



Gazprom, Botas defy threat of U.S. sanctions against TurkStream

The U.S. Administration has decided to end of grandfather clauses, a legal exception that spares companies involved in construction of the TurkStream and Nord Stream-2 pipelines from sanctions. U.S. Secretary of State Mike Pompeo called the move "a clear warning" though Gazprom and Botas keep pushing ahead with works the second TurkStream leg.

"Get out now or risk the consequences," he said when announcing the U.S. Department of State was updating public guidance for the 'Countering America's Adversaries Through Sanctions Act (CAATSA)' authorities to include these projects.

"Aiding and abetting Russia's malign influence projects will not be tolerated," he said, brand-marking both TurkStream and NordStream as "the Kremlin's key tools to exploit and expand European dependence



on Russian energy supplies."

Botas and Gazprom, meanwhile, are trying to calmly continue with works on the second leg of the controversial TurkStream pipeline. The Russia-Turkey interconnector through the Black Sea consists of two 930-kilometer offshore lines through the Black Sea as well as two separate onshore lines that are 142 and 70 kilometers long



and extend to Greece and Bulgaria.

First leg of TurkStream in operation since January

Commercial deliveries of natural gas via TurkStream to Greece via the first 15.75 billion cubic meter per year (Bcm/y) pipeline leg have commenced on January 8, 2020.

Pipe-laying for the first leg from the continued on page 2

Germany "not in the greatest hurry" to build LNG import terminal

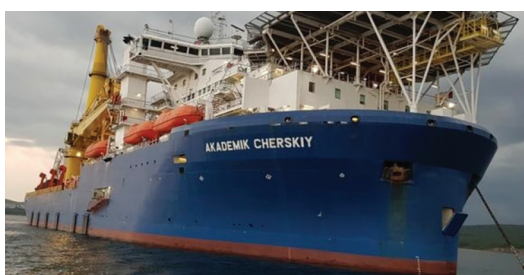
Low prices for pipeline gas imports have rendered the economics of building a German LNG import plant less attractive. The Government's maritime coordinator, Norbert Brackmann, said companies are moving forward with their investments, though "not in the greatest hurry."

Germany's Federal Council of Economic Experts, in its baseline scenario, assumes a sharp decline in economic output of -2.8% this year but sees a possible increase in output by 3.7% over the course of 2021.

A 'Recession' scenario, meanwhile, assumes negative economic growth in 2021 and 2022 which will keep demand, prices and emission on very low levels which could lead to a sharp reduction in electricity as well as related coal and gas demand.

Nord Stream-2 to boost Russian gas supply

Supply of natural gas to Germany is abundant and keeps rising as Nord Stream-2, second leg of the Gazprom-led interconnector through the Baltic Sea, is now set to become a reality. Denmark on



The pipe-laying Akademik Cherskiy' vessel will build the final stretch of Nord Stream-2

July 6, gave the Nord Stream 2 consortium permission to utilize Russian pipe-laying vessels with anchors in Danish waters.

Start-up of the second pipeline leg will increase the overall transport capacity to nearly 99 bcm per year which is bound to greatly reduce Germany's need for additional LNG imports.

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Russian town of Anapa to Kiyikoy in northern Greece took 15 months and was completed ahead of schedule. Construction of the pipeline's offshore section is carried out by Allseas Group – the same Swiss pipe-laying firm that had been involved in the controversial Nord Stream-2 project.

Gazprom underlined the TurkStream interconnector is "unique from a technological standpoint," given it is the first project whereby a pipeline of 813 millimeters in diameter has been laid at a depth of 2,200 meters.

Now, works are progressing on building a second 15.75 Bcm/y line, designated to

carry Russian gas to Bulgaria. Combined, the two legs of TurkStream will have an annual capacity of 31.5 Bcm/y.

Bulgaria still needs to build landfall for TurkStream-2

However, works in Bulgaria have suffered some setbacks that prompted Gazprom to accuse the government in Sofia of delaying the construction of the pipeline landfall on its territory.

In January, Gazprom stated it had supplied its first billion cubic meters of gas via the TurkStream gas pipeline. CEO Alexey Miller said TurkStream fully covered all con-

tractual deliveries to consumers in Bulgaria, Greece, and North Macedonia. While some 54% of supplies went to the Turkish gas market, the remaining 46% were carried onwards to the border with Greece and Bulgaria.

Turkey is Gazprom's second largest export market, with Russian gas currently being delivered to Turkey via the Blue Stream gas pipeline and the Transbalkan Corridor. Supplies through the 31.5 Bcf/y TurkStream dual pipeline will both enhance the volumes of Russian gas supply to Turkey as well as to the wider region of south-eastern Europe. ■

Westwood sees EPC contract awards rebound to \$13 billion in 2021-24

Westwood Global Group is estimating engineering, procurement and construction (EPC) contract awards for floating structures will reach just over \$5 billion in 2020, a 59% decline from values around \$13 billion seen last year. However, the consultancy expects markets will recover to pre-crisis levels starting from 2021.

The Aberdeen-based consultancy's latest EPC value projections for floating platform structures (FPS) are a 73% reduction on its pre-COVID outlook and assuming a base oil price of \$37/bbl in 2020.

"While the impact of the pandemic has hit FPS EPC contract awards significantly this year, the industry is in a much better place than the downturn of 2016 based on order intake so far, as well as the healthy

backlogs of FPS contractors stemming from 2017-2019 activity," said Westwood's senior analyst, offshore, Mark Adeosun.

Two FPSO contract awards in Q1-2020

The first quarter of this year saw two EPC contract awards – the Sangomar floating production storage and offloading (FPSO) unit, built by Modec on behalf of Woodside's project off Senegal and the Anna Nery FPSO, deployed offshore Brazil – accounting for about \$2 billion of EPC value.

Other key contracts are still pending, and hoped to be awarded later this year, notably Equinor's Bacalhau unit and Petrobras' Mero 3 which would account for over \$3 billion in construction spend.

Over the 2020-24 period, EPC contract awards are estimated to recover

towards \$56 billion – including 40 FPSOs, 9 FPSS and 7 FLNG systems. The outlook for the latter, however, looks "increasingly difficult," he cautioned, "as low spot prices and looming overcapacity threatens the attractiveness of potential future investments."

Brazil, Guyana seen to "dominate investment"

"Latin America will account for nearly 42% of probable FPS contract awards over the next five years – totalling an estimated \$24 billion," Adeosun said. Brazil is likely to dominate investment, he explained, as international oil companies ramp up activity and Petrobras commits to the development of its pre-salt discoveries,

Outside Brazil, Guyana will contribute two additional orders to the forecast in addition to the Liza Unity and the Prosperity FPSO that are currently being built in Singapore (Topsides) and China (Hull). ■



Render of Sangomar FPSO to be situated off Dakar, Senegal.

Gas to Power Journal

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'Akademik Czerny' to build final stretch

Construction of the 1,230-kilometre pipeline is nearly complete, except for a final stretch of about 120-kilometers in Danish waters. The project was halted in December when the Swiss-Dutch pipe-laying company Allseas suspended works over threats of U.S. sanctions.

Denmark's decision to allow Gazprom to build Nord Stream-2's final stretch with Russian vessels means the controversial interconnector will become a reality. The pipe-laying vessel 'Akademik Czerny' is

already in nearby waters in the Baltic Sea. The vessel is currently owned by the Samara Thermal Energy Property Fund (STIF), operated as part of the Gazprom Fleet.

Though Gazprom is included in some less U.S. stringent sanctions, analysts expects this will not hamper the Russian state gas exporter to forge ahead with a project as strategic as Nord Stream-2.

Apart from Gazprom, Nord Stream's lead developer, the European utilities Uniper, Winterhall, Engie, OMW and Shell are also invested in the project. ■

Sharp rise in U.S. power project delays due to Covid-19 mitigation

Commercial operation dates of U.S. power generation projects are beset by delays. In March and April 2020, commissioning and start-up of 21% and 29% of these projects, respectively, were pushed back due to delays in equipment deliveries and Covid-19 related stay-at-home orders that disrupted construction works.

Though the ongoing pandemic affects projects in all stages, projects in the construction stage are more likely to be delayed. Sixty-one unique projects, with a total of 2.4 GW of generating capacity, under construction during March and April were delayed, analysts at the U.S. Energy Information Administration's (EIA) pointed out.

Building a power plant normally requires a string of simultaneous and dependent works as the final plant consists of numerous key components and related equipment. This was not possible during the coronavirus crisis, as workers were advised to follow social distancing rules while operating.

Supply chain disruptions, permitting delays, and restricted travel of specialized workers, affected project scheduling and often led to project delays.

According to the EIA's March and April Preliminary Monthly Electric Generator Inventory data, lockdowns in most countries have severely impacted global supply chains

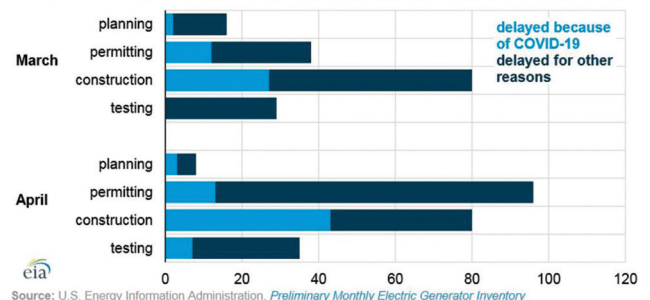
which substantially increased the volumes of delayed U.S. power plant projects from normally 20% to nearly 30% in April.

In March, a total of 163 of the 772 proposed generating units delayed their operational date, with 41 citing the coronavirus crisis as a reason for delay. Of the 746 generating units reporting in April, 220 were delayed and 67 of these reported Covid-19 as a reason.

The delays attributed to mitigation measures during these two months represent 3.1 GW of total U.S. generating capacity, or 18% of total delayed capacity. The median delay was two months, EIA data shows.



Number of electric generating units reporting delays by project stage (Mar and Apr 2020)



cia

Source: U.S. Energy Information Administration, Preliminary Monthly Electric Generator Inventory

U.S. marketed gas production continues to fall

Marketed gas production in the United States keeps falling to an average 96 Bcf/d in 2020, down from 99 Bcf/d in the previous year, according to EIA projections. In April, at the height of the coronavirus crisis, gas production declined less than crude oil production, down "only" 2.3 percent.

Oil and gas production in the United States in April fell by 670,000 barrels per day (b/d) and 2.6 billion cubic feet per day (Bcf/d), respectively, the U.S. Energy Information Administration's (EIA) said in its July Crude Oil and Natural Gas Production Report.

April was the first full month to be affected by the low crude oil and natural gas prices related to the sudden drop in petroleum demand associated with coronavirus mitigation

efforts. The declining market led oil and natural gas operators to shut-in wells and limit the number of wells brought online, lowering the output for the major oil- and natural gas-producing regions.

Texas hardest hit

The largest fall in crude oil production took place in Texas, where output plunged 234,000 b/d, or -4.3%, between March and April 2020. More crude oil is produced in

Texas than in any other state or region of the United States, accounting for 41% of the national total in 2019.

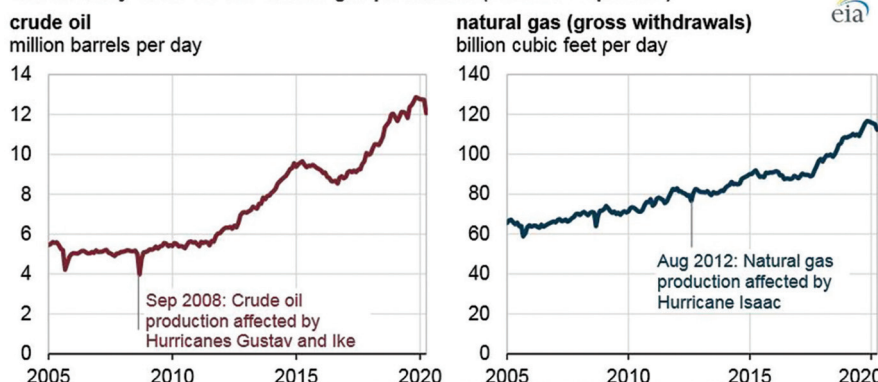
The 'Lone Star State' also saw the largest monthly decrease for natural gas production in April, decreasing by 1.2 Bcf/d, or 4 percent. Oklahoma had the second-largest decrease at 0.5 Bcf/d, or 6 percent, while Louisiana and Pennsylvania recorded production increases for April.

Crude oil production in the U.S. has been in steep decline largely due to Covid-19-related lockdowns which sharply brought the gasoline consumption in transportation sector.

The EIA expects crude oil prices will average \$40 per barrel (b) for the first half of 2020 and will average \$39/b in the second half of 2020.

In its July Short-Term Energy Outlook (STEO), analysts forecasts that U.S. crude oil production will average 11.6 million barrels per day (b/d) in 2020. These levels would be 0.6 million b/d lower than the 2019 average of 12.2 million b/d.

U.S. monthly crude oil and natural gas production (Jan 2005–Apr 2020)



Source: U.S. Energy Information Administration, Monthly Crude Oil and Natural Gas Production Report

Exelon claims ISO New England ends Mystic power tariff "hastily"

U.S. power generator Exelon Corp has accused ISO New England of putting greater Boston's power supply security at risk by "hastily" eliminating the out-of-market retention of its Mystic Generating Station. Exelon filed to the Federal Energy Regulatory Commission (FERC) to bar ISO NE from making these changes to its capacity retirement scheme.

By "hastily" implementing changes, ISO-NE can allegedly enforce an early retirement of the Mystic Generating Stations which has been classified as "system-relevant" for regional power supply security.

Exelon claims ISO NE's tariff changes, approved without FERC review, are in breach of the grid operator's tariff scheme, especially with regards to Order 1000 provisions on competitive transmission procurements.

Mystic is "system relevant", says ISO New England

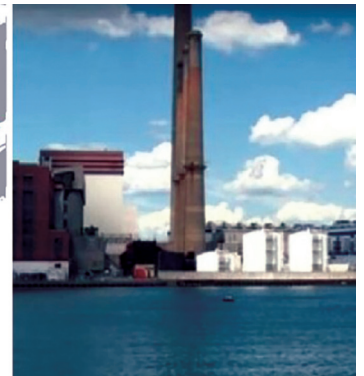
Gas-fired power generation is not always economical in New England. In fact, Exelon two years ago approached FERC saying it would only keep its two large Mystic gas power blocks and the adjacent Everett LNG import facility operational between 2022 and 2024, if it gets permission to collect

\$1 per month from all electricity customers in New England.

Trying to put pressure on the regulator, Exelon had floated plans to retire Mystic's two gas power units at the end of May 2022 rather than continue to lose money. Estimating the future costs of operation, Exelon said at the time its annual fixed revenue requirement for the two plants totals nearly \$219 million in 2022-2023 and nearly \$187 million in 2023-2024.

However, the regional power grid operator ISO New England insisted it needed the 1,700 MW capacity of the two gas power blocks to keep the system in balance.

Pipeline constraints limit the amount of natural gas that can be transported to the U.S. north-eastern state, hence ISO NE urged FERC at the time that Exelon needs to keep the Mystic plants running because



it can rely on imported LNG.

Massachusetts looks beyond fossil fuels

Since June 2020, the public regulator is investigating again whether the Boston Everett LNG import terminal might have to close, given that the government of New England considers phasing out all fossil power stations.

Everett LNG, in operation since 1971, is used primarily to balance peak demand during the winter season, when gas consumption for heating is prioritized. The terminal feeds regasified LNG into two interstate gas pipelines and the Mystic Generating Station. ■

Williams gets FERC approval to advance Leidy South pipeline project

Williams has received approval from the U.S. Federal Energy Regulatory Commission (FERC) to move forward with the Leidy South Project. The pipeline expansion will allow for further supplies, produced by Cabot Oil & Gas and Seneca Resources in Marcellus and Utica Shale, to be transported to the Mid-Atlantic region by winter 2021/22.

Leidy South will create 582,400 dekatherm (dth) per day of additional pipeline capacity by adding two greenfield compressor facilities come at an estimated cost of \$100 million, said Williams, the operator of Transco. This infrastructure investment will support 680 jobs in Pennsylvania with an estimated payroll of \$28 million, and produce \$1.3 million in state tax revenue, according to third-party research.

Together, the Leidy South and Transco expansion will boost gas transit capacity

enough to serve the equivalent of more than 2.5 million homes and allow further power plants to be converted from coal to natural gas. The expansion project is design to maximise use of the existing Transco gas transmission corridor in Pennsylvania and will seek to minimize the land use to meet these needs.

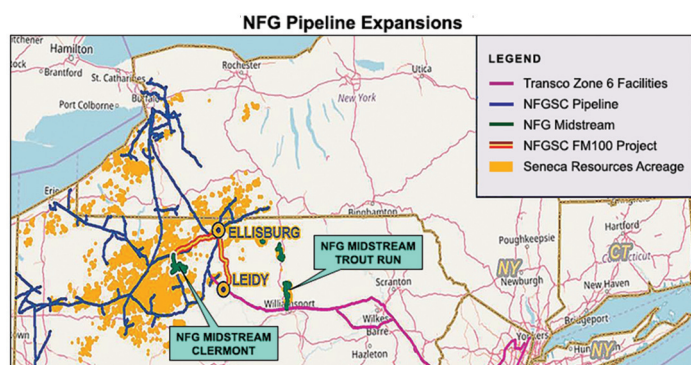
Transco is the largest-volume interstate natural gas pipeline system in the United States, supplying customers through its 10,000-mile pipeline network, whose mainline extends nearly 1,800 miles between South Texas and New York City. The system is a major provider of cost-effective natural gas services that reach U.S. markets in 12 Southeast and Atlantic Seaboard states, including major metropolitan areas in New York, New Jersey

and Pennsylvania.

Natural gas prices at the U.S. Henry Hub have fallen to record low due to a Covid-related slump in global energy demand, surplus shale gas production is either put into storage or increasingly used for power generation. Retrofitting aging coal power stations to run on natural gas is both economic in terms of fuel prices and helps operators comply with more stringent limits on NOx and CO2 emissions.

Alan Armstrong, president and chief executive officer of Williams said: "This project represents one of many opportunities to further reduce greenhouse gas emissions with right here, right now available solutions as coal-fired electric generation plants are replaced with natural gas units to reliably balance the intermittency of new renewable resources.

"In fact, there remain more than 80 coal plants in the states Transco serves that can potentially be displaced by clean, efficient and affordable natural gas." ■



Thermo-acoustic instabilities point to turbine improvements

Solving thermoacoustic instabilities for gas turbines can substantially speed up the design-period, research at the Technical University Munich (TUM) shows. Results from an adjoint surrogate model, using matrix-vector multiplication, were obtained around ten times faster than using method that involves the full solution of the so-called 'eigenvalue problem'. The new method reduces the computational load of traditional models.

Typically, when instabilities for gas turbine operation are modelled, these calculations are solved by means of a mathematical factor known as 'eigenvalue'. But given the complexity of interactions within a turbine, this approach can quickly become 'computationally heavy'.

System savings through adjoint surrogate approach

"The adjoint approach allows us to perform Monte Carlo simulations of the Helmholtz equation by means of mere Matrix-Vector multiplications...." TUM researchers said in a research paper, adding "therefore, we replaced the effort of solving a full eigenvalue problem (given by the Helmholtz equation) by only a few matrix-vector multiplications."

Traditionally, the 'eigenvalue' appears under nonlinear terms with exponentials such as time delays related to the flame model but Dr. Silva and his team have instead proposed to simplify this calculation using matrix-vector multiplications.

"Let's assume we want to obtain the output (in terms of one eigenmode growth rate) of 10,000 eigenvalue problems... [With our approach] it is enough to perform two eigen-

value problems.... [and] 10000-30000 matrix vector multiplications," he explained. The method, applied at TUM, is particularly well-suited to large systems, such as the modelling of turbines, where there are hundreds of thousands to millions of degrees of freedom.

Replacing Monte Carlo simulations with Uncertainty Quantification

With the results of the initial phase of research delivering a promising decrease in computing time, the team are now focused on refining the approach. "The idea now is to replace Monte Carlo simulations by a more efficient Uncertainty Quantification method. There are two methods in view: Method of moments and Polynomial Chaos Expansion (PCE). Instead of modeling a "discrete" stochastic field (each realization is a point in the probability space), we want to model a "continuous" stochastic field," the paper explains.

To do this, researchers plan to replace deterministic variables with stochastic ones. It is expected that adjoint surrogate method will allow for easier implemented as compared with the traditional eigenvalue problem formulation. The researchers hope that

the findings from their research can readily be integrated into existing design tools and software to allow rapid commercial adoption of the technology.

"Flexible tools (like Comsol) should allow an easy implementation of the method, so that in the future we will talk about 'Adjoint Helmholtz solvers' as something commonly found in standard tools," researchers concluded. ■

NEWS NUDGES

Wärtsilä CEO sees "tough" H2 ahead

Wärtsilä CEO Jaakko Eskola has told analysts he sees a "tough second half of the year ahead," as the Finnish manufacturer seeks to mitigate Covid-related business disruptions. In the segment of up to 500 MW, Wärtsilä's market share fell from 9% to 8%, while orders for gas- and liquid- power plants increased by 1% to 17.8 GW during the twelve-month period ending in March 2020.

GE launches update to digital plant software

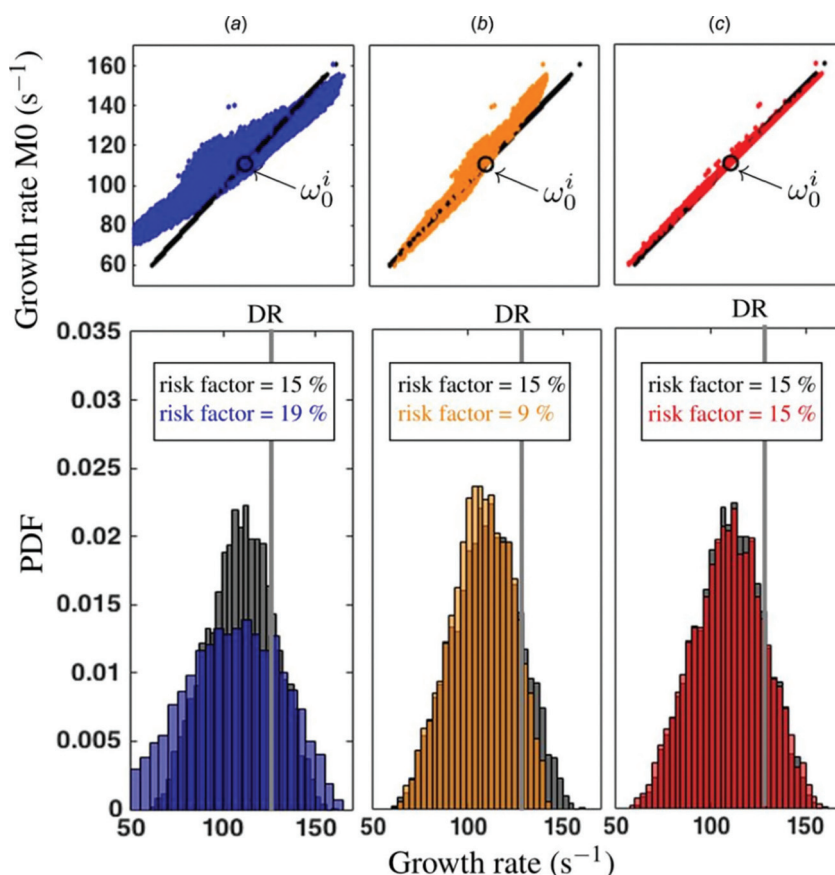
GE Digital has unveiled updates to its digital power plant software: Proficy Plant Applications, Proficy Operations Hub, Proficy Historian, and Proficy CSense. The software accelerates digitization for industries and integrates related onsite power generation units.

Siemens Energy to exit coal

Newly formed technology company Siemens Energy wants to phase-out any operations and technology to related to coal-fired power generation, CEO Joe Kaeser said, without giving a specific timeline. Siemens had been harshly criticised earlier this year for participating in the Adani coal mine project in Australia.

IEA stages Clean Energy Transitions Summit

Ministers from dozens of countries, accounting for over 80% of the world economy, have participated in the first Clean Energy Transitions Summit organised by the International Energy Agency (IEA). Dr Fatih Birol, the IEA's Executive Director, said there "clearly is momentum" behind a sustainable recovery from the economic impacts of the Covid-19 pandemic. Participants agreed to reconvene in mid-2021. ■



Linde signs MoU with China Power to develop green hydrogen

Industrial gas company Linde plc has signed a Memorandum of Understanding (MoU) with Beijing Green Hydrogen Technology Development, part of China Power, to promote the use of hydrogen in China. Green hydrogen mobility solutions are meant to be in place before China hosts of the 2022 Winter Olympics.

The MoU also stipulates hydrogen technology research and development (R&D) as well as various implementation projects both in the transport and power generation sector.

Tian Jun, Party Secretary, Chairman of the Board and President of China Power International Development Ltd said the company is keen to focus on sustainable solution and "delighted to partner with Linde to pilot the application of green hydrogen at the Winter Olympics, and work towards establishing a model for China's transition to clean energy."

Linde, a global leader in hydrogen, has the largest liquid hydrogen capacity and distribution system in the world including over 180 hydrogen refuelling stations, 80 hydrogen electrolysis plants and the world's first high-purity hydrogen storage cavern.

"Sustainability is a key priority for Linde and our mission is making our world more productive; (...) we look forward to collaborating with China Power to develop local green hydrogen and clean energy solutions to support China's energy transition," said Sanjiv Lamba, Linde CEO Asia Pacific.

Listed on NYMEX and the Frankfurt Stock Exchange, Linde plc's 2019 sales reached

Headquartered in Guildford, UK, Linde plc is an Irish-domiciled multinational chemical company formed by the merger of Linde AG of Germany and Praxair of the United States. ■



AEG storage converters run hybrid off-grid power plant in Nigeria

Dutch-German AEG Power Solutions has installed some Convert SC Flex storage converters to help run Africa's largest off-grid solar hybrid power plant at Bayero University Kano in Nigeria. The 7.1 MW micro-grid combines 3.5 MW of solar generation, 2.4 MW of gas gensets and 8.1 MW of battery energy storage.

Storage systems are key to the hybrid off-grid installations as they are balancing load requirements in decentralized area with the electricity supply from different renewable power sources.

The storage converters hereby operate in voltage- and frequency-control mode.

Together with the battery storage, the converters ensure that both voltage and frequency of the microgrid is being kept well within its target limits. Converters hereby have to balance rapid variations of generator output or its connected loads like pumps or lightning.

The Convert SC Flex storage converters systems are also used to black start the complete micro-grid in the event of any unforeseen interruption.

Phase-1 of the Kano off-grid project, funded by the Nigerian government, is designed to supply electricity to nine university complexes and a teaching hospital. Two further phases are planned, to be

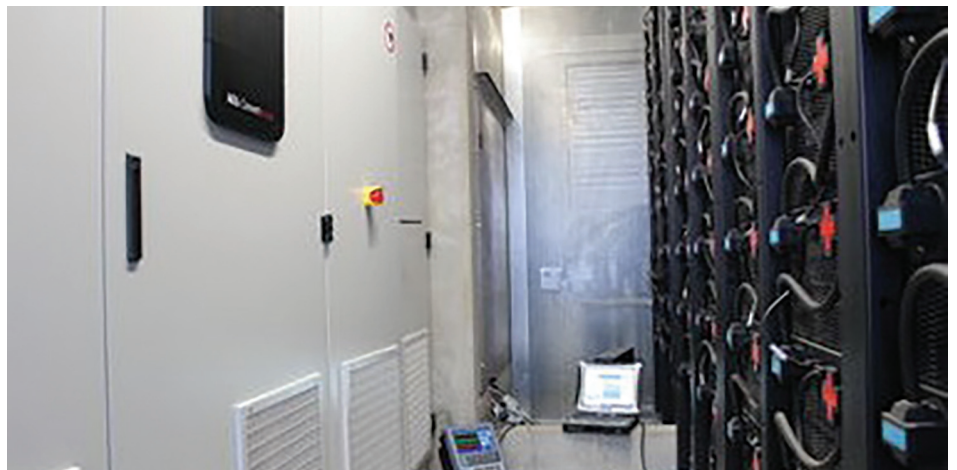
funded respectively by the World Bank and the African Development Bank.

In total over 55000 students and more than 3000 staff at the universities get access to green energy via the program. In addition, some 2850 streetlights can also be powered by the hybrid micro-grid.

Micro-grid now "proven in the field"

Andreas Becker, Head of Grid & Storage inside AEG Power Solutions, said the off-grid features of Convert SC Flex made it easy to combine with any type of batteries. This combination made the system "perfectly suited for micro-grid applications," he said, pointing out this is "now proven in the field."

Dutch-German AEG Power Solutions has decades of experience with UPS and power electronics, and grid integration of various power sources and energy storage. The company's engineering capacities can bridge both AC and DC power technologies. ■



Convert SC Flex, a bi-directional power converter from AEG

NEWS NUDGES

Statkraft, GE enhance GB grid stability

Statkraft and GE Power Conversion are working together to stabilise Britain's power grid. To that end, GE will manufacture and install two Rotating Stabiliser synchronous machines at Statkraft's site in Keith, Moray. Statkraft was awarded four stability contracts (two at Keith and two at Lister Drive) by National Grid ESO (NGESO) earlier this year.

EPRI tests early warning system

The Electric Power Research Institute (EPRI) is conducting trial tests with multiple utilities across the United States of an early warning system. It can detect an off-gassing event as a precursor to thermal runaway up to 30 minutes prior to a cascading failure. This gives plant operators time to mitigate the problem or shut down the system.

Construction starts on 1.4 GW Viking Link between UK and Denmark

National Grid has started the construction phase of the 1.4 GW Viking Link – the world's longest interconnector stretching over 2.4km between the UK and Denmark. Works in Lincolnshire began this week, with Siemens Energy building the converter stations on both sides of the link.

Viking Link, a joint venture between National Grid Ventures and the Danish TSO Energinet, is overseeing construction of the high-voltage direct-current (HVDC) power cable, connecting from Bicker Fen in Lincolnshire, UK and Revsing in South Jutland.

Mike Elmer, Viking Link project director for National Grid Ventures said initial groundwork, surveys and water work studies have been completed, so the construction start is "key milestone for the project."

"Viking Link will play a vital role in helping to decarbonise the UK's power supply on the journey to a net zero carbon energy system. It will enable access to a cleaner greener supply of electricity, which will make energy more secure and affordable for consumers," he said.

For starters, Siemens needs to build a new access road to the site of the converter station. The permanent road will take nine months to complete and allow for equipment to be transported and installed at the converter station which is due completed in 2023.

Once the entire 1.4 GW Viking Link is completed by the end of 2023, the €2 billion subsea electricity cable will have the capacity of supplying

enough renewable energy to power one and a half million UK homes. National Grid's aim is to import 90 percent of its electricity from zero carbon source by 2030.

Britain's 6th interconnector to Europe

For Britain, Viking Link will be the sixth interconnector to Europe. National Grid already has three operational interconnectors to France (IFA), the Netherlands (BritNed) and Belgium (Nemo Link). Two further projects are under construction to France (IFA2, operational 2020) and Norway (North Sea Link, operational 2021).

Following the completion of Viking Link, National Grid will have 7.8 GW of interconnector capacity – enough to power 8 million homes. The TSO aspires to source 90% of its electricity imports from 'zero carbon sources' by 2030.

Electricity Interconnectors
England, Wales and Northern Ireland



Works for the 1.4GW Viking Link have started in Lincolnshire

Rolls-Royce to join MAN's mya platform

Rolls-Royce Power Systems has chosen to join MAN Energy Solutions' mya platform. The open asset-and-fleet-management-system links data from OEMs and plant operators across the marine, power and energy industries. The initiative can, however, only take off if other suppliers also decide to join up.

A Memorandum on the mya collaboration was signed by Andreas Schell, CEO of Rolls-Royce business unit Power Systems, and Dr. Uwe Lauber, CEO of MAN Energy Solutions (pictured). Lauber said the aim of the mya platform is to "reduce complexity for our customers, and to lower the hurdles for getting pay-back from data."

Solution providers tend to offer a plethora of digital solutions for performance optimisation. This often results in a "complicated, uncoordinated view of the various equipment that vessel and plant operators maintain," according to MAN's head of Digital and Strategy, Per Hansson. "Essentially, mya helps solve this problem by simplifying the retrieval of relevant data from these solutions."

MAN Energy Solutions launched the mya digital platform in February 2020. Members of mya can access all of their digital assets via a single interface that integrates all data-streams from OEMs, asset owners and operators and enables a complete system-view.

However, the initiative can only become successfully if many other suppliers and industry actors join up, which is why MAN has been eager to promote the initiative to its customers.

Wärtsilä to deliver dual-fuel power plant and battery to Virgin Islands

Wärtsilä has won an EPC contract to deliver and install an LPG/LFO-fuelled power plant and integrated energy storage system to the US Virgin Islands Water and Power Authority (WAPA). The four 32LG engines will deliver an output of 36 MW, with energy storage adding further 9 MW for up to two-hours.

The ability to efficiently burn both LPG and LFO was a major factor in selecting the Wärtsilä LG engines for this project. Once up and running, the hybrid solution will add operational flexibility and will serve to improve the existing grid stability on the island.

The order, booked in June 2020, is Wärtsilä's first engine/hybrid power plant sale stipulating the first installation of the company's LG engines, capable of burning both liquid petroleum gas (LPG) and light fuel oil (LFO).

The hybrid plant is contractually bound to be fully operational plant by spring 2022.

The four LG engines will be fuelled by a cleaner burning fuel which will lead to reduced air emissions and enhanced overall air quality. "There is no adverse impact to land, water or the surrounding areas," Kupfer stressed.

The Finish OEM has previously supplied and installed a 21 MW power plant running primarily on propane gas to WAPA, the main utility of the US Virgin Islands.



Randolph Harley power plant site, where the hybrid unit and storage will be installed

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