



PetroVietnam agrees to supply LNG for EVN's Quang Trach II project

PV Gas, part of PetroVietnam, has agreed with state utility Vietnam Electricity (EVN) to deliver LNG from the Vung Ang regas terminal to the Quang Trach II power project. Unit II had been a 1.2 GW coal-fired power plant repurposed into an LNG-fuelled unit – in line with Vietnam's 8th national power development plan.

EVN in September was granted approval in-principle for the Quang Trach II project which is expected to cost over 52,490 billion Vietnamese Dong, equivalent to US\$2.12 billion. Designed with a nameplate capacity of 1.5 GW, the plant will run on combined-cycle gas turbine technology and will be fuelled with regasified LNG sourced via the nearby Vung Ang terminal.

Vietnam repeatedly suffered power shortages over the past few years that affected local industry, and state-owned PetroVietnam seeks to ramp up its flexible power generation capacity. Two LNG import terminals are part of a wider plan for 13 gas power plants with 22.4 GW capacity combined, envisaged to be built by 2030.

Integrated LNG-to-power project

PetroVietnam back in May also announced plans to spend \$2.5 billion in LNG import infrastructure in Ha Tinh central province, where PV Power proposed a 1.5 billion LNG-fuelled power plant with an initial capacity of 1,500 MW and a possible expansion to up to 4,500 MW. According to PV Power, construction of that power plant will com-



Quang Trach I, completed in 2017

mence in 2026 and enter commercial operations in 2030.

The adjacent LNG import terminal is slated for completion in late 2029 or early 2030, with an annual capacity of 1 to 3 mtpa, dependent on the progress of the power plant. Both projects will be situated in Vung Ang Economic Zone.

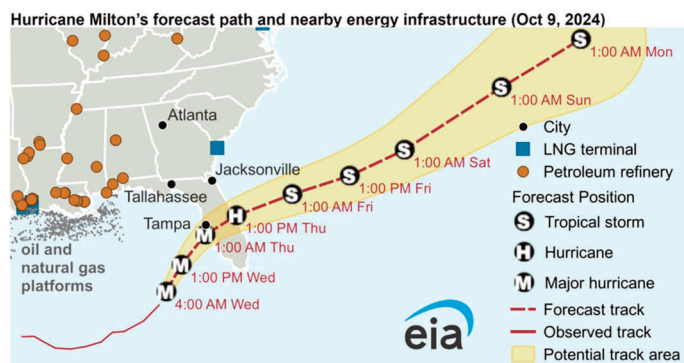
Economics of both projects are closely interlinked: "Development of an LNG terminal is only feasible as long as there is an LNG-fired power plant as a major LNG consumer," said PetroVietnam chairman Le Manh Hung.

continued on page 2

Hurricane Milton batters Florida, leaves millions in the dark

Over three million homes and businesses are without electricity in Florida after Hurricane Milton made landfall with winds of around 120 miles per hour early in the early hours of this morning. Emergency response teams expect a big rise in sea level will cause flooding on the west coast, while oil and gas distributors and power plant operators took precautions to shield against high winds.

Much like Hurricane Helene, which made landfall on the Florida Panhandle on September 26, Hurricane Milton is feared to leave a path of destruction behind him. Taking precautions, Chevron closed its Blind Faith oil platform with 65,000 bbl/day production capacity in the U.S. Gulf of Mexico and evacuated all personnel from the facility in



Data source: U.S. Energy Information Administration, U.S. Energy Atlas map of hurricanes, cyclones, and typhoons

continued on page 2

AGENDA

LNG-TO-POWER GEN

Cost-overrun at German onshore LNG project at Brunsbüttel

2

PRICES

Market bullish on TTF curve, despite talks to uphold Russian gas transit

3

MARKETS

IEA calls for strong policies on integrating solar PV and wind power

4

NETWORKS

North Africa interconnectors could bring 24 GW clean energy to Europe

5

TECHNOLOGY

Dutch-Danish duo to enhance onshore wind flow modelling

6

PROJECTS

Calpine boosts exposure in ERCOT with 550 MW Quail Run acquisition

7

Guvnor buys lion's share of 785 MW CCGT in Bilbao from bp

7

Continued from page 1, top story

Rival projects under construction

Rival LNG-to-power projects – notably at Nhon Trach – are under construction in Vietnam's southern province of Dong Nai.

The Nhon Trach combined-cycle gas turbine (CCGT) plants are under construction

in close vicinity to the Thi Vai LNG terminal, with unit 3 is due to start generating electricity from November this year and unit 4 from May 2025.

Financing for the Nhon Trach 3 & 4 LNG-fuelled power units (750 MW each) – has been agreed in April when PetroVietnam Power signed a \$300 million short-term loan

from Citibank and ING. Talks with the two lenders are ongoing for a \$600 million long-term loan.

To fuel the power plants, PetroVietnam Gas said it has signed eight LNG sales and purchase agreement (SPAs) with "some larges supplies." One of these SPAs is understood to be with Qatargas. ■

Cost-overrun at German onshore LNG project at Brunsbüttel

Construction of an onshore LNG import terminal at Brunsbüttel is more expensive than expected, forcing Germany to support the project with another €200 million in federal funding – on top of the €740 million initially committed. Broadcaster NDR reports total costs now surpass €1.5 billion, instead of €1.3 billion, with private investors having to shoulder most of the overrun.

NDR understands the German government has become a co-investor in the project and holds a 50% share via the state development bank KfW. The other half is held by Essen-based energy group RWE and the Dutch state-owned Gasunie.

Gazprom's reduction in contractual gas deliveries, in retaliation to Western sanctions following the Kremlin's invasion of Ukraine, has forced Germany to swiftly diversify its gas supply. As a quick fix, the government invested billions in floating LNG import infrastructure. Some of these projects are controversial.

DIW sceptical about project economics

Franziska Holz, DIW Berlin's deputy head of energy, transport and environment, is

sceptical that the three German LNG terminal will reap a profit, especially since private investors hesitate to come forward without state support.

Three FLNG terminals are currently in operation in Germany – E.ON-led Wilhelmshaven terminal, RWE/Gasunie's Brunsbüttel floating and subsequent onshore LNG project and Baltic Energy Gate – which together cover 5% to 12 % of Germany's monthly gas consumption. Agreed charters for these floating terminals are for about 10 years and neither these three FLNG terminals is working at full capacity. In fact, the lion's share, or 45% comes via pipeline from Norway, 4% from the Netherlands, 5% from domestic

production and the rest is pipeline gas from various European neighbours, partly from swap deals.

"Floating terminals are sufficient to diversify Germany's gas supply and meet peak demand for the coming 10 years – and that's how long the charter agreements last. Any investment in land-based infrastructure with a runtime of 20 to 30 – like Brunsbüttel LNG, in my opinion superfluous," DIW's deputy head said, stressing there is no such thing as a gas shortage in Germany.

On the contrary, Germany's gas demand is in steady decline as rising CO2 prices make industry and power generators gradually turn away from gas

combustion for generating heat and electricity. Holz hence criticised the coalition government for lacking a clear strategy on how to exit natural gas as a fossil fuel source and realise Germany's binding commitment to reach climate neutrality by 2045. ■



FSRU Höegh Gannet, moored off Brunsbüttel

Gas to Power Journal

Publisher
Stuart Fryer

Editor
Anja Karl
Tel: +44 (0)7733 684 682
anja@gastopowerjournal.com

Advertising
David Jeffries
Tel: +44 (0)7973 642 086
djeffries@lngjournal.com

New Business & Databases
Stephan Venter
Tel: +44 (0) 207 017 3407
venter@gastopowerjournal.com

Subscriptions
Margarita Tokere
Tel: +33 (0)7 67 62 58 77
margarita@gastopowerjournal.com

Layout & Production
Vivian Chee
chee@thedigitalship.com

Continued from page 1

preparation for Hurricane Milton.

Florida governor Ron DeSantis said in a press conference on Tuesday the state was dispatching and staging fuel as needed. However, Florida does not have any refineries or gasoline pipelines that connect it to states with excess supply. Florida's gasoline and diesel are delivered by truck or ship from domestic and international sources.

Several ports are closed: Inbound and outbound vessel traffic to Port Tampa Bay, where over 17 million tons of oil- and natural gas-related products move through in a

typical year, has ceased, the US Coast Guard reports. More than 43% of Florida's petroleum products, including gasoline, diesel, and jet fuel, moves through Port Tampa Bay and the duration of the port's closure is uncertain.

Substantial volumes of oil and natural gas production facilities in and along the US Gulf Coast have been shut-in prior to Hurricane Milton's landfall – curtailing supply and impacting both WTI oil prices and natural gas prices at Henry Hub as well as hub-indexed US LNG destined for export. ■

Market bullish on TTF curve, despite talks to uphold Russian gas transit

Bullishness on the TTF curve prevails despite negotiations to uphold Russian gas transits through Ukraine beyond their contractual expiry date on December 31, 2024. Replacing Russian gas with physical supply from Azerbaijan is only possible under a swap deal with Gazprom – and near-term Russian supply impacts the arbitrage of moving US LNG spot cargoes east of Suez in December.

JKM-TTF spreads forecast over balance-winter increased marginally, as the increase of anticipated DES NWE-TTF spreads offsets the impact of further weakening freight rates.

"We expect lower winter freight rates year-on-year on exceptional growth on tonnage in the carrier fleet, lower y/y floating storage and limited global supply growth," analysts commented. Energy Aspects balance-winter freight rate forecasts average \$57,360 per day – some \$3,040/d below the latest CME curve. The London-based consultancy uses CME freight rates in its shipping differential calculations and lower freight rates weigh on JKM-TTF balance-winter 2024–25 spreads.

Korean swap tender

In contrast, Energy Aspect's Pacific balance stays largely unchanged week-on-week – still showing Asia needs to call on Atlantic cargoes to balance over peak-winter

months through to February 2025 – despite decreasing LNG demand growth in Northeast Asia. Bullishness prevails, though, on balance-winter outturn JKM prices which are forecast around \$0.90/MMBtu above the latest CME settlements, mainly driven by analyst's bullish view on TTF winter 2024–25 prices.

Kogas came out with a swap tender to sell three cargoes on a FOB basis for loadings from Sabine Pass and to buy three cargoes on a DES basis. Posco and Kospo each secured one November delivery.

"Our tender database shows that South Korea has secured six November deliveries, and we expect the country to have a spot demand of 1.96 mt that month, up by 1.32 Mt y/y on growing demand and expiring term supply," analysts commented.

Japanese utility buyers, meanwhile, are still largely absent from issuing buy tenders, although JERA reportedly secured some spot deliveries over the past few weeks. En-

ergy Aspect's balance indicates Japan has an average spot demand of 0.93 Mt/m for balance-winter, largely flat y/y. LNG held by major power utilities, a subset of aggregate Japanese LNG stocks, dropped to 1.64 Mt, the lowest since end-March on continued end-summer heat.

Helene impact

The impact of Hurricane Helene is limited, as major US LNG liquefaction projects located in Texas and Louisiana were outside of the path of the storm which made landfall in Florida on September 26.

The 2.5 mtpa Elba Island LNG in Georgia was the export terminal closest to Helene's landfall. Feedgas flows from Elba Island fell to 0.28 bcf/d since Helene's landfall, down from an average of 0.37 bcf/d, though these seem to be precautionary measures by the operator.

Disruption of US LNG supply are hence below our pre-emptive downward adjustment of 0.5 million tons, which lengthens the global supply balance though there is some downside risk to Australian LNG export over potential industrial action at Chevron's contractor on the 15.6 mtpa Gorgon and 8.9 mtpa Wheatstone facilities. ■

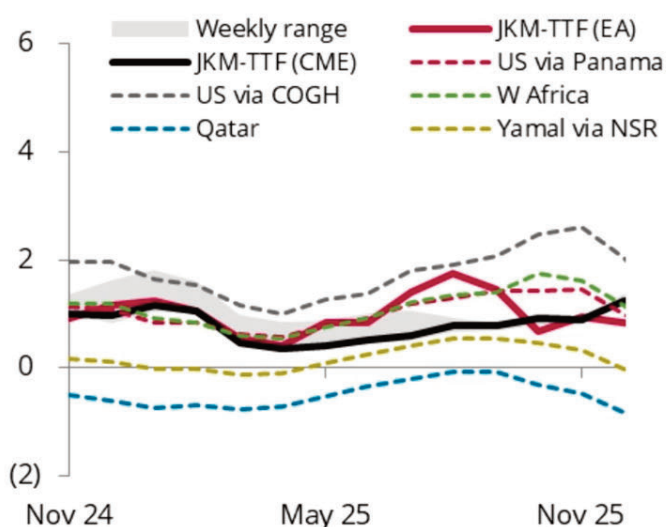
“

Our tender database shows that South Korea has secured six November deliveries, and we expect the country to have a spot demand of 1.96 mt that month, up by 1.32 Mt y/y on growing demand and expiring term supply

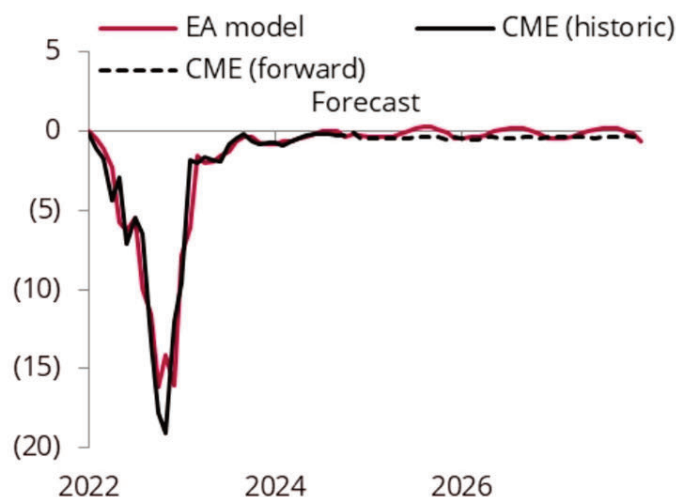
”

- Energy Aspects analysts

JKM-TTF spreads, LNG freight diffs, \$/MMBtu



NWE DES-TTF spreads, \$/MMBtu



Note: Freight diffs are the increases in freight costs to send cargoes to Northeast Asia instead of Europe

Source: CME, Fearnleys, Argus Media Group, Energy Aspects

IEA calls for strong policies on integrating solar PV and wind power

Proactive integration strategies from the industry, along with strong policies, are paramount to realise the full potential of expanding solar PV and wind power capacity. The inherent variability of renewables needs to be leveraged by dispatchable generating sources, grid enhancement, increased storage and demand-side response, International Energy Agency (IEA) underlined.

Delaying such integration measures could jeopardise up to 15% of solar PV and wind power generation in 2030 and would likely result in up to a 20% smaller reduction of carbon dioxide (CO₂) emissions in the power sector, the IEA warns.

Global VRE at risk

In a detailed report, analysts warn that should integration measures fail to be implemented in line with a scenario aligned with national climate targets, up to 2,000 terawatt-hours (TWh) of global variable renewable energy generation (VRE) would be at risk by 2030. This potential loss – equivalent to the combined VRE output of China and the United States in 2023 – stems from

possible increases in technical and economic curtailment, as well as potential project connection delays.

The share of solar PV and wind in the global electricity mix in 2030 would consequently reach only 30% – lower than the 35% in the case where integration measures are implemented on time. “If this decrease is compensated by increased reliance on fossil fuels, it could lead to up to a 20% smaller reduction of CO₂ emissions in the power sector,” analysts warn.

Electricity system in early integration phases are face little impacts from renewables build-out as most challenges can be addressed by modifying existing assets or improve operations of fossil assets to increase flexibility. Such measure include op-

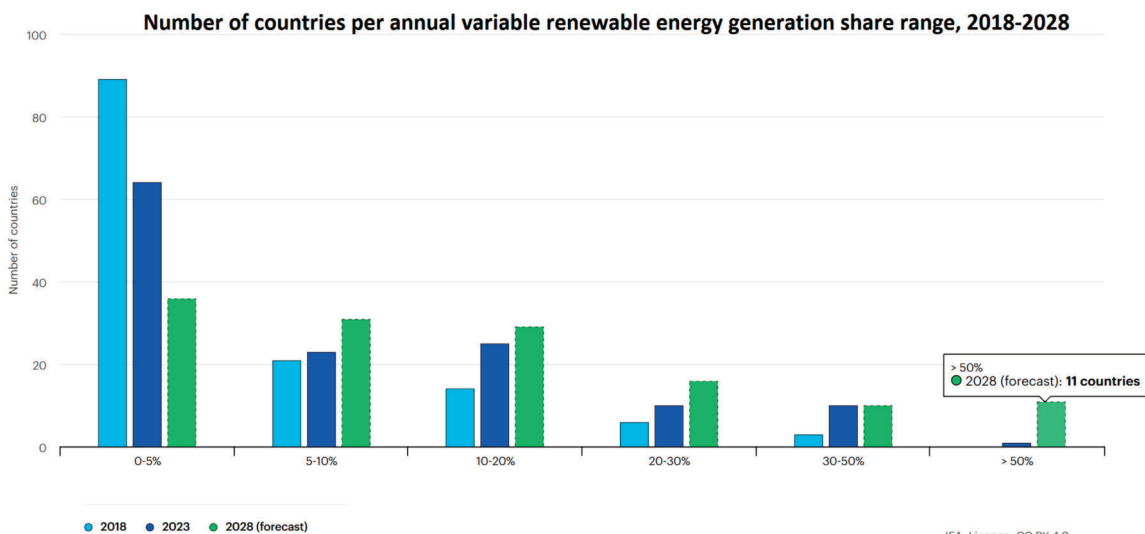
timising dispatch processes and improved forecasting, soliciting higher flexibility and system services from both conventional and VRE power plants, enabling industrial demand response and enhancing grid infrastructure.

Learning from frontrunners

Some frontrunner power systems are effectively managing high levels of VRE. Systems such as those in Denmark, Ireland, South Australia and Spain have reached Phase 4 or higher, integrating from 35 up to 75% of VRE in their annual generation, depending on the system.

“At these penetration levels, challenges in stability and flexibility across all timeframes become more acute,” analysts concede.

Grid operators in these countries see variable renewable energy sources frequently cover most of their generation for over a day – and this necessitates a fresh approach when it comes to operating, planning, and financing their power system. “Their experiences provide valuable insights for other systems around the world aiming to accelerate VRE integration,” IEA analysts conclude. ■



UK on track to become Europe's largest CCS market

With 78 gigatons of CO₂ storage potential, the UK has all ingredients to become the largest carbon storage market in Europe, the trade body Offshore Energies UK finds. Final close for the Track-1 clusters, Hynet and the East Coast Cluster is imminent which – together with Track-2 clusters – could meet the UK's target of storing 20-30 mtpa by 2030.

Storing carbon not only mitigates emissions of British industries and electric power producers, the sector could create 50,000 new jobs and protect a further 100,000 in industrial regions. The offshore industry association is convinced “CCS can contribute billions to the economy between now and 2030” and is expected be worth £100 billion to the supply chain by 2050.

“There is no viable alternative to CCUS for decarbonising several energy-intensive industries, such as cement manufacturing,

which contributes 7% of global CO₂ emissions. To put this in perspective, if cement production were a nation, it would be the third-largest emitter in the world.

“Gas-fired power offset with carbon capture will also play a critical role in delivering the government's net zero power ambitions by 2030,” said Enrique Cornejo head of energy policy at Offshore Energies UK.

To accelerate CCS deployment, the government should simply and enhance funding mechanism, e.g. by handing out the

£20 billion government support announced in 2023 and creating a route to market for transportation and storage systems and emitters outside of the “Track process.” ■



Rig in the Delaware Basin, part of the oil-rich Permian

North Africa interconnectors could bring 24 GW clean energy to Europe

New interconnectors between North Africa and Europe could accelerate the EU's green energy transition and deliver up to 24 GW of clean electricity from wind and solar power sources. Today, Morocco is the only African country linked to Europe via two high-voltage cables (700 MW each) feeding into Spanish grid – a third cable is in planning as is Xlinks to the UK.

The Xlinks UK-Morocco project is envisaged to establish 11.5 GW of intermittent renewable capacity, 22.5 GWh of battery energy storage, and a 3.6 GW subsea interconnection between the UK and Morocco. Further interconnectors across the Mediterranean are the GREGY initiative between Greece and Egypt alongside the ELMED-TUNITA project between Tunisia and Italy.

Over \$28bn investment needed

Once these three interconnectors are operational, some 7.2 GW of interconnector capacity and 23 GW of renewable capacity will have to be deployed in North Africa to support Europe, according to Rystad Energy calculations. The total is expected to include 13.5 GW of solar PV and 9.5 GW of onshore wind – necessitating an investment of over \$27.5 billion.

If all electricity generated at these new renewable facilities will be dispatched to Europe, the three interconnections operating at maximum capacity could deliver a55 TWh on an annual basis – translating to 1.6% of Europe's current overall power generation, analysts noted, suggesting this could potentially replacing about 6% of the continent's fossil power-burn.

"North Africa's renewable energy poten-

tial aligns well with Europe's goal of reducing reliance on Russian natural gas. The region's geographic proximity makes it a natural fit for buyer-seller relationships, leading to large-scale solar and wind projects, along with subsea cables across the Mediterranean and even to the UK.

"Wind power in Europe peaks during the winter while solar power peaks in the summer, offering a chance to balance power supply fluctuations. This helps diversify energy sources and reduce fossil fuel use in Europe's power sector," said Nivedh Das Thaikoottathil, Rystad's senior analyst of Renewables & Power Research.

North Africa's current energy landscape

Annual power generation across North African currently exceeds 400 TWh and the region has the highest electricity access rates in Africa and is blessed with abundant sunshine as well as wind power potential. More than 350 GW of onshore wind and solar projects currently in various stages of development, most of them in the concept phase.

Levelized cost of electricity (LCOE) of these technologies in North Africa have fallen significantly, from \$55-70 per megawatt-hour (MWh) to below \$50 per

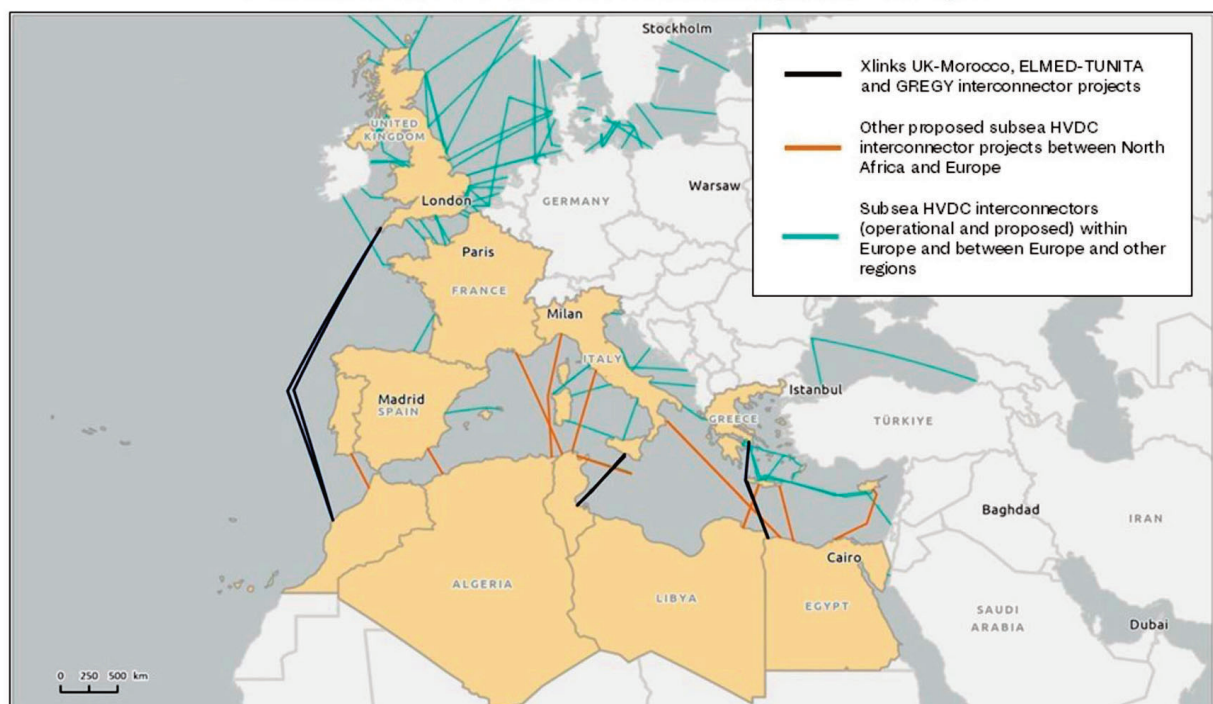
MWh over the last decade.

Investor interest is increasing and the region is already home to the largest PV installations globally, including Egypt's Benban 1,650 MW solar complex and Morocco the 510 MW Noor Ouarzazate solar thermal complex. Africa's largest wind power projects are also found in Egypt, notably the 580 MW Gabal El Zeit and 545 MW Zafarana wind farms.

Obstacles for a timely completion of renewable energy project in North Africa are manifold: limited local manufacturing capacity for wind turbines, solar panels and especially HVDC cables. As of 2023, Europe produces more than 50% of these cables, with approximately 9,000 kilometers currently in circulation globally.

New cable manufacturing plants are forecast raise supply to around 16,000 km by 2030. However, Rystad calculations found that demand will exceed 75,000 km by 2030, driven by the need for HVDC interconnectors and offshore wind export cables. "This could create a supply-demand imbalance that necessitates intervention from Asian manufacturers," analysts warned, anticipating European firms will seek to step up their production capacity to meet demand in their home market themselves. ■

Subsea HVDC interconnectors in/into Europe



Source: Rystad Energy's Renewables & Power Solution, October 2024

Dutch-Danish duo to enhance onshore wind flow

Whiffle, a spinout of Dutch Delft University of Technology, has teamed up with Danish green energy developer Ørsted to enhance the modelling of onshore wind power generation. Wind behaviour is forecast and tracked in complex, forested terrains with a view to refine Whiffle's Large Eddy Simulation (LES) model and integrate it into Ørsted's workflows and future investment decisions.

Forested and mountainous regions are among the most difficult environments for accurate wind flow modelling due to the strong spatial variability in tree height, canopy density, and terrain features. "These factors create turbulent wind patterns and significant reductions in wind speeds, which traditional wind modelling tools, with their limited resolution, often fail to accurately capture," experts at Whiffle explained.

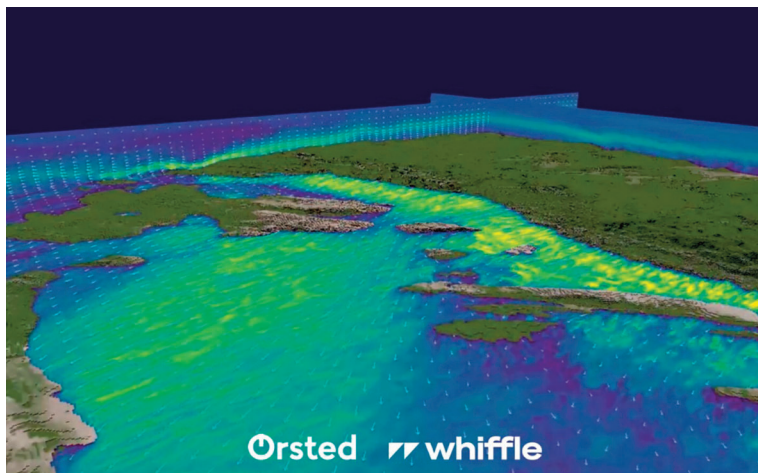
The Joint Development Agreement (JDA) with Ørsted is meant to help improve Whiffle's LES model by factoring in detailed terrain and vegetation data in order to make wind simulations more accurate and reliable. "The focus will be on refining the model to align with Ørsted's operational needs.

"With wind being the very foundation for wind farm revenue, accurately predicting the available wind resource is crucial for de-

veloping a wind farm and building its business case. By partnering with Whiffle to enhance their Large Eddy Simulation model for onshore sites, where complex topography and forestry often present challenges, we aim to deliver commercial benefits for our onshore projects," commented Ørsted's senior energy analyst Andrew Davidson.

Whiffle CEO Remco Verzijlbergh called the joint development a pivotal step in strengthening the company's LES model. "By combining high-res-

olution data with our state-of-the-art simulation capabilities, we're not just improving our model," he noted, — "we're setting new standards for wind resource assessments that will directly impact the success and efficiency of onshore wind projects." ■



Aspen launches microgrid tool to optimize load management & storage

AspenTech Microgrid Management System has been launched to help customers in the refining, chemicals, and sector mining manage their own onsite power generation in orchestration with load management and energy storage. Based on the OSI monarch platform, the solution helps industrial power producers to

Grids are a critical juncture for both electricity offtake and in-feed from decentral energy sources, like onsite power stations of large industries or offshore wind farms or small-scale solar PV installations. Rising electricity demand and high energy prices is prompting a rising share of big and small consumers to generate part of their electricity needs themselves.

Aging and at-capacity grid infrastructure, more severe weather events and increasing cybersecurity threats are challenging its reliability and stability. Industrial and commercial electricity offtakers are hence at risk

of having their power consumption curtailed, or cut off outright of supply outstretches demand – with cascading effects on industrial production and end-user cost.

"Our new microgrid solution reduces energy vulnerability and business risk [...] by bringing functionality and flexibility to the power challenge, helping heavy energy users achieve both operational and net-zero objectives," said Sally Jacquemin, Vice President [...] of Power and Utilities at AspenTech. The solution enhances power reliability with active, real-time management of power generation resources, including renewable energy and storage, and enhanced cybersecurity to protect critical load.

Industrial AI allows the solution to forecast electricity consumption and renewable energy supply up to 35 days in the future, while optimization algorithms help industrial power plant operators maximize the use of generation resources while minimising electricity costs. ■



NEWS NUDGES

Hitachi to invest \$250m in India

Hitachi Energy has announced plans to spend some \$250 million (INR 2,000 crores) in its operations in India over the next five years. The investment part of the company's larger \$6 billion investment plans in manufacturing, engineering, digital, R&D, and partnerships across major markets globally.

UK to spend £22bn on CCS

The UK government has committed to invest up to £21.7 billion (\$27.48bn) on carbon capture and storage (CCS) projects, despite rising costs. Three out of eight envisaged CCS plants are likely to reach financial close and proceed to construction.

KARNO generators qualified under California's RPS

Hyllion's KARNO linear generator is now an eligible technology under California's Renewable Portfolio Standard (RPS), following the passage of Assembly Bill 1921. This facilitates the adoption of KARNO technology which uses renewable fuels such as landfill gas, biogas, hydrogen, and others to meet California's climate goals. ■

Calpine boosts exposure in ERCOT with 550 MW Quail Run acquisition

Independent power producer Calpine Corp has acquired the Quail Run Energy Center in Odessa, Texas, from Lotus Infrastructure Partners. The 550 MW combined-cycle power plant began operations in 2007 and its acquisition helps Calpine to supply “more reliable and affordable energy to our customers across the ERCOT market zone,” said CEO Andrew Novotny.

ERCOT, the Electric Reliability Council of Texas, is the fastest rising power market in the United States and also the one least connected with the countries’ wider electricity grid. Flexible combined-cycle gas turbine (CCGT) power stations are hence vital to meet peak demand during increasingly hot summer and balance load growth from large industries, the crypto-

mining industry and data centres.

Factoring in these bullish market signals, as well as skyrocketing peak power prices in ERCOT, Calpine started to re-vamp its existing power gen assets in the Lonestar State. The investor owned IPP also vowed to add more than 1,000 MW of generation to its Texas fleet over the next few years.

Several locations are under review for new projects within PJM Interconnection, notably in Pennsylvania and Ohio. As for these locations in the US Northeast, Calpine said it would focus on expanding its existing fossil power fleet. Over the past 10 years, Calpine has built and commissioned 1,600 MW of new gas-fired capacity within the PJM market zone.

Houston-headquartered

Calpine Corp is owned by a consortium of investors, led by Energy Capital Partners (ECP) alongside Access Industries and the Canada Pension Plan Investment Board. ■



Quail Run Energy Center

Guvnor buys lion's share of 785 MW CCGT in Bilbao from bp

Swiss independent energy trading house Guvnor has completed the acquisition of a 75% stake in Bahía De Bizkaia Electricidad (BBE), a 785 MW combined-cycle gas power plant in Bilbao, Spain, from the British oil major bp. The deal, first announced in December 2023, is Guvnor's first investment in a power generation asset.

Bahía de Bizkaia Power Station is a CCGT in the port of Bilbao and went into operation in 2003. The plant is owned and operated by BBE, once equally owned by bp, Ente Valsco de la Energia (EVE), Repsol and Iberdrola – but the latter two sold their 25% stakes to bp a decade ago for €135 million and €111 million, respectively.

Now, Guvnor takes over BP's majority share while BBE keeps its shareholding. All necessary permits for bp's acquisition of BBE are in place, including the European Commission's review of Merger Control and Foreign Subsidies Regulation.

The purchase builds on Guvnor's earlier investment in two Spanish biofuel plants in Huelva and Álava. “We have track record of integrating and aligning industrial assets with our core physical energy trading business,” said Aldo Della Valle, head of Guvnor's European Gas & Power Trading. “With BBE, we hope to similarly align our

trading in natural gas/LNG and power with the plant,” he noted adding Guvnor intends to retain BBE's current employees and management.

Commenting on bp's sale of its stake in BBE, the head of bp's operation in Spain Andrés Guevara explained the decision was made as bp is shifting focus from its traditional oil and gas business towards integrated energy sources. “Spain remains a key market for bp,” Guevara vowed, “but bp is reorientation its investments towards electric vehicle charging, bio energy, renewable power and hydrogen.” ■



BBE at the port of Bilbao

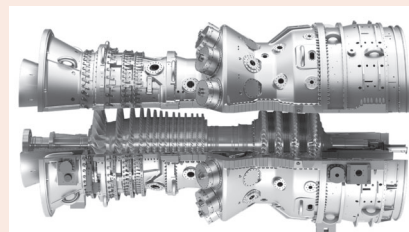
GE helps Kansai Electric revamp Nako CCGT

Kansai Electric has ordered three GE Vernova 7HA.03 gas turbines to be installed at the 1,800 MW Nanko gas-fired power station in Osaka, Japan. The new equipment will replace the plant's existing three boilers and steam turbines in a bid to boost efficiency and reduce carbon emissions as Japan aspires to reach Net Zero by 2050.

By investing in lower-carbon power gen assets, and re-vamping existing fossil power plants, the government both aims to decarbonise the Japanese economy and wider society. “Economic Efficiency” is one of the three “S+3E” pillars within Japan's revised national 6th Strategic Energy Plan, next to “Safety plus Energy Security”, and “Environmental Sustainability”.

“The Nanko power is expected to deliver up to 1.8 GW of electricity to the grid and will be the among the most efficient in the country,” said Ramesh Singaram, Asia CEO of GE Vernova's Gas Power arm. 7HA.03 gas turbines can burn up to 50% by volume of hydrogen when blended with natural gas and GE engineers are working on full hydrogen co-firing.

Apart from equipment delivery and installation, GE Vernova will provide field services for the Nanko plant and related facilities. To date, the US equipment manufacturer has delivered and installed more than half of Japan's heavy-duty gas power generation capacity, as well as equipment for wind and solar and nuclear power sources. ■



7HA.03 GT rendering

LNG Journal Subscription Package

Your LNG Journal subscription includes broad coverage of LNG across the globe – from trade and shipments through to LNG prices, plus in-depth technical coverage. With over 20 years of LNG reporting experience, we remain the market leading source of information for decision makers in the LNG industry.

LNG Daily News

Delivered to your inbox and online



LNG Journal

The flagship LNG monthly



LNG Unlimited

Your fortnightly summary of LNG news



LNG Market Tracker

Weekly empirical insight into the LNG market



LNG North America

Bi-monthly report on LNG in the US, Canada



LNG Transition

In-depth look at LNG as a transition fuel



LNG Shipping News

Fortnightly coverage of LNG shipping



LNG China

Bi-monthly review of LNG in China



LNG Monthly Markets

Key developments in LNG markets



Gas to Power Journal

Peakload power and energy storage



Subscription Contacts

For new subscriptions or general subscription queries please contact:

Stephan Venter
venter@lngjournal.com
+44 207 017 3407

To renew an existing subscription or to upgrade your package, please contact:

Gabi Weck
gabi@lngjournal.com

*Sign up now for an Online Subscription at only
US\$1190; €920 or £830*

Discount options are available for multi-users

Contact us for more information or to arrange a free trial