



MHPS shifts focus in 2020 on CCGT/ICGT conversions and hydrogen co-firing

Mitsubishi Hitachi Power Systems (MHPS) President and CEO Ken Kawai has used his New Year address to highlight the company's focus on decarbonization by promoting fuel conversions to biomass, hydrogen and ammonia. In 2020, the MHPS President anticipates "further growth" for combined-cycle gas turbine orders to help convert CCGT and ICGT units to hydrogen co-firing.

“Last year, orders for gas turbine combined cycle installations were strong, and this year we expect further growth,” the MHPS chief executive employees and stakeholders in Yokohama, Japan.

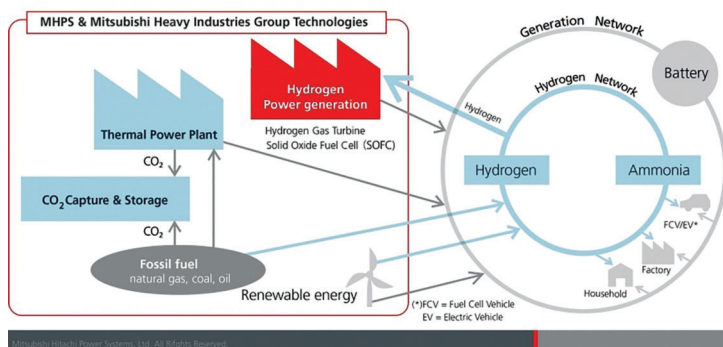
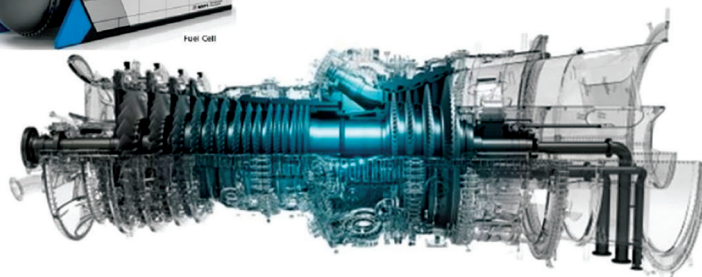
In the area of steam power, MHPS will strive to improve the performance of existing boilers, push for fuel conversion including biomass and ammonia co-firing. By promoting plant upgrades, notably the replacement of CCGTs and IGCC (integrated coal gasification combined cycle) systems with hydrogen-co-firing, the Japanese turbine manufacturer wants to help utilities reduce carbon emissions to meet more stringent environmental regulations.

Since Mr. Kawai took over the top job at MHPS in April last year, he has been re-focusing the company's strategy on hydrogen co-firing and clean energy integration through flexible gas power units. Looking ahead to 2020, he said "we will make great use of MHI's technologies and resources, to accelerate business

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Model of MHPS' Hydrogen Gas Turbine

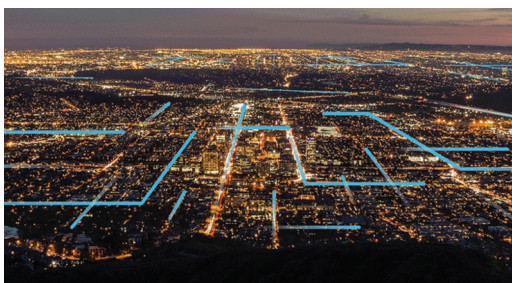


Smart grids to manage two thirds of global power networks by 2050

Grid balancing becomes paramount as the share of intermittent supply from renewable power sources keeps rising fast in most developed countries around the globe. Smart grids are hence expected to manage two-thirds of global net electricity supply by 2050, and by that time an estimated \$548 billion will be invested in batteries for energy storage.

A staggering 1,291GW of new battery capacity are forecast to be added to 2050, some 40% of which will be placed behind-the-meter. "Battery prices are already down 79% in 2010, and we expect the ongoing build-out of battery manufacturing for electric vehicles to continue to drive down their prices for stationary applications, so that they reach \$70/kWh by 2030, 67% down from today," commented Seb Henbest at Bloomberg New Energy Finance (BNEF).

Reacting to this trend, GE has developed solutions to modernize the grid through digital transformers and substations, asset lifecycle management services and advanced energy management systems (EMS) with full WAMS enhancement. These systems enable grid operators to increase network utilization and stability, allowing for greater renewable integration and



network automation.

Smart grids & digital substations

Smart grids are able to recalibrate itself in real-time to balance demand and integrate multiple-generation resources. Digital substations, meanwhile, enable utility operators to maximize asset and substation utilization up to 30%. Operators can also collect and analyze data to detect potential failures

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potential in hydrogen firing and CCUS [carbon capture, utilization and storage]."

Aiming for 100% hydrogen-fuelled power gen

MHPS has already successfully tested a large-scale turbine that runs on a 30% hydrogen fuel mix, combined with natural gas. That turbine reduces CO₂ emissions by 10%, compared to a standard natural gas-fired plant. As a pilot project, MHPS is now working to convert a combined-cycle gas turbine at Vattenfall's 440 MW Magnum power plant in the Netherlands to run solely on hydrogen by 2025.

Optimizing solid oxide fuel cells (SOFC) for distributed power systems is another technology focus, whereby MEGAMIE, one of MHPS's hybrid generating systems, combines SOFC and micro gas turbines. The technology has been in commercial operation at the Marunouchi building of Mitsubishi Estate since March 2019, supplying electric power and heat.

Streamlining the MHPS business

"These new business developments cannot be achieved using the same methods as before. The roles of each business segment must be clarified, more segments must co-

operate together, and new challenges must be addressed," Mr. Kawai said, ushering in internal moves to streamline and integrate the company's diverse business units.

Mitsubishi and Hitachi, the two parent companies of MHPS, in 2019 reached a far-reaching settlement concerning projects in South Africa.

"Making use of the technological and cultural synergies of MHI and Hitachi built up over some 6 years, let us move forward and grow our business," Mr. Kawai said. He urged all members of the MHPS Group to "work together" and give maximum priority to safety and compliance. ■

New entrants line up to partake in broadened UK Balancing Mechanism

'Wider Access' – the latest project launched by National Grid ESO to increase accessibility to the UK balancing mechanism – is already attracting new market entrants. Aggregated power units, notably hybrid and battery-based units, are increasingly being dispatched in this regulated market, providing the grid operator with much-needed flexibility.

The volume of accepted actions on the balancing market from aggregated and battery power units have risen considerably in recent months: In June, just over 2 Gigawatt-hours (GWh) of volume was accepted but by August, that figure reached 9.1 GWh, and accepted volumes have not fallen below 5 GWh since.

Analysts say this trend looks likely to continue. The main objective of the Wider Access work-stream is to allow non-traditional providers easier BM access, noted This is being facilitated by measures such as allowing balancing mechanism units to submit data at an aggregated level and through introducing Virtual Lead Parties that will be

able to register these units starting from an installed capacity of 1 MW.

"In late November, Elexon announced that three parties are actively going through the qualification process to become a Virtual Lead Party," said Cornwall Insight analyst Lee Drumme. It is expected that new parties will take advantage of the changes made and increase the number of aggregated and smaller units active in the balancing market.

"Many of these players will be looking to add the BM to their present business cases in the hope of upside in what can be a volatile pricing environment," he added,



View into the control room of National Grid UK

concluding: "Like the Capacity Market and Balancing Services markets before it, the competitive landscape of the Balancing Mechanism is likely to change with the entry of smaller aggregated units." ■

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up to six months in advance.

With this in mind, GE Power's Grid Solutions has created digitally connected solutions including the "Digital Twin" for Power Transformers whose sensor technology de-

livers condition-based data and statistic models to build a software-enabled model of the transformer or even the entire substation. This interactive model allows operators to move from reactive to predictive maintenance solutions and improve system efficiency.

GE's Asset Lifecycle Management Services include methods to collect distribution and transmission asset data with a view to reducing failure rates by up to 50%, lower maintenance costs by up to 25% and extend asset life by up to 20%. By incorporating the use of data, these end-to-end services optimize grid asset management strategies.

Digital transformation – applied to Sub-Saharan Africa – could help deliver efficient, affordable and reliable electricity to consumers. According to a GE whitepaper, co-authored by Frost & Sullivan, smart grids will play a key role in the region. They could

facilitate smooth integration of renewable energy sources; promote interoperability between all types of equipment; enable the growth of distributed generation, support demand-side management; and provide flexibility and visibility of the entire grid.

"Transmission and distribution networks are seen to be the weakest links in Africa's power systems and hence represent a huge opportunity area for improvement," Lazarus Angbazo, CEO, GE's Grid Solutions business, Sub-Saharan Africa said, stressing the need to "move beyond simply maintaining and repairing aged infrastructure." "To truly advance the power sector, a holistic approach needs to be adopted," he added, suggesting by utilizing internet of things (IoT) technology, the smarter grids help converge operating technology (OT) with information technology (IT), while incorporating distributed generation and energy storage. ■

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E-car sales in Germany up nearly 50% as market reacts to CO2 price

Sales of electric vehicles in Germany have jumped 49 percent, with over 97,000 electric cars sold in the months up to December. Consumers increasingly embrace e-cars – not least as a means to shield against Berlin's latest hike of the entry-level price for CO2 emissions in the transport sector, which has just been raised to 25 Euros per tonne from 2021.

According to the Center of Automotive Management's (CAM) electro-mobility report, Germany remains the third-largest e-vehicle market this year, with market share increasing from 1.9 percent in 2018 to nearly 2.9 percent in 2019.

"Germany is playing a 'driving role' in the growth of electric mobility," the report



Electric car, re-fuelling at one of RWE's e-charging stations.

states. Over the past few years, however, Europe's largest economy has struggled to cut CO2 emissions in the mobility sector. The sector emitted over 160 million tonnes of CO2 in 2018. Policy makers have made plans for figure to sink below 100 million tonnes by 2030.

To date, the number of new registrations of vehicles with alternative engines has risen by 65.2 percent, according to a recent report by the German Energy Agency (dena).

"The continuing rise in interest in alternative drive systems is positive," said dena chairman, Andreas Kuhlmann. "However, this trend is counteracted by the continued strong sales of new cars with high fuel consumption," he said, so "politicians must take counter-measures here."

Deutsche Bank dismisses e-mobility as "very expensive"

In contrast, Deutsche Bank Research recently warned that the German e-vehicle market has been "largely driven by regulation" and "less by market forces". Without subsidies, e-cars are "still a niche", analysts said, noting the technology is "a very expensive way of avoiding carbon emissions."

New electric car registrations only reached a 2.6 percent market share in the European Union this year, but 30 - 50 percent market share would be needed by 2030 to achieve Germany's targeted CO2 limits for new car fleets, Deutsche Bank Research finds.

Car makers traditionally have a big lobby in Germany, and the industry recently announced ambitious plans to raise the share of e-cars in their product portfolio, in competition with rival electric car makers in Asia and the United States.

Some 35 million electric cars help balance UK power grid by 2050

British roads are expected to see some 35 million electric vehicles by 2050 which can be used to store excess electricity and enhance the grid flexibility. According to National Grid, these electric vehicles could store roughly one fifth of GB's solar generation for when this energy is needed.

Timing, location, and frequency of electric vehicle charging varies more than previously assumed, and National Grid seeks to understand and influence these patterns. If the EV charging behavior gets aligned to complement intermittent supply from wind and solar power sources, these cars can both decarbonise the transport sector and help balance Britain's electric power system.

National Grid expects the charging of over 35 million electric vehicles in 2050 will provide flexibility and integrate a higher level of renewable generation on the system. Smart-charging vehicles could be programmed to store excess renewable supply, and up to 75% of Britain's EV could be made smart-charging in due course.

"Electric vehicles will be a catalyst for decarbonizing the system, making it more flexible as well as bringing down costs for consumers too – and whilst gas will still have an important role to play, a clear plan for the decarbonization of heat is needed," said Kayte O'Neill, Head of Strategy and

Regulation at National Grid ESO.

Investment in infrastructure to support rising numbers of electric vehicles indirectly benefits all energy consumers through lower prices and lower carbon generation intensity, as smart charging of EVs can support increased renewable generation.

In its 'Future Energy Scenarios', the UK grid operator anticipates a growing contribution of wind and solar generation as coal-fired power plants close. National Grid aspired to operate a net zero electricity system by 2025.

Four pathways towards the UK's 2050 target

The four 'Future Energy Scenarios' provide diverse pathways towards the UK's 2050 target to reduce emissions by at least 80% of 1990 levels, and a further 'net zero analysis' considers how the energy landscape would look like in 2050 with net zero carbon emissions.

In the 'Steady Progression' scenario, consumers are slow to adopt electric vehicles although hydrogen blending into existing



gas networks beings. Hence, the pace of the low-carbon transition continues at a similar rate to today but then slows towards 2050.

A shift to local, decentralized generation dominates the 'Consumer Evolution' scenario whereby more and more consumers choose electric vehicles and energy efficiency measures.

Britain's 2050 decarbonization targets are both achieved in the 'Community Renewables' and in the 'Two Degrees' scenario, whereby the former focuses on decentralization and energy storage while the latter sticks to large-scale centralized solutions for power generation.

German utility Uniper prepares to import Australian LNG by 2023

Germany's largest utility Uniper strives to fast-track permitting and construction of a floating storage and regas unit (FSRU) in Brunsbüttel to import LNG from Australia, among others. To that end, Uniper agreed with Woodside Energy Trading Singapore to import 0.5 mtpa initially from 2023, which will be increased to 1 mtpa by 2025.

The offtake accord is, however, conditional on Woodside taking a positive financial investment decision (FID) on the Scarborough gas development in Western Australia.

Uniper, Germany's largest power producer and one of Europe's largest utilities, said its strategic marketing is focused on providing energy solutions for power stations, industrial facilities, electricity grids in the Middle East, the Americas and Asia as well as in Europe. In short, that's a focus on midstream gas consumers in the regions that import LNG as a fuel for power generation.

Brunsbüttel FSRU to diversify Germany's gas sources

Gas is imported to Germany exclusively by pipeline - mostly from Russia, Norway and

the Netherlands - and strikingly Europe's largest economy to date has no infrastructure for the direct import of LNG. But the Germany government has given the green light to an LNG import terminal, noting this should be seen as "a gesture of goodwill to our American friends."

The Dutch companies Gasunie and Vopak, together with Germany's Oiltanking, formed a joint venture last year called German LNG terminal that they plan to build in Brunsbüttel at a cost of €450 million (\$526 million). Once build, the facility could meet about 10% of Germany's gas demand.

A "considerable part" of the terminal's total capacity of 5 billion cubic metres has already been contracted long-term by RWE in an open season held by German LNG Terminal GmbH. "LNG remains a key growth area for RWE," underlined Andree Stracke, RWE's Chief Commercial Officer Gas Supply & Origination.

Apart from the Brunsbüttel LNG project, at least two other cities are competing to be the chosen site. Wilhelmshaven is one of them. ■



OCT gas trading volumes through London soar 22%

Traded volumes of natural gas in European brokered markets have soared nearly 22% to reach 30,496 TWh in the period from January-November, according to the London Energy Brokers' Association (Leba). Volumes on the Dutch TTF - Europe's most liquid hub - increased over 21%, while UK NBP trading fell nearly 27%.

TTF gas trading volumes amounted to 24,321 TWh - significantly more than the 1,757 TWh traded in German NCG contracts. In France, volumes of gas contracts traded at the PEG hub increased 41% to 535 TWh, marking a small but significant rise on year after the regulator merged France's two regional gas trading hubs into one.

NBP traded volumes, which are not factored into the European total figures, fell 27% to just under 5,000 TWh. The Zebbrugge hub also lost ground year-on-year through October 2019, according to Leba data. ■

World energy usage seen surge 50% by 2050, led by growth in Asia

Strong economic growth in Asia and other non-OECD countries is forecast to push up the world's energy consumption by nearly 50 percent over the next three decades. According to the U.S. government projections, industry accounts for most of the energy demand growth and is expected to reach about 315 quadrillion British thermal units (Btu) globally by 2050.

Industry - notably refining, mining, manufacturing, agriculture, and construction - is one of the largest energy consuming sectors. Globally, the industrial sector's energy use is seen rise by more than 30% between 2018 and 2050 as consumption of goods increases.

Energy use for transportation is seen rise by nearly 40% between 2018 and 2050, driven by non-OECD countries. Buildings is another large energy sink, whose total consumption for both residential and commercial structures is seen rise by 65% in the years through to 2050, up from 91 quadrillion to 139 quadrillion Btu.

Population growth, urbanization pushes up energy demand

Power generation, in consequence, will have to rise by 79% over the years to 2050 in

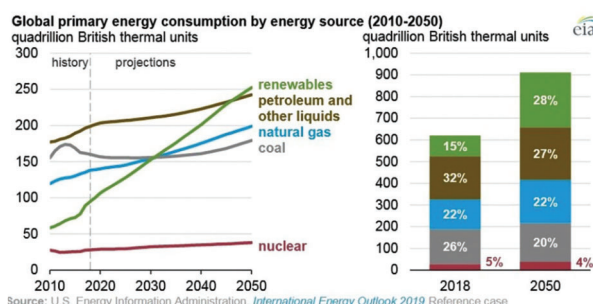
order to meet the world's fast-growing energy needs. Rising populations and standards of living in non-OECD countries keep pushing up the use of electric appliances and electric heating in the residential sector. At the same time, the growing use of electric vehicles pushes up household electricity use in the transport sector.

As installed generation capacity keeps growing, renewables are seen to become the

world's fastest growing energy sources over the coming three decades, surpassing petroleum and other liquids. According to the IEO2019 Reference case, worldwide renewable energy consumption increases by 3.1% per year between 2018 and 2050, compared with 0.6% annual growth in petroleum and

other liquids, 0.4% growth in coal, and 1.1% annual growth in natural gas consumption.

Global gas use is seen rising more than 40% between 2018 and 2050, while total consumption is set to reach nearly 200 quadrillion Btu by 2050. In addition to growing gas-burn for electricity generation, gas consumption also increases in the industrial sector, notably for chemical and primary metals manufacturing. ■



Russia, Germany lambast U.S. sanctions against Nord Stream-2 pipeline

Heads of state in Russia and Germany have reacted angrily to sanctions imposed by U.S. President Donald Trump against building Nord Stream 2, the second 55 Bcm/year pipeline leg of the Baltic Sea interconnector. The sanctions target in particular the Swiss-Dutch pipe-laying firm AllSeas, which suspended works in anticipation.

The Nord Stream consortium, a purely commercial entity, remains focused on bringing the \$11 billion pipeline project to a successful end. The twin pipeline was scheduled to start up in the first half of 2020, but will now be delayed.

"Completing the project is essential for European supply security. We together with the companies supporting the project will work on finishing the pipeline as soon as possible," Nord Stream-2 said on Saturday. Defiant words also came out of Moscow: "We will continue to implement our economic projects regardless of anyone's sanctions", the Russian Foreign Ministry said in a statement.

Sanctions "unlikely to stop" the project

Nord Stream 2, set to double the capacity of the first Nord Stream pipeline leg to a total 110 Bcm/year, is owned by Gazprom, which is financing half of the project worth about 9.5 billion Euros (\$10.5 billion). Other partners in the project are Austria's OMV, the German firms Uniper and Wintershall, Royal Dutch Shell and France's ENGIE.

The German Chancellor Angela Merkel's trans-Atlantic coordinator said the U.S.

sanctions are unlikely to have a major effect on the controversial Nord Stream 2 gas pipeline, let alone derail the project. "It's bad for the companies involved, but I don't see that it's going to stop the pipeline project," Peter Beyer, a senior law-maker in Merkel's Christian Democratic Party (CDU).

Russian ship might complete pipe-laying works

AllSeas' deep sea pipe laying ship Solitaire has been laying most of Nord Stream-2 but the Swiss company had suspended works due to the U.S. sanctions. It said it would "proceed, consistent with the legislation's wind down provision," but was awaiting guidance on the regulatory, technical and environmental issues from the U.S. authorities.

Eager to proceed with construction, Gazprom suggested the pipeline consortium might now decide to use Russian ships to finish pipe-laying works.



AllSeas' deep sea pipe laying ship Solitaire has been laying most of Nord Stream-2.

As a highly political project much of the goodwill – both from EU-member states and the United States – will depend on whether Gazprom and Naftogaz Ukrainy will reach a permanent gas transit agreement for the time after Nord Stream-2 will come on-stream. So far, Gazprom had threatened to halt all deliveries and transit through Ukraine after the second Baltic Sea interconnector will be fully operational. This threat had caused an outcry from Poland, Hungary and the United States, which ultimately led to President Trump signing off the sanctions. ■

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LNG Unlimited Data

Burckhardt sells first high-speed compressor to Hungary for use at UGS

Burckhardt Compression has been contracted to deliver a high-speed compressor to Ganzair in Hungary, where it will be used to inject natural gas from a key transmission pipeline to a nearby underground gas storage (UGS). The ISO 13631-compliant compressor is the first of its kind made by Burckhardt for this application in Europe.

Underground reservoirs, like the one in Hungary, can be used to store large amounts of compressed natural gas along international pipeline networks for balancing fluctuations between gas supply and demand.



The single-stage compressor used at the Ganzair underground gas storage facility will be manufactured at Shenyang Yuanda Compressor, a Chinese manufacturer 60% owned by Burckhardt. This cooperation helps expand Burckhardt's global product line to applications in a power range from 100 kW to 7.5 MW, both upstream and midstream markets.

"We are pleased to expand our offering of compressor systems to this application area and that we can offer now solutions for gas pipeline to storage applications,"

said Marcel Pawlicek, CEO of Burckhardt Compression.

Oliver Gidai, CEO of Ganzair welcomed the product support and compressor expertise that Burckhardt Compression brings to our project. Ganzair Compressortechnics, a privately-held Hungarian manufacturer, specializes in compressing gases as well cleaning and distribution of compressed air or industrial gases.

Listed at the Swiss Exchange, Burckhardt Compression is the only manufacturer and service provider worldwide that covers a full range of reciprocating compressor technologies and services. Its customized compressor systems are used in the upstream oil & gas, gas transport and storage, refinery, chemical, petrochemical and industrial gas sectors

MAN carries out pilot phase of PrimeServ EyeTech application

MAN Energy Solutions is conducting a test phase with over 20 field applications for its newly developed assisted-reality application, PrimeServ EyeTech. Tests are conducted in cooperation with a pilot customer for turbomachinery maintenance and repair.

Powered by MAN CEON, PrimeServ EyeTech is the company's new digital service solution. Development started in 2018, and now testing of the smart glasses is underway in field operation. The remote support tool enables mobile video conferences to be set up via data glasses, allowing MAN technicians to take the customer's perspective without having to be on site themselves.

The solution combines a safety helmet with a camera, micro screen, microphone and headphones. The camera mounted on the helmet enables the MAN expert to see on screen what the technician sees on site and to guide the technician visually and acoustically through maintenance processes. Additional information is provided to the customer via a helmet display.

"Our experts can help quickly and easily

through interactive video calls set up via the glasses. Assisted-reality solutions have enormous potential for plant maintenance and repairs," said Roland Kabitzke, MAN's learning and development manager. "Assisted reality" is a technology that allows a person to share their own environment with an expert who can help solve a problem in real time.

Assisted reality improves customer support

Digitalization becomes very concrete with PrimeServ EyeTech: Using assisted reality creates a direct customer benefit.

"The technology saves time, money and is good for the environment because our experts don't have to travel as much," stressed



Nico Billinger, head of the Oberhausen Digital Operation Center. "PrimeServ EyeTech connects our experts with our customers quickly and gives them access to our worldwide network of experts. For example, a specialist in India can solve a problem for a customer in the USA without having to travel."

Chinese firm helps finance \$2.6bn LNG-to-Power project in Myanmar

Zhefu Holding Group of China and the Myanmar-listed firm Supreme Trading Co. have made plans to invest up to \$2.57 billion to build an LNG import terminal and adjacent gas-fired power station at Mee Laung Gyaing. The integrated project will cover the energy needs for regional industrial zones, hotels and the city of Yangon.

The Mee Laung Gyaing project is one of three LNG import projects being evaluated by the Government of Myanmar. It has pledged to turn the country into a gas importer and regional

LNG hub. The other two projects would be located at Kanbaw in southwest Myanmar and at Ahlone near Yangon.

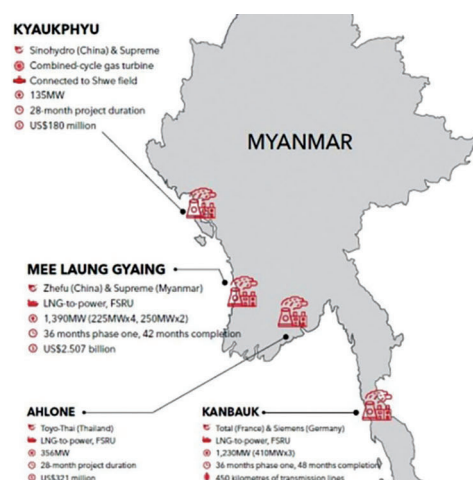
Though the final shareholding structure for the LNG-to-Power project has not yet

been fixed, it is clear that Zhefu Holding will be the majority shareholder and the Myanmar company would have a 20 percent stake.

In terms of project timeline, Supreme Trading disclosed it would take about four years to complete. Developers aim to start-up a 500 MW gas-fired power unit by the end of 2022, and add another 900MW of gas generating capacity a year or two later.

"Feasibility studies are currently taking place at Mee Laung Gyaing, including the necessary environment and social impact assessments, while soil and water conditions are being tested near the area where the jetty will be constructed," Supreme Trading said in a statement.

A power purchasing agreement for Stage-1 is nearly completed, according to Supreme Trading, who expects to close the deal in the first quarter of 2020.



Total to supply LNG for Beluluane power plant in Mozambique

French oil and gas major Total has signed an agreement with Gigajoules Group of South Africa to import and deliver regasified LNG for a projected large-scale gas power station at the outskirts of the Mozambican capital Beluluane. Importing LNG is vital given that there is not enough domestic gas supply to fuel the 2,000 MW power project.

Total will source and supply the LNG cargoes from its global gas portfolio, and supply it to Mozambique via a floating storage and regas unit (FSRU) that will be anchored in the port of Matola.

Works to install the FSRU will commence in June 2020, and are meant to be completed in 16 months. Thereafter, a feeder pipeline will be built to transport the gas from Matola port to the planned Beluluane power station, using the Matola Gas Company's existing infrastructure.

"Greater availability of gas" is vital to get the Beluluane CCGT off the ground, said Bruno Morgado, CEO of the Matola Gas Company. Domestic supply is scarce given that "the fields at Pande and Temane will begin to decline in a more or less rapid manner," he said, stressing "there simply wasn't enough gas for this [project]."

Once up and running, the 2 GW power plant will produce enough electricity for industry and households in greater Beluluane, with excess electricity to be exported to Botswana and South Africa.

In the long run, the government of Mozambique is aspiring to turn the country into a regional LNG hub, selling gas on to island countries such as Madagascar and Mauritius.



View of Beluluane Industrial Park

Acwa Power presses ahead with LNG regas and CCGT project in Bangladesh

Two Saudi partners are fast-tracking an integrated LNG regas and 3.6 GW gas combined-cycle power project envisaged to be built at Cox Bazar, Bangladesh. Newly listed Saudi Aramco confirmed it will source and supply the LNG to fuel the CCGT that is being built by Acwa Power.

After a historic market debut on Wednesday, shares of Saudi Aramco quickly surged 10% above the initial public offer price. The Saudi government listed a 1.5% stake in Aramco at Riyadh's Tadawul stock exchange – raising \$25.6 billion which gives the oil giant a market valuation of around \$1.88 trillion, and liquidity to invest in LNG trading and power gen projects.

In its IPO prospectus, state-controlled Saudi Aramco confirmed its intention to become an LNG trader, and boost its capital spending on natural gas upstream and power generation projects. One of Aramco's first LNG customers will be Bangladesh, where it has been contracted to source and ship liquefied natural gas to Acwa Power's 3,600 MW power plant project, developed on behalf of the Bangladesh Power Development Board (BPDB).

Together with an onshore regas terminal, the large combined-cycle power plant is meant to be built in the area around Cox's Bazar in the Bay of Bengal or an alternative location, depending on the results of a current feasibility study.

Total costs for the CCGT and the adjacent

onshore LNG import and regas terminal were initially thought to amount to \$2.5 billion. In recent weeks, however, it became clear that the project will require an additional investment of around \$500 million.

Bangladesh eyes second FSRU

Eager to import more spot LNG for power generation, Bangladesh has been fast-tracking the development of a second floating storage and regas unit. This recently commissioned FSRU vessel 'Summit LNG', moored offshore the port of Cox's Bazar, has been chartered from Exceleerate Energy in a project involving Summit Power.

The 'Summit' FSRU can handle around 3.75 mtpa of LNG, which effectively doubles the Bangladesh's LNG import capacity after a first FSRU, the 'Excellence', was commissioned at Moheshkhali Island in August last year. All regasified LNG, produced at Summit's FSRU, will be procured by state-owned Petrobangla.

Singapore-based Summit Power operates 20 power plants in Bangladesh with an installed capacity of 1,941 MW, and is currently developing a 583 MW gas power plant in the town of Meghnaghat that is due for commissioning in March 2022. ■

NEWS NUDGES

EastMed pipeline to take FID by 2022

Greece, Cyprus and Israel have signed an agreement to build the 1,900-kilometre EastMed pipeline at an estimated cost of 6 billion Euros. The subsea pipeline, spanning over 1,900-kilometres would initially carry 10 Bcm of gas per annum from Israeli and Cypriot waters to Crete and then on to the Greek mainland and into the European gas network via Italy. A final investment decision (FID) is meant to be reached in 2022, given that the pipeline is scheduled for completion by 2025.

Gazprom extends gas transits via Belarus until 2021

Gazprom and Gazprom Transgaz Belarus have sealed additional agreements to extend the contracts for gas supplies to and gas transportation across Belarus until 2021. According to the newly-signed documents, the contractual supply and transit volumes in 2020 will remain at the level of 2019.

Brent crude prices surge

North Sea Brent crude prices have risen to their highest level since September 2019, up nearly \$3 per barrel because of Middle East tensions coupled with improved Chinese economic forecasts. Brent crude futures for March 2020 delivery were last seen trading at 69.21 per barrel the Intercontinental Exchange (ICE). This bullish price sentiment will feed through to oil-indexed natural gas contracts and LNG deliveries, linked to the Japanese crude cocktail (JCC) basket price.



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