



Canada to export hydrogen and potentially LNG to Germany

A high-profile deal has been sealed between Uniper and Canada's hydrogen and ammonia producer EverWind to sell Canadian-made green hydrogen from Newfoundland and Labrador to Germany under a long-term deal commencing 2025, which Germany hopes to be followed by LNG exports at some stage. Clear-cut targets and aggressive timelines will be set in the energy pact for hydrogen exports to help Germany avert an energy crisis this winter.

Germany's Green Party-led economy minister prefers to import "green" hydrogen, produced from water through electrolysis using wind or solar power. But the Canadian minister for natural resources, Jonathan Wilkinson has not ruled out selling also "blue" hydrogen, made from natural gas through autothermal reforming while capturing the carbon emitted in the process.

Uniper to import Green H2 from EverWind from 2025

Germany's largest utility Uniper and its former parent E.ON have agreed with Canada's EverWind to purchase 1 million tons of green ammonia starting from 2025. The ammonia will be sourced from EverWind's planned Point Tupper plant. Situated in Port Hawkesbury, the facility benefits from \$600 million worth of infrastructure, such as an existing ice-free deep-water port.

The facility will produce green hydrogen (H2) and turn it into



Newfoundland & Labrador are bound to become major H2 producers



Render of a Hydrogen Carrier

green ammonia (NH3) using a mix of certified green electricity from the Nova Scotia grid and onshore wind power. Further phases, solely powered by offshore wind, are meant to produce more than 10 mtpa of green ammonia per year.

continued on page 2

Uniper shares recover after restart of Heyden coal power plant

Shares in Uniper, Germany's cash-strapped gas importer, have notched up 1.67% to €6.075 on Wednesday after the company announced the temporary restart of its Heyden coal power station. However, gas supply shortages keep weighing heavily on margins and CFO Tiina Toumela said she expects Uniper to return to making a profit in 2024 at the earliest.

Permits to restart Heyden had been granted by the regulator to mitigate the risk of power shortages in the upcoming winter. Output of Germany's fleet of gas-fired power generators has fallen to near zero given that the fuel is being prioritised for refilling gas storages and for use by critical infrastructure, households and industry. Going forward, industrial gas consumption will be subject to a scheme of gas rationing and auctioning as the governments wants to lower overall consumption to the country through the winter.

Uniper is one of Germany's largest gas importers and power producers, next to rival RWE and the regional utility EnBW. But despite a bailout of several billion, Uniper has still not fully recovered. Its liquidity is squeezed due to the sharp reduction



in Russian gas deliveries, which need to be substituted with alternative pipeline gas supplies from Azerbaijan, Norway, North Africa as well as costly LNG imports.

Losses amount to €3.8bn

According to Uniper calculations, losses in connection with halted Russian gas deliveries amount to €60 million per day on average, which have

continued on page 2

AGENDA

POLICY

Berlin lowers VAT on gas to ease burden from soaring energy costs

3

CLEANER POWER

MHI and JERA build 100% ammonia-fired power plant in Singapore

4

SUPPLY

Gazprom to halt flows through Nord Stream for 3 days from Aug 31

5

PROJECTS

Rolls-Royce delivers 200 mtu gensets to UK critical power provider

7

TECHNOLOGY

Duke's Lincoln SCGT, powered by Siemens turbine, wins world record

9

Continued from page 1, top story

Port of Belledune wants to produce H₂

The Canadian provinces Newfoundland & Labrador also wants to become a major producer of hydrogen to serve domestic demand across the Atlantic region as well as for export. A study found that developing hydrogen in the two provinces could result in new jobs and a green energy sector valued at an estimated \$11 billion per year by 2050.

The Port of Belledune is already working with a developer to bring a green hydrogen production facility to northern New Brunswick. Cross River Infrastructure Partners, a U.S.-based company, is working with the port to develop the hydrogen plant. Pending feasibility studies and permits, it could start operating as early as 2027.

Canadian LNG "only a medium-term solution"

Eager to start exporting fast, Wilkinson has stressed providing clean hydrogen to Germany and wider Europe would be a "better

opportunity" for Canada than continuing to get LNG export terminals off the ground – particularly as the world is decarbonising and moves away from fossil fuels. Canadian LNG is largely seen to be "only a medium-term solution" and today's deal will focus establishing hydrogen supply chains.

Uniper, the German gas importer just received a €15 billion state bailout, earlier announced plans of setting up a hydrogen hub at or near the site of its LNG import terminal in Wilhelmshaven. The terminal will also be equipped with an ammonia cracker for producing green hydrogen, as well as a 410 MW electrolysis plant, with the output meant to be fed into a planned future hydrogen network.

Nonetheless, the German Chancellor Olaf Scholz will address the option of building LNG terminals on the Canadian Atlantic coast within the next five years. Germany is facing a full-blown gas supply crisis this winter as it is trying to end imports of Russian pipeline gas while alternative supplies are not forthcoming in sufficient volume. Gazprom, in return, threatened to halt the little remaining

supplies through Nord Stream 1 through an unexpected "short-term maintenance".

Costs for liquefying gas from Alberta "too high"

Imported LNG tends to be more expensive than pipeline gas, and the costs of transporting Canadian gas sourced at Alberta in the west of the Country to the East Coast for liquefaction and export would be very high. Too high, possibly, to make such a project economically feasible, compared with cheaper LNG on offer from Qatar, Australia and the United States.

A new pipeline would be needed to transport the gas all the way from Alberta to Newfoundland – an acronymic idea at a time when the global shift away from fossil fuels would make the lifetime and throughput of the liquefaction terminal too short and small to make it profitable. Unless the LNG export terminal would be converted into a hydrogen export facility when gas demand declines, though this would come at an additional cost. ■

EEX power prices skyrocket amid shrinking gas supply

German power prices at the European Energy Exchange (EEX) have soared over the past few days amid shrinking gas supply, low availability of alternative fuels and constrained power generation capacity. The front-year power contract hit a record high of €565/MWh on Friday, while the day-ahead auction reached an all-time high of €553/MWh just days earlier – a rise of 850% year-on-year.

“High power prices at the EEX exchange are a result of rising gas prices,” analysts commented, noting that gas-fired peaking power plants are “essential” for balancing the inherently intermittent supply of wind and solar power sources. The volumes of renewable energy fed into the grid is rising fast, initially supported by generous feed-in tariffs, as the government seeks to accelerate its Energiewende policy.

However, sharp cuts in comparatively

cheap pipeline gas supplies from Russia have thrown the German energy market into disarray. Faced with a gas shortage, the government has drawn up an auction scheme designed to incentivise industry to massively reduce its usage, in return for a small reimbursement. Under the scheme, companies can decide when to cut or temporarily suspend their gas use – helping the regulator avoid to have to switch off supplies. The unused, “saved” gas would then be shared among all industrial users at the cheapest prices.

Gas burn for power generation is meant to be halted entirely in the event of a supply crunch. Instead, the government has set out measures on easing the transport of thermal coal on the German rail and is considering extending the runtime of the country's three remaining nuclear power stations.

Crucially for end-customers is the fact

that the current gas supply crunch is spilling over into the electricity market. Wholesale gas prices have increased sevenfold since August last year, from less than 30 to 226 euros per MWh this year.

“These high gas prices ultimately reach customers, though with some delay, analysts said. Power prices for final customers only rose slightly in August, with a year-on-year increase of about 31%, meaning an average household that consumes 5,000 kWh of electricity per year will pay about €365 more. Soaring energy prices keep pushing up inflation to near double-digit figures. While the gas supply shortage currently absorbs most of the attention as the heating season draws nearer, high power prices also add to the burden placed on consumers many of whom are financially squeezed after two years of pandemic-related restraints. ■

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Continued from page 1

amassed to a total of €3.8 billion. It is unclear when the situation changes, or if at all, given that the Kremlin just announced to halt the remaining gas flows through Nord

Stream 1 once again starting from August 31, due to a hastily imposed 3-day maintenance of the pipeline's Trent 60 compressor – the last one in operation. ■

BNetzA accused of 'disadvantaging' southern Germany in gas crisis

Bavaria's ruling conservative CSU party has accused the German grid agency (BNetzA) of actively discriminating southern and eastern parts of the country in the gas supply crisis. The complaint came after BNetzA head Klaus Müller said gas cutoffs for individual companies are more likely to occur in "certain regions of Germany" during the next two winters due to an "uneven supply" of imported gas from Russia.

Gazprom, the Russian state gas exporter, is seen to use the fuel as a tool of coercion in its war against Ukraine. Alexander Dobrindt, CSU parliamentary group leader, called on the BNetzA head to "make it clear" who exactly he is addressing with his warning and that the "apparent preparations for regional discrimination have to be stopped immediately."

BNetzA warns of "at least two hard winters"

Companies in certain parts of Germany will experience gas cutoffs next winter, Müller forecast, as meeting the 85% target for filling levels for gas storage facilities by October 1 will be hard. "We are very unlikely to achieve this," he said with reference to target 3, filling gas storage by 95% by November 1.

"Too little gas in storage are likely to lead to regional gas supply bottlenecks," the BNetzA head forecast. "These restrictions would likely be temporary and might end and flare up again several times," he said, adding it will be important to ensure a fast transmission of natural gas through the nationwide German gas grid.

In the event of a severely cold winter, gas storage levels could drop far enough to also create problems in the following heating season, he said, warning: "We

have at least two hard winters ahead of us."

Political row over nuclear power

Bavaria, Germany's south-eastern states, is one of the economic powerhouses of the country and it is highly exposed to the gas supply crisis due to its land-locked geography. Moreover, the state relies heavily on gas-fired power plants to stabilise intermittent wind and solar power, while the planned shutdown of the 1,344 MW nuclear reactor Gundremmingen at year-end is bound to remove vital baseload power supply.

The CSU wants a runtime extension of Germany's last three nuclear reactors to ensure the lights stay on in the event of an acute gas crisis. Hubert Aiwanger, the Bavarian economy minister, has repeatedly urged the ruling federal coalition of Social Democrats (SPD), Green Party and the market liberal Free Democrats (FDP) to reinstate operations of the 1,344 MW nuclear power station Gundremmingen-C, owned by RWE, and proposed a similar move for PreussenElektra's Grohnde and Brokdorf nuclear power stations, both with a capacity of 3,900 MW.

If reinstated, these three nuclear blocks would add 9,144 MW of stable, baseload power generation capacity to the German grid. The three blocks have been taken offline at the turn of the year 2021/22 and are now in the first stages of being dismantled.

Eager to revive nuclear, the CSU proposed that the Bavarian Isar 2 nuclear plant near Munich could receive a limited runtime extension beyond the scheduled decommissioning date at the end of this year.

But the Green Party is hesitant to make this move. Economy minister Robert Habeck argues it would take time to purchase and install the nuclear rods. But KWU, now Framatome, which built the nuclear power station Gundremmingen back in 1976 told this Journal it would be technically possible to restart nuclear blocks if they have been standing still for less than one year. ■

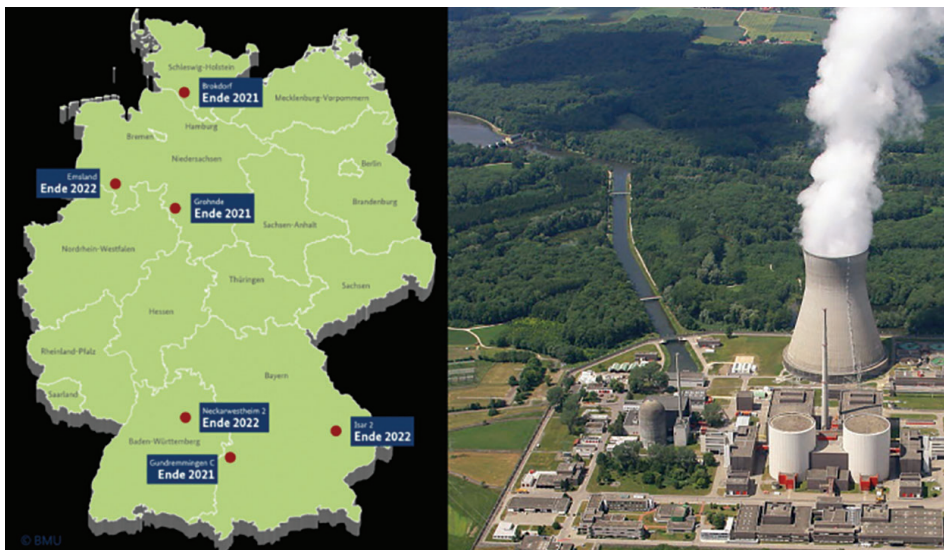
Berlin lowers VAT on gas to ease burden from soaring energy costs

Policymakers in Berlin have agreed to lower the value-added tax (VAT) on natural gas between October 1 and the end of March 2024 to ease the cost burden on households and industry. A new 'gas surcharge' of 2.4. cent per kWh will take effect in October, but Chancellor Olaf Scholz said he expects gas suppliers will pass on the VAT reduction fully to end-customers.

The controversial gas surcharge has been imposed as a measure to allow importers to pass through the higher cost of alternative, non-Russian gas imports to end-customers. The step, announced on Monday, sparked heavy criticism from German consumer groups and industry alike.

But the Chancellor insisted that "with this step, we are reducing the burden for gas customers overall much more than the burden created by the gas levy. "This reduced VAT rate will apply as long as the gas levy is collected," Scholz said.

The ruling coalition decided to impose the new levy on gas end-customers to help fund a compensation scheme for importers that are forced to pay higher prices for alternative gas, e.g. LNG imported via Germany's new floating regas facilities due to start operating off the country's northern coastline in December. ■



Map of Germany's nuclear power stations.



MHI and JERA build 100% ammonia-fired power plant in Singapore

Mitsubishi Heavy Industries Asia Pacific (MHI-AP) and Japan's largest LNG importer JERA have agreed to explore building a 60 MW combined-cycle gas power plant that will be fully fuelled by ammonia on Jurong Island, Singapore. The aim is to stimulate ammonia demand and future ammonia bunkering operations, and supply green electricity to Singapore's chemical industry.

Ammونيا consists of hydrogen and nitrogen. It is a highly efficient hydrogen carrier and can be directly combusted without producing any carbon emissions. Moreover, ammonia can efficiently transport and store hydrogen in a liquid state at low cost. As a fuel, it can be used to generate carbon-free electricity and it aimed to become the main bunkering fuel in future to decarbonize the maritime sector.

Jurong Port and MHI-AP pledge to explore the economic viability to commercialise ammonia for these purposes. The latest Memorandum of Understanding (MoU) between the two partners to build a 100% ammonia-fired power plant follows the successful completion of a pre-feasibility study on ammonia direct combustion technology in March 2022. Four weeks earlier, in February, the Singapore government had raised its climate ambition to achieve net-zero CO2 emissions by or around 2050.

Aggregating ammonia demand across multiple sectors

The ammonia direct-combustion project at Jurong Port aligns with the city state's na-

tional decarbonisation goal and CEO of Jurong Port, Ooi Boon Hoe said: "We feel this MOU could help pave the way for encouraging the adoption of hydrogen in Singapore through aggregation of demand across multiple sectors, mainly the power sector and the maritime sector, thereby addressing the chicken-and-egg conundrum of infrastructure versus demand needs for maritime and domestic power generation."

Aiming for ammonia bunkering at Jurong Port

Looking ahead, the collaboration is also in line with the spirit of reinforcing Singapore's premier bunkering hub status – for current, transition and future fuels.

JERA, for its part, sees the pilot power



View of Jurong Port today

plant as a way to strengthen both its ammonia and hydrogen value chain. The Japanese LNG importer and power generator wants to gain experience in carbon-free power generation and sell this knowledge and related consulting services to its gas offtakers across Asia. "Through initiatives like this, JERA will leverage its experience and capabilities to help countries to reach their net-zero CO2 emissions targets and to build a clean energy supply chain in the region," said JERA Asia's CEO, Toshiro Kudama. ■



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Gazprom to halt flows through Nord Stream for three days on August 31

Russia's Gazprom will halt all flows on Nord Stream 1 starting from August 31, claiming the pipeline's last operational compressor – powered by Trent 60 DLE gas engine – would have to undergo "three-day serving and preventive maintenance." Once completed, Gazprom said it would resume at a rate of 33 mmcm/day – same as the current throughput, but traders are wary as to whether the pipeline will return on time, or at all.

The move caught Europe's gas industry by surprise. Gazprom's line of argument has raised doubts and disbelief given that Nord Stream 1 just returned from its annual maintenance and considering the political turmoil around getting a Siemens-built gas turbine and compressor delivered back and reinstated at Nord Stream 1 following a routine overhaul in Canada.

TTF at \$14.5/MMBtu premium over Asian LNG prices

Gas prices at the Dutch TTF, the most liquid trading hub in continental Europe, surged on fears of an imminent gas shortage in Germany, which would also impact electricity markets. The TTF frontmonth for September 22 was pushed up to an equivalent of \$72.942/MMBtu on the day the news broke. At this price, the TTF Sept'22 contract traded at a premium of more than \$14.51/MMBtu on corresponding Sept'22 LNG import prices in East Asia.

European gas importers, shippers and traders are hard pressed to assess if Gazprom intends to shutter the pipeline for good. It is hard to believe that the hastily announced maintenance is necessary, given that Nord Stream just returned from its scheduled annual maintenance on July 21.

Following the 10-day maintenance in July, Gazprom had initially resumed flows at about 67 Bcm per day, or about 40% of the pipeline's maximum capacity. Just days later,

however, flows were lowered to just 20% capacity and stayed at these low levels ever since.

Risk of recession looms large

Gas rationing plans are subject to a heated debate with parts of the German industry adamantly opposed to such a move, while Deutsche Bank warned such a measure could plunge the country into recession. "While we do not expect a full rationing, we believe the economic consequences, together with a US recession, will push Germany into a recession in [the second half of] 2022," analysts said.

The German coalition government has been trying to shore up the economy by initiating contracts for alternative gas deliveries from countries like Qatar and Norway, and has been accelerating the permitting process for national LNG import terminals. It even permitted the restart of some coal-fired power stations that were scheduled for decommissioning as part of the country's coal exit.

But Deutsche Bank analysts predict these measures will come too late to prevent an energy crisis which will make the economy start to shrink from the second half of 2022.

Meanwhile, the newly adopted a European Gas Demand Reduction Plan sets out measures, principles and criteria for a coordinated demand reduction. The focus is on substituting gas with other fuels, and overall energy savings in all sectors. It aims to

safeguard supply to households and essential users like hospitals, but also industries that are decisive for the provision of essential products and services.

Frans Timmermans, the EU Commission's vice president said he believed that Russia was using natural gas as a political weapon. "So, what we need to do, in any case, is to prepare for even the possibility of full disruption of gas supplies.

"All scenarios should be taken into account, even that worst scenario," he stressed. ■

German gov' signs MoU signed for direct LNG imports

After a lengthy planning procedure, Germany's Economy Minister Robert Habeck on Tuesday this week signed a memorandum of understanding for the direct procurement of LNG starting by the end of this year. Landed volumes will be sourced from available Uniper and RWE portfolios with at least two FSRUs supplied to their maximum capacity until March 2024.

The procured LNG will be delivered to two new FSRU terminals starting by the end of this year at Wilhelmshaven, operated by Uniper, and Brunsbüttel, operated by RWE. The new FSRU infrastructure is essential for Germany to begin direct imports of LNG to offset – as much as that is possible – lost pipeline supply from Russia. Today, Germany gas importers can only import LNG by using available regas slots at Zeebrugge in Belgium, or Rotterdam in the Netherlands.

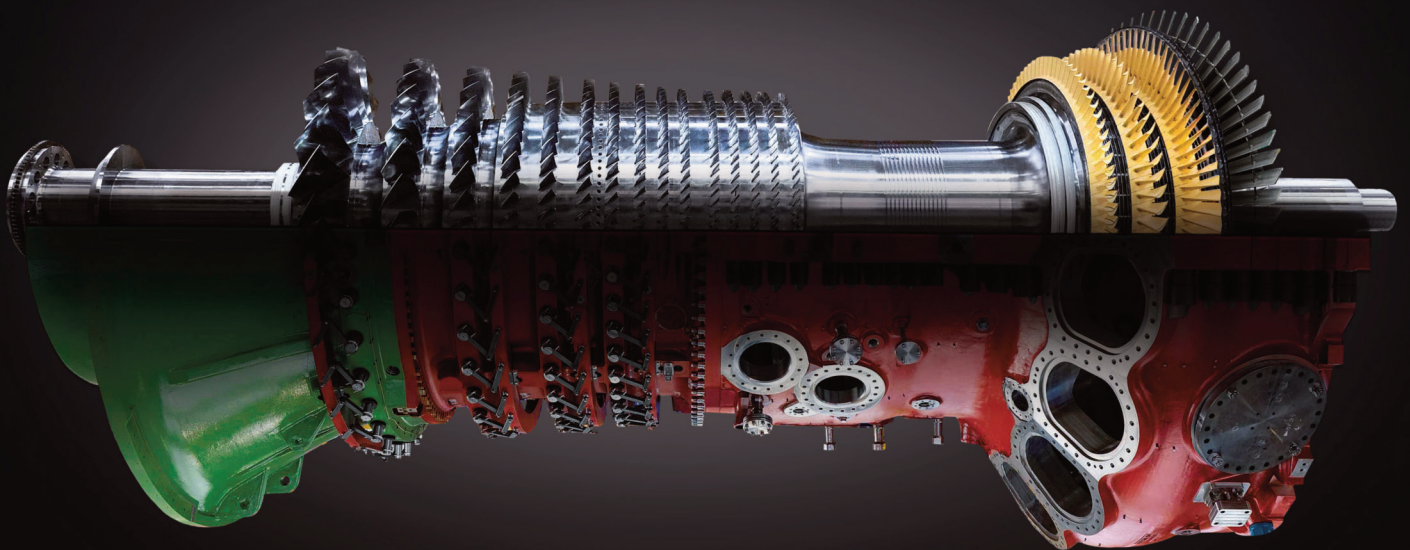
Habeck stressed that the Uniper and RWE would be able to procure supply at the best available prices via flexible portfolios. But he also said that conclusive planning for the upcoming winter is going to be "difficult" since there are "no guarantees on market development." In a comment on 'ongoing' talks with Qatar over LNG supply, the minister hinted that the Middle Eastern LNG supplier was asking for "comparatively high prices" for its gas. ■



Russian gas trunklines to Europe

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Rolls-Royce delivers 200 mtu gensets to UK critical power provider

AVK has bought 200 mtu emergency genset from Rolls-Royce to supply critical power supply for Britain's data centers, hospitals, telcoms and the financial industry. "Data is now the 'fourth utility' required by all. I believe we are still at the bottom of the growth curve; I can't see an end to it," AVK managing director Chris Pritchard commented.

Today, telcom infrastructure is considered as important as electricity, water, and HVAC (heating, ventilation, and air conditioning) systems. The European data center market will grow at a rate of 13.1% between 2021 and 2028, Grand View Research forecasts, with demand set to be highest in Frankfurt, London, Amsterdam, and Paris.

Over the past three years, AVK installed over 3.5 GW of emergency power for industry in Europe and the UK. The British emergency power provider offers turnkey gensets based on Series 2000 and 4000 mtu diesel systems ranging from 825 to 4,000 KVA.

"We have been using mtu engines for

emergency power systems for over 20 years," Pritchard said. Current projects include the flagship data center campus for a Dublin-based Hyperscale digital operator, various enterprise data centers across the UK and Europe, and several high-rise London-based commercial developments.

Turning to HVO and hydrogen

Sustainability plays a major role for data center operators, hence interest for alternative fuels has grown. Operators seek to switch from using diesel to Hydrotreated Vegetable Oil (HVO) or use hydrogen-fuelled gensets.

mtu Powergen engines can be used unchanged for sustainable EN15940 fuels, such as HVO. No engine hardware or software modifications are required with the same performance. Meanwhile, Rolls-Royce is also developing mtu gas engines that can run on Hydrogen and is about to launch hydrogen-based fuel cell solutions that that emit nothing but water vapor from 2025.



mtu genset being installed at a high-rise in London

Gas engine market forecast to top \$6.8 billion by 2030

Strong economic growth and a thriving manufacturing sector in developing countries, combined with a growing population, is driving the need for fast-start gas engines to provide mid-merit energy supply and peaking power. Analysts forecast the size of the global gas engine market will reach over \$6.80 billion by 2030, as global power consumption could to rise by more than 50% by 2050.

Based on the fuel type, the natural gas-fuelled engine segment has the leading market share. Gas-fuelled engines are cleaner-burning than other fuels: it produces less carbon emissions and also minor levels of nitrogen oxides, sulfur dioxide, and nanoparticles.

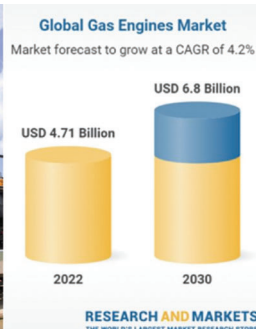
"Gas gensets comply with the often harsh government rules that regulate carbon emissions, hence utilities in the Americas, and developing Asia and Africa prefer gas-powered engines over rival engines running on heavy fuel oil (HFO)," analysts say.

Industrial and commercial power production are the

two largest user groups of gas engine, and manufacturers like Caterpillar, Fairbanks Morse, Hyundai, Kawasaki, Liebherr, Mitsubishi and Siemens Energy are offering genset adapt for distributed power generation, where a gas pipeline network networks do not exist.



Cat 3512E Tier 4 dynamic gas blending engine



NEWS NUDGES

Nexif sells energy assets to RATCH Group

Denham Capital, a global investment firm, and Singapore-based Nexif Energy have jointly arranged and agreed to sell the latter's energy assets in Australia and Southeast Asia, where Nexif owns 2,670MW of power gen capacity. These assets, with an enterprise value over US\$1 billion, will be sold to Thailand's RATCH Group at a transaction equity value of US\$605 million. Nexif, a Singaporean renewables focused power development and investment company, founded Nexif Energy in August 2015 together with Denham Capital. The aim was to acquire, develop, construct and operate clean energy assets and battery storage across Australia and Southeast Asia.

Brenmiller bags equipment order in Israel

Brenmiller Energy, an Israeli provider of energy storage, has made a \$1.4 million equipment order linked to the expansion of its automated production facility, currently under construction in Dimona, Israel. The equipment is expected to be delivered in November. The order follows a recent drawdown on the company's credit facility with the European Investment Bank (EIB), with CEO Avi Brenmiller saying: "It keeps us on track to reach full production capacity of up to 4,000 MWh per year of bGen thermal storage modules, at our newly upgraded facility in Dimona, Israel by the end of 2023."

German gas use falls 15% in H1-2022

Gas consumption in Germany has fallen by nearly 15% in the first six months of this year. According to preliminary figures released by the German Association of Energy and Water Industries (BDEW), gas use fell by 14.7% to 497 billion kilowatt hours, a drop of around 8%. This can be partly explained by a warmer spring, analysts said, but is most likely a consequence of the soaring prices, inflationary pressures and the economic uncertainty which made consumers limit their energy uses since the middle of 2021 already, BDEW figures show.



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A handwritten signature in black ink, likely belonging to Jill Evanko.

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Duke's Lincoln SCGT, powered by Siemens turbine, wins world record

Duke Energy's Lincoln Combustion Station (410.9 MW), run by Siemens Energy's SGT6-9000HL gas turbine, has won the Guinness World Record for "most powerful simple-cycle power plant (SCGT)". The turbine is currently undergoing tests. Designed to run longer between maintenance cycles, it will be about 34% more efficient than existing turbines at the Lincoln site.

The record-winning SGT6-9000HL turbine was delivered to the Lincoln site in November of 2019, and was started for the first time in April 2020. It's the first 60-Hz HL-class turbine from Siemens Energy.



Duke Energy's Lincoln SCGT near Charlotte, North Carolina

The turbine's power output is complemented by its agility: Flexible electricity from the HL-class turbine can quickly be added to the grid to meet market demands and help stabilize the power supply in the face of rising intermittent infeed of wind and solar power.

The open-cycle Lincoln power plant is situated about 25 miles north of Charlotte, North Carolina. Once re-powered, the Lincoln SCGT will generate enough energy to power more than 300,000 homes.

"We are pursuing an aggressive clean energy transition, and have already achieved more

than 40% carbon reduction since 2005," said Kevin Murray, VP Project Management & Construction at Duke Energy. "The new gas turbine Duke's Lincoln site will become the most fuel-efficient gas turbine in our fleet," he pointed out, explaining: "The unit's fast start and high ramp rate capability will support the increase in renewables we are placing on our system while complementing our journey to net-zero carbon from electricity generation by 2050."

Power output, efficiency and operational flexibility are crucial elements to advance the decarbonization of power stations. Karim Amin, Siemens Energy board member underlined: "The Guinness World Record title demonstrates our capability as a technology leader working together with Duke Energy to accelerate the path towards net-zero emissions." ■

GE's OPM software to optimise power plant dispatch in Lithuania

Lithuania's largest power producer Ignitis Gamyba has chosen to implement GE's digital OPM production planner at its 1,055 MW Elektrėnai Complex, including two 300 MW reserve power units.

The OPM tool offers real-time insight into supply/demand balance and helps automate the data transmission for day-ahead planning of power plant dispatch to facilitate a more effective electricity trading.

Optimising forecasting and data exchange

Rimgaudas Kalvaitis, CEO of Ignitis Gamyba said the OPM Production Planning tool helps the utility make the most effective use of its combined-cycle gas power plant (CCGT) at the utility's Elektrėnai Complex. "The software is a functional product that allows us to ensure optimal forecasting of unit power and the exchange of information between responsible employees. This creates benefits for the company, shareholders, and the country of Lithuania as a whole," he said.

The thermal power complex, situated 2 km northeast of Elektrėnai town, includes a CCGT, reserve power plant, as well as bio-fuel and steam boilers. It generated 1,2 TWh in 2020, making it the largest source of power generation since the 2010 shut-down of Lithuania's Ignalina nuclear power plant.

The CCGT at the Elektrėnai Complex is driven by a GE-built 9FB turbine and pro-

vides electricity, heat and ancillary services. A similar turbine has been installed in Riga's TEC- 2 power plant, the largest facility in neighbouring Latvia. According to Ignitis Gamyba, the efficiency of the CCGT exceeds 85% and its output could cover up to 25% of Lithuania's electricity demand.

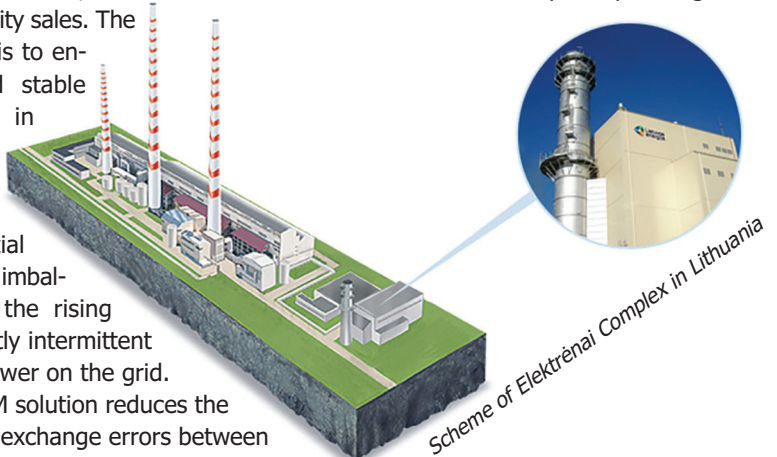
Lowering the risk of load losses

By retrofitting the overall complex with GE's OPM tool, Ignitis Gamyba wants reduce the risk of supply imbalances while maximizing the efficiency of the unit, and expanding electricity sales. The overarching goal is to ensure secure and stable power Lithuania in the Baltic region. In particular, the utility wants to reduce potential load losses due to imbalances caused by the rising supply of inherently intermittent wind and solar power on the grid.

The digital OPM solution reduces the potential for data exchange errors between operational staff and trade staff, while optimising natural gas procurement and day-

ahead power plant dispatch process. It gives insights into available power generation capacity – its value and cost – while taking into consideration a range of specific constraints e.g. marketplace conditions, emissions limits, fuel penalties, start-up and shutdown durations and cost.

Essentially, GE's OPM tool helps traders and plant managers to better understand the day-ahead and intraday plant capacity, and how to make the most profitable use of that capacity through commitment preparation, fuel nomination and dispatch planning. ■



Scheme of Elektrėnai Complex in Lithuania

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