda said the investor was "delighted with Nexif Energy's growth trajectory" and the progress made by the company in the last 12 months. Nexif is expected to have about 680 MW in operation and construction by the turn of 2021/22 and has a further 600 MW of controlled development projects in its pipeline throughout South East Asia and Australia. ■



Site of Snapper Point power plant at Outer Harbour

Siemens F-class turbine to power Atinkou CCGT at Ivory Coast

Siemens Energy, together with the Spanish EPC contractor TSK, will supply and install an F-class gas turbine at Atinkou's new combined-cycle power plant, under construction in Jacqueville, Ivory Coast. Owned by Atinkou, part of Eranove Group, the CCGT will have an installed capacity of 390 MW and is due operational in late 2022.

Financing on the project was taken in March 2020, after Eranove received €303 million in debt financing. The Atinkou power plant project is being built under a Public-Private Partnership (PPP) arrangement, whereby Eranove was granted

a 20-year concession to develop and operate the plant. Total cost of the CCGT is €404 million, developers disclosed.

The Atinkou project mirrors the government's ambition to double Ivory Coast's installed capacity to 4,000 MW by early 2021.

The CCGT project is similar to an earlier one, developed by Ciprel, a subsidiary of Eranove. The Atinkou plant is hence often referred to as Ciprel V, as it adds to the plant's four units that are in cooperation since 1994 and have a combined capacity of 544 MW.

First F-class turbine in Sub-Saharan Africa

The equipment supply agreement will see Siemens deliver and install the very first, highly efficient F-class gas turbine to the Sub-Saharan region. The contract stipulates the supply of one SGT5-4000F gas turbine and one SST5-3000 steam turbine, each along with a generator, condenser and an SPPA-T3000 control system. A 12-year long-term service agreement has also been signed between Atinkou and Siemens Energy.

In March 2020, Siemens was awarded a contract from the same EPC contractor, TSK, to deliver an SGT-800 gas turbine, generator and other key components for Eranove's 65 MW combined-cycle Kékéli Efficient power plant project in Lomé, the capital city of Togo in West Africa. ■



Render of Atinkou CCGT, under construction in Ivory Coast

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