



Weekly News

11 June 2021

Argentina imports first LNG cargo through Bahia Blanca FSRU

Argentina's seasonal LNG imports are increasing following the arrival of Excelerate's FSRU Exemplar at Bahia Blanca, just south of Buenos Aires. The first commissioning cargo already arrived at the FSRU which was put into operation just in time to source additional supply for the southern-hemisphere 2021 winter season.

With a storage capacity of 150,900 cubic meters, the Exemplar was moored at Bahia Blanca GasPort on 27 May, and just one day later the terminal received its first LNG cargo.



FSRU Exemplar arriving at Bahía Blanca on May 27

Lease runs through August

In April, Argentina's state-controlled YPF carried out what observers called "a hastily arranged tender" to supplement domestic gas production during the peak-demand winter period that start in mid-May. Excelerate won the tender for "seasonal regas service" and the lease for the FSRU is understood to run from late May through August.

Daniel Bustos, Excelerate's Chief Commercial Officer (CCO), said the return of the Exemplar continues the partnership with IEASA, Argentina state oil and gas producer IEASA and the distributor YPF. "We are confident the Exemplar can perform again with our local Argentine crew to support the country's energy transition and post-Covid economic recovery this winter," he said.

continued on page 2

Black & Veatch to study feasibility for Andes LNG and power project

Black & Veatch has been selected to carry out technical, engineering and commercial feasibility studies of the Andes Energy Terminal (AET) situated in the Aguadulce Peninsula, Colombia. The studies will scrutinise the planned development of a LNG regasification terminal and an adjacent 400 MW gas-fired power station.

The AET venture is situated at the Port of Buenaventura. The natural deepwater port is considered Colombia's main foreign trade port with roughly 65% of international cargo going through its facilities. Developers of the AET LNG regas terminal and power plant are looking to build a multi-purpose infrastructure that also includes a data center as well as new facilities for storing liquid fuels, notably hydrogen.

The feasibility studies, funded by the United States Trade and Development Agency (USTDA), will verify the project site's suitability, de-



Port of Buenaventura

fine design requirements, and estimate capital and operating costs. Black & Veatch will assess the

continued on page 2

AGENDA

COMPETING FUELS

Coal-to-gas switching boosts prices at Europe's benchmark TTF hub

3

Tellurian CEO says LNG demand set to grow as the world electrifies

3

POWER LINKS

Costs for interconnector capacity to UK most expensive in Europe

5

HYDROGEN

Air Liquide to capture 90% CO2 from hydrogen at Zeeland Refinery

6

Europe on track for 2.7 GW hydrogen electrolyser capacity by 2025

7

PROJECTS

Siemens and Mitsubishi to develop 'clean air' switchgear without SF6

8

Continued from page 1, top story

US-based Excelerate developed the Bahia Blanca GasPort in 2008, and has also operated GNL Escobar, an LNG import terminal along the Paraná River, since 2011.

Seasonal exports to Asia

During the southern hemisphere summer, Argentina is exporting LNG – preferably to Asian utility buyers. Argentinean LNG, in fact, has lower shipping costs to Asia than rival US LNG, not least because they can avoid potential Panama Canal congestions. For utility buyers in Japan, Korea and China,

cargoes from Argentina are becoming a “cheaper alternative”.

Supported by the Vaca Muerta, Argentina's production in the Neuquén basin will ramp up over the next few years to amount to 15% of the country's gas production by 2024.

Upstream costs keep falling, analysts say, anticipating projects in the condensate and dry gas window with breakevens below \$3 per million British thermal units (mmBtu) will enter into full development in the upcoming years.

A lack of underground gas storage facilities close to demand means that gas flow to LNG export terminals will be seasonal. Based on the new research, Wood Mackenzie anticipates that LNG volumes could potentially reach 6 million tonnes per annum (mmta) in that year, which could then grow to 10 mmta by 2030.

Despite other price challenges posed by the seasonal utilisation of LNG plants, analysts estimate breakevens for Argentina LNG of \$8 per MMBtu at delivery ex. ship for Japan. ■

Mitsubishi Power sets up combined-cycle gas turbine arm in Europe

Japanese turbine maker Mitsubishi Power has set up the 'Gas Turbine Combined Cycle EMEA Business Unit' in Dubai to sell more J-series air cooled (JAC) turbines into Europe and the Middle East. JAC turbines can operate on a 30:70 fuel mix of hydrogen and natural gas, and are meant to run fully on hydrogen in the future.

The new team has been working out of Dubai since April 1, allowing Mitsubishi Power to “partner more closely across the value chain.” The aim is to “provide high quality, reliable solutions that further enable the rapid transformation of Europe's power supply,” said Jose Aguas, Vice President GTCC Sales EMEA who will lead efforts to grow Mitsubishi's presence across Europe.

JAC turbines boast world-class reliability of 99.6% and efficiency of greater than 64%, according to the manufacturer. These high-efficiency turbines, with a fast ramp-rate and part-load flexibility, can

backup intermittent power sources like wind and solar which helps European nations meet Net Zero carbon emission targets.

Gas vital to backup renewables

The UK has set a binding target to reach above 50% wind and solar power by 2030. The massive green energy build-out will,

however, also require steady sources of reliable electricity supply and grid inertia. “Hence, natural gas has an important role to play in the UK's future energy mix,” Aguas forecast.

Mitsubishi's GTCC technology offers “cost effective, high efficiency power,” he said, pointing out: “As the cleanest power from non-renewables, the turbines can run a mix of natural gas and hydrogen that offer exciting possibilities [towards a] hydrogen economy in the coming decades.”

Europe has become the “beacon of rapid decarbonisation,” Aguas commented. With ambitious net zero targets, governments across the region have begun the process of decommissioning coal-fired power stations and shift to green energy sources and energy storage. ■



Continued from page 1

Gas to Power Journal

Publisher
Stuart Fryer

Editor
Anja Karl
Tel: +44 (0) 207 733 684 682
anja@gastopowerjournal.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
Tel: +44 (0) 208 995 5540
chee@btconnect.com

financial viability and define financing options while preparing a detailed construction plan.

AET to help avert risk of energy shortage

With economic growth returning and robust GDP projections, Columbia is forecast to face shortfalls in available power generation capacity in 2022 and consistent gas supply deficits by 2023. The AET venture hence seeks to facilitate stable supply of LNG for flexible combined-cycle gas power units that help support Columbia's transition of Colombian renewable power sources.

Phase I of the Andes Energy Terminal includes a 270-MW simple-cycle gas turbine

to be upgraded to a 400-MW combined-cycle turbine in Phase II. Once fully operational, the flexible CCTG will add resilience to the power grid which is currently heavily reliant on hydro power that is subject to weather-relation variance in output.

“Our energy terminal reflects a forward-looking approach to solving Colombia's energy and data infrastructure needs,” said Manuel Tenorio, Chairman, Andes Energy Terminal (AET). “By combining fuel supply, efficient and sustainable power generation, storage and data infrastructure in one location, we can achieve significant efficiencies and provide a strong basis for much-needed investment in the Southwest region of Colombia.” ■

Coal-to-gas switching boosts prices at Europe's benchmark TTF hub

Strengthening economics of coal-to-gas switching has pushed up prices at the TTF, Europe's most liquid gas trading hub. With carbon and coal prices up by 33% and 26%, respectively, TTF gas prices increased \$3/MMBtu to nearly \$9/MMBtu. Restriction to coal-burn also boosts the dispatch of gas-fired power plants in South Korea and Taiwan.

Demand from the European power sector has been sustaining global LNG prices after the winter spot price spike in Asia.

"Post-pandemic demand recovery, limitations on Russian pipeline exports and unseasonably cold weather, particularly in April, all contributed to a tighter market, pushing European storage levels down to multi-year lows," said Wood Mackenzie's head of LNG short-term research, Robert Sims.

China leads fuel switching in Asia

Asian markets are also tightening amid strong demand for LNG restocking in north-east Asia in the first quarter, though analysts say demand is "still far below levels seen at this time last year."

Though demand across south-east Asia has started to grow again, it is China where much of the growth is currently materializing. Beijing's coal-to-gas switching policies are gathering pace and spurred a demand surge of 2.2 million tonnes since the beginning of the year, 8% more than in 2020.

"We expect this strong growth to continue

as domestic production growth continues to lag behind domestic demand growth," Sims commented.

Strong Asian LNG demand means that the Japan spot price is now trading over \$10 per MMBtu for deliveries in June, a premium in excess of \$1.5 per MMBtu over TTF. Market dynamics are anticipated to remain tight throughout the rest of the year, though supply will likely rise by around 16 mtpa amid full utilisation of US LNG capacity.

Dynamics to soften in 2022

Demand for restocking and strong coal-to-gas switching economics are expected to support European prices through the summer – with European carbon prices seen as "the single biggest risk to prices."

Come winter 2021/22, market tightness will increase due to low inventory levels in Europe and high seasonal demand in Asia which will boost competition for Atlantic



LNG tanker berthes at import terminal

LNG. "A repeat of last year's extreme price crunch in Japan isn't expected, but cannot be entirely ruled out," Sims forecast.

Market dynamics will, however, soften in 2022 when demand growth in Asia will slow as the economic recovery loses speed. Moreover, coal and nuclear power generation capacity will increase in Japan and South Korea – easing demand for LNG imports.

As a consequence, Wood Mackenzie expects LNG demand in Asia will increase only by 12 mtpa in 2022, compared to 19 mtpa in 2021. ■

Tellurian CEO says LNG demand set to grow as the world electrifies

Octávio Simões, Tellurian president and CEO, expects LNG demand will continue to increase as the world's population grows and countries electrify. To provide the super-chilled gas at an attractive price, Tellurian offers volumes on JKM, TTF or blended price basis and has just sealed an LNG supply deals with Vitol.

Under the latest 10-year SPA, the Swiss commodity trader Vitol will receive 3 mtpa on a free on board (FOB) basis from Tellurian's 27.6 mtpa Driftwood LNG project. Mr Simões disclosed the value of the SPA, at today's prices, is about \$12 billion in revenue over the agreed deal period.

An equal-sized deal was seal with Gunvor Singapore. The aggregate value of the two deals is \$24 billion, allowing Driftwood LNG to stick to its planned commissioning date in 2023.

Feedgas for Driftwood LNG is sourced from the ex-

isting US interstate pipelines in Louisiana. In its Q1 earnings in early May, Tellurian indicated the improving market favoured the timely signing of supply agreements. The Houston-based company also said it concentrated on paying down debt by trying to build up its US Gulf Coast natural gas business. ■



NEWS NUDGES

Start-up of Tema LNG delayed

Ghana sees LNG as a "relatively quick and inexpensive way" to meet growing gas demand for power generation but country's aspirations to become sub-Saharan Africa's first LNG importer is being delayed to later in June. The commissioning cargo was meant to arrive at Ghana's new Tema LNG terminal by the end of May, but our data indicates the FSU Torman II is still at Singapore's Sembawang shipyard.

Wärtsilä to service Malta power plant

Wärtsilä has signed a second long-term service agreement renewal for the Delimara Power Plant 3 (D3) in Malta. The accord covers four 50DF dual-fuel engines and four 50SG gas engines. The flexible Delimara plant is vital to ensure stability of power supply for Malta's island grid.



Atlas Copco

"Our Atlas Copco fuel gas boosters provide us with the reliability and peace of mind we need to keep our power plant running."

Ciector Whitelock
Maintenance Manager
Astoria Energy, New York City

For more than 25 years, Atlas Copco Gas and Process has helped plant operators around the world handle the pressures that come with running their power generation facilities. Our standard and customized compressor solutions cover the entire range of Fuel Gas Boosting applications and readily adapt to the changing conditions in your plant.

Our experts will partner with you from day one to develop a solution to help you save OPEX while reducing your environmental impact, and our worldwide Aftermarket services team is here 24/7 to continue to help reduce your downtime.

Learn more about how our range of Fuel Gas Boosting solutions can help your plant at www.atlascopco.com/powergen

Costs for interconnector capacity to UK most expensive in Europe

Transporting electricity to the UK costs dearly, particularly on the Nemo Link from Belgium where the monthly May 2021 auction resulted in a price of €19.42 per MWh - the most expensive in Europe. EnAppSys researcher said the high export price could be explained by "regulatory differences" between the GB electricity market and its EU neighbours.

The second highest auction price can be attributed to France-UK interconnector IFA1 where it cost €18.53 per MWh for capacity. Belgium and France both have a large fleet of nuclear power plant which generate electricity a lower marginal fuel costs and zero carbon cost. They can hence offer cheap energy to Britain which drives demand for cross-border transmission capacity, and therefore the price for this interconnection service rises as well.

Playing the arbitrage

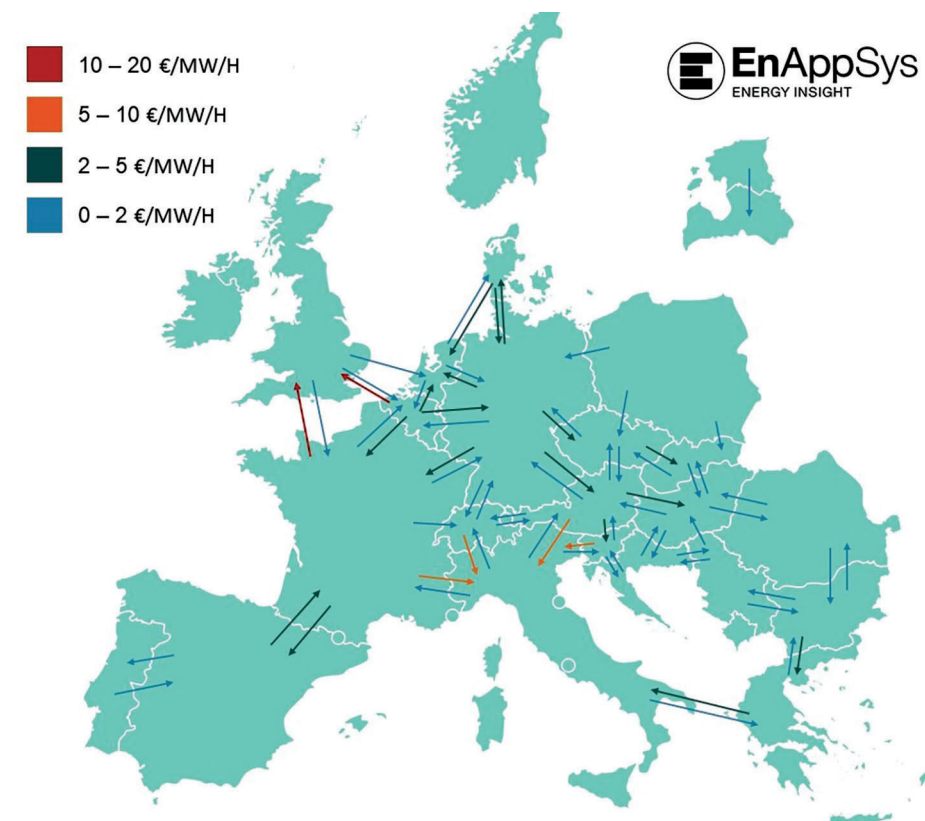
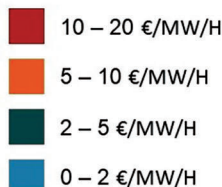
Trader can cash in on the price differential across markets by playing the arbitrage. For example, on the 9th May at 2pm the day-ahead price in France was negative at €-66.18 per MWh.

"By purchasing power in France via the day-ahead auction and buying cross-border transmission capacity in the monthly JAO auction for France to GB for €18.53 per MWh energy traders could have made a profit by selling the energy in the GB day-ahead market," Hewitt noted.

"If the energy had been sold via the EPEX GB auction, a profit of €130.66/MWh could have been realized," he remarked. Traders in the know and with interconnector capacity at hand can accumulate staggering amounts in a few minutes on such rare occasions.

UK carbon price creates "systemic difference"

The carbon price support in the GB market is £18 per tonne of carbon emission (tce) which creates an uplift on the energy price, said Phil Hewitt, director at EnAppSys. "This, along with power plants contributing more to National Grid's costs of managing the system than their European counterparts, means that there is a systemic price difference between the two markets," he explained.



EnAppSys
ENERGY INSIGHT

If there has been more than one monthly auction for the same interconnector flow for May 2021, the more expensive auction price has been taken into account.

Auctions within one country have not been considered.

Solar and wind have no fuel costs and are hence on the top of the merit order [the sequence of power plant dispatch], followed by nuclear while fossil fuels such as gas are often at the end of the merit order. The fuel mix in Britain is still influenced by a high amount of gas generation and in May, 48% of the energy demand was covered by gas, EnAppSys data shows.

"Gas is the marginal plant in GB and operators of gas plants are spending around £8 to £9 more on carbon than their counterparts in the EU alongside an average of £4 to £5 for balancing costs. This means that the price for interconnector capacity can be explained by the interconnectors capturing the regulatory divergence price between

the two markets," Hewitt concluded.

Italy - second most expensive

Italy is the second most expensive country to export energy to, with auction prices ranging from €5.01 to €9.11 per MWh for all connected markets, notably to Austria, Switzerland, France and Slovenia. "Italy has a large contribution from gas generation but high gas costs and poor efficiency means there is a fundamental price advantage to flow power across the interconnectors," Hewitt said.

In contrast, the average price for the monthly auction in May 2021 across the whole of Europe was around €2 per MWh and around half of auctions concluded with a price under €1 per MWh. ■



REGISTER FOR OUR 3 WEBINARS ON
HYBRID POWER, HEAT PUMPS
AND HYDROGEN CO-FIRING

SPONSORED BY:



Air Liquide to capture 90% CO₂ from hydrogen at Zeeland Refinery

Zeeland Refinery, owned by Total and Lukoil, has contracted Air Liquide to provide a carbon capture and liquefaction unit to capture emissions from hydrogen production at the Vlissingen site. The 'Cryocap FG' (Flue Gas) plant will capture and liquefy over 90% of the CO₂ emissions for storage in the Dutch North Sea.

Air Liquide will provide the License, Process Design Package and technical services for a Cryocap FG plant to be installed at the two Vlissingen site's existing hydrogen production units.

The solvent-free solution captures and liquefies CO₂ concentrated flue gases thanks to a combination of Adsorption and Cryogenics technologies. Driven by electricity, rather than thermal energy, Cryocap products can run on renewable energy

The two units installed at Zeeland Refinery will be able to liquefy 2,400 tonnes of CO₂ per day, reducing the refinery's emissions on the Vlissingen site by more than 800,000 tons per year. The pure and liquefied CO₂ will then be transported for storage in the Dutch North Sea.

Nathalie De Muijnck, General Manager of Zeeland Refinery expressed pride in the refinery becoming one of the first movers in



Zeeland Refinery in the Dutch town Vlissingen.

industry to reduce emissions by applying CCS. "By integrating the innovative Air Liquide technology into the existing refinery scheme, Zeeland Refinery will strengthen its position in the low carbon future that lies ahead of us," he said.

Air Liquide Engineering & Construction has a track record on developing, installing and commissioning Carbon Dioxide Capture & Liquefaction. Its Cryocap unit in Port-Jérôme, France, has been in successful operation for more than 5 years. ■

Germany's demand for green hydrogen to top 80 TWh from 2030

German industry, transport and heating sector will need significantly more than the current 57 Terrawatt-hours (TWh) per year, produced almost entirely from fossil fuels. Come 2030, the demand for green hydrogen and derivatives will be around 80 TWh and could surge to 300 TWh by 2040, the Fraunhofer institute forecasts.

Green hydrogen, produced via electrolysis from excess wind and solar energy, is widely seen as a silver bullet to decarbonise sectors with stubbornly high emissions. The steel, chemicals and cement industries have come under intense scrutiny and the German government allocated up to €8 billion funding for 62 selected large-scale projects.

Heavy industry drives demand

If Germany's heavy and energy-intensive industry embraces hydrogen, demand for hydrogen and hydrogen-based synthesis products is expected to increase to between 400 and almost 800 TWh.

"To establish a hydrogen economy, Germany needs to build large domestic capacities of electrolyzers, massively expand renewables and the hydrogen transport infrastructure, and set up energy partnerships for imports," said Katherina Reiche, the head of the German hydrogen council with reference to a comparative report by the Fraunhofer ISI, ISE and IEG institutes.

Striving to meet rampant demand, generation plants with up to 5 GW capacity, notably offshore wind and solar generation, are to be built in Germany by 2030. This corresponds to a green hydrogen production of up to 14 TWh and a required renewable electricity quantity of up to 20 TWh.

Sector-coupling through hydrogen

As a multi-purpose energy carrier, hydrogen can be used to run fuel cell vehicles or as a medium to store renewable energy, or as the basis for synthetic fuels.

"Hydrogen is an essential element of sector coupling. In those areas where electricity cannot be used directly from renewable energies, green hydrogen and its downstream products (Power-to-X) open new paths to decarbonisation," parliamentarians wrote in Germany's new National Hydrogen Strategy.

In Sweden, trials at a commercial steel mill show that burning hydrogen can replace fossil fuels currently used to produce high-temperature heat. Ovako's trial at its Hofors steel mill, together with Linde Gas, showed that hydrogen had no effect on the quality of steel. ■



Fraunhofer ISE pilot plant feeds hydrogen into the gas grid

Europe on track for 2.7 GW hydrogen electrolyser capacity by 2025

Build-out of electrolyser capacity in Europe is bound to rise 50-fold, the consultancy Delta-EE finds, with EU markets on track for 2.7 GW of operational hydrogen electrolyser capacity by 2025. Research shows Germany to be a leading electrolyser market, with Spain, Netherlands and Denmark aiming towards the 100s MW in four years' time.

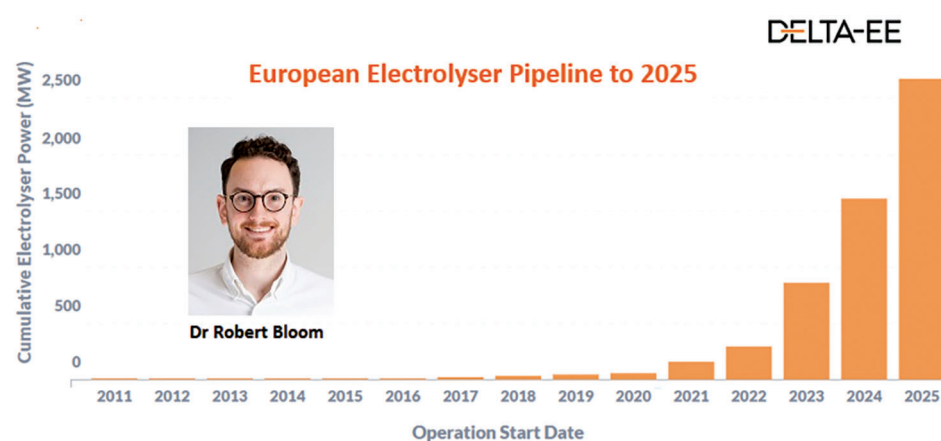
A precondition for this growth will be whether there is enough capacity to make new electrolysers. "Today's leading manufacturers such as Nel Hydrogen, ITM Power, Cummins and McPhy, are all building factories capable of producing 100s of MW- if not GWs of electrolysers a year," Delta-EE researchers commented.

The Edinburgh-based consultancy Delta-EE warned that "time is running out" to establish the many projects on the 100s of MW scale required to achieve an EU target of 6 GW by 2024.

Race to install electrolysers

Germany is home to nearly half of Europe's electrolyser capacity – no other country has more than 10 MW installed. Other countries are catching up fast, analysts noted: Spain, Netherlands and Denmark will be at the 10s of MW scale in 2021/22 and will soar towards the 100s MW by 2025.

Activity around clean hydrogen has grown rapidly recently with 67 operational



projects now up and running, including electrolysers. These projects offer 56 MW combined capacity and produce an estimated 4,700 tonnes of green hydrogen per year – half of which consumed by the transport sector, and a third to decarbonise heavy industries.

Market still "embryonic"

Investors should not get overly excited,

though. Dr Robert Bloom, manager for Delta-EE's Global Hydrogen Intelligence Service, puts the growth in perspective: "We should remember though, that this is an embryonic market. The current project pipeline is driven almost entirely by EU or national funding with project stakeholders targeting use-sectors where state aid is strongest.

"With the huge amounts of capital made available through various national hydrogen strategies, the EU green deal and IPCEI Hydrogen, we expect to see many more projects added to the pipeline," he said.

As a multi-functional fuel, hydrogen can be looked at through various lenses, explains Jon Slowe, director at Delta-EE. "Our heat research service looked at the potential of hybrid hydrogen/heat pump residential heating systems, and our electric vehicle charging research delves into decarbonising applications such as buses," he noted. As hydrogen establishes itself as a key part of decarbonisation efforts worldwide, Delta-EE has centralised and formalised its expertise into a stand-alone service for clients.

Figure 1: Green Hydrogen Demand for live electrolyser projects in Europe (Tonnes / year)



“

We should remember though, that this is an embryonic market. The current project pipeline is driven almost entirely by EU or national funding with project stakeholders targeting use-sectors where state aid is strongest.

”

– Dr Robert Bloom, manager for Delta-EE's Global Hydrogen Intelligence Service

Siemens and Mitsubishi to develop 'clean air' switchgear without SF6

Siemens Energy and Mitsubishi Electric jointly develop high-voltage switchgear that substitutes sulphur hexafluoride (SF6) with clean air for insulation. Research starts with a 245-kV dead-tank circuit breaker, but once developed, the two OEMs will manufacture and sell the switchgear independently.

In most substations, the potent greenhouse gas sulfur hexafluoride (SF6) is still the insulating gas of choice. The chemical has a potential for global-warming roughly 23,500 times greater than CO2, so it can do much harm even with a very low number of leakages.

Fluorinated gases to be prohibited

Regulations hence want to reduce or prohibit the use of fluorinated gases in the electrical industry, which prompted Siemens Energy and Mitsubishi Electric to work on the development of SF6-free gas-insulated switches. These solutions replace the greenhouse gas with clean air, a pure mixture of

nitrogen and oxygen.

"To date, clean air insulation is the only alternative to greenhouse gases and therefore poses zero health and safety risks. In conjunction with vacuum interrupters, a higher performance for switching applications is ensured, even compared with all known SF6 circuit breakers," the two companies said in a joint statement.

Siemens Energy's Blue Portfolio contains F-gas-free gas-insulated switchgear, circuit breakers, and instrument transformers. While circuit breakers that use clean air and vacuum switching technology have been



SF6-free switchgear at the Koengen substation in Bergen, Norway

available for at least 15 years for voltage levels up to 72.5 kV, it now also offers gas-insulated switchgear up to 145 kV.

Mitsubishi Electric, meanwhile, provides SF6-free and zero CO2 equivalent emission, energy-efficient, and low lifecycle-cost solutions. The Japanese OEM has manufactured high-quality vacuum tubes and products since 1965 and started providing its 72.5-kV vacuum interrupter in 2002. ■

Mexican project brought into operation in 145 days

Mitsubishi Power Aero and its Mexican arm have installed and commissioned five FT8 MOBILEPAC aero-derivative dual-fuel gas turbines (30 MW each) for CFenergia. It took just 145 days from Request for Proposals (RFP) to start-up, and the 150 MW plant is ready in time to deliver critical power for the peak summer season.

Mitsubishi Power Aero provides mobile generation equipment combined with in-house EPC expertise, and the company's FT8 MOBILEPAC gas turbine package can be deployed swiftly to meet emergency power requirements. The additional electricity from these units ensures energy security to the people and industries in Mexicali.

Tight timeline

Mitsubishi Power Aero CEO Raul Pereda said the company was pleased to have been able to "deliver critical power for CFenergia on such a tight timeline." A compact footprint, minimal site prep, and no permanent foundations give CFE the flexibility to relocate the FT8 MOBILEPACs to other locations to



Mitsubishi's FT8 MOBILEPAC

support demand.

Given that the Mexican government is incentivising the build-out of more intermittent wind and solar capacity, these fast-start FT8 turbines supply flexible electricity when needed to bolster the reliability and resilience of the power grid.

Headquartered in Glastonbury, in the US state of Connecticut, Mitsubishi Power Aero, provides flexible and customizable products including aero-derivative gas turbine packages that generate 30 to 140 MW. ■

Wärtsilä commissions energy storage in the Philippines

Finish technology group Wärtsilä has commissioned its first two energy storage projects in Bataan, Philippines. The projects have a capacity of 20 MW / 20 MWh and 40 MW / 40MWh, respectively, and are underpinned by multiple long-term energy storage orders with SMC Global Power Holding.

The projects are delivered on an engineering, procurement and construction (EPC) basis, and include Wärtsilä's proprietary GridSov Max. The standardised energy storage solution provides flexible and modular storage for the batteries, a safety and fire system, and inverters, alongside the GEMS Digital Energy Platform.

By designing flexible gas generators that integrate with renewables and energy storage, Wärtsilä helps the Association of Southeast Asian Nations (ASEAN) reach its goal to cover 23% of its primary energy needs from renewables by 2025. The region aims to leverage its abundant wind and solar resources, backed up by energy storage, in order to reduce its reliance on fossil fuels. ■

LNG Journal Subscription Package

LNG Journal is a ten-in-one subscription product with end-to-end insight into liquefied natural gas. The LNG Journal platform includes:

LNG JOURNAL	Monthly Online + optional print magazine
LNG UNLIMITED	Online every Tuesday
GAS TO POWER JOURNAL	Online every Friday
LNG MARKET TRACKER	Online every Wednesday
LNG SHIPPING NEWS	Online every second Thursday
LNG MONTHLY MARKETS	Online Monthly
LNG CHINA	Online every second month
LNG NORTH AMERICA	Online every second month
LNG FUELLING	Online every quarter
DAILY UPDATES and Newsletters	

Sign up now for an Online Subscription at only US\$1095; €835 or £755

Discount options are available for multi-users

Contact us for more information or to arrange a free trial



Subscription Contacts

For new subscriptions or general subscription queries please contact:
Stephan Venter
+44 207 017 3407
venter@lngjournal.com

To renew an existing subscription or to upgrade your package, please contact:
Gabi Weck
gabi@lngjournal.com