

LNG Unlimited

LNG JOURNAL PUBLICATION

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Enagás gives positive overview of LNG and pipeline gas in Spain

Trans-Adriatic Pipeline helps bring Caspian Sea gas from Azerbaijan to European Union

LNG News Editor

Enagás, the Spanish gas grid and LNG terminals operator as well as a shareholder in the Trans-Adriatic Pipeline (TAP), said the US was its main liquefied natural gas supplier in the first quarter followed by Algeria and Nigeria as LNG deliveries increased substantially and European Union gas supplies became tight.

The company gave its LNG market overview in its earnings report where Enagás posted net profits of €69.3 million (\$74.4M) in the first three months of 2022.

Full capacity

"This result is in line with what was expected for the quarter and the estimated net profit target for the end of the year remained €430M," said the company.

"Excluding capital gains, the expected profit would be €360M," added Enagás.

Enagás has capacity at six LNG regasification terminals in Spain. It owns five terminals at Barcelona in the northeast, at Cartagena in the southeast, at Sagunto in the east of Spain, at Huelva in the southwest and at El Musel in the northwest.

It also owns a 50 percent stake in the facility serving the northwest port of Bilbao and owns two small regasification terminals in the Canary Islands.

"Spain has one of the most diversified energy supplies in the world and in the first quarter, the supply of LNG came from nine different countries and represented 70 percent of the country's gas supply," explained Enagás.



Pipeline may be expanded to carry double current volumes

"In this period, the United States has been the main supplier of natural gas to Spain, with 37 percent of the total, followed by Algeria (26 percent) and Nigeria (14 percent)," the company added.

Enagás also revealed that "in an exceptional context caused by the invasion of Ukraine by Russia" and also after the closure of the Maghreb-Europe gas pipeline from Algeria to Spain, the Spanish Gas System was operating at 100 percent technical and commercial availability.

These measures have allowed LNG cargo deliveries to increase by 69 percent in the first quarter in Spain compared with the same period in 2021, reaching 79.1 terawatt hours (TWh) and with regasification increasing by 81 percent to 77.3 TWh.

The total demand for natural gas in Spain in the first three months of the year reached 110.8 TWh, an increase of 11.5 percent on the same period in 2021.

"This growth has been driven by the increase in demand for electricity generation, which has risen 118.1 percent compared to the first three months of 2021, due to lower generation with wind, solar and hydro power since the beginning of 2022," said Enagás.

"This positive evolution of total gas demand in Spain highlights the essential role of gas infrastructures," it added.

Enagás said its market update that underground storage in Spain was 82 percent full at the beginning of the Northern Hemisphere winter and it was currently at levels of around 60 percent.

Spain has 30 percent of the EU's LNG storage capacity and 25 percent of the 27-nation Brussels-based bloc's LNG regasification capacity.

"Regarding the reinforcement of natural gas supply to Europe, exports through interconnections with France in the first quarter increased by 135 percent compared to the same period in 2021, reaching 1.3 TWh. In recent weeks the two interconnections with France have been operating at maximum capacity," stated Enagás.

In Europe, Enagás said that the Trans-Adriatic Pipeline continued to make an essential contribution to the security of gas supply in Italy and Greece.

"With a utilization rate of 91 percent in the first three months of the year it has delivered 2.4 billion cubic metres of natural gas to Europe from Azerbaijan," explained Enagás.

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LNG News Editor

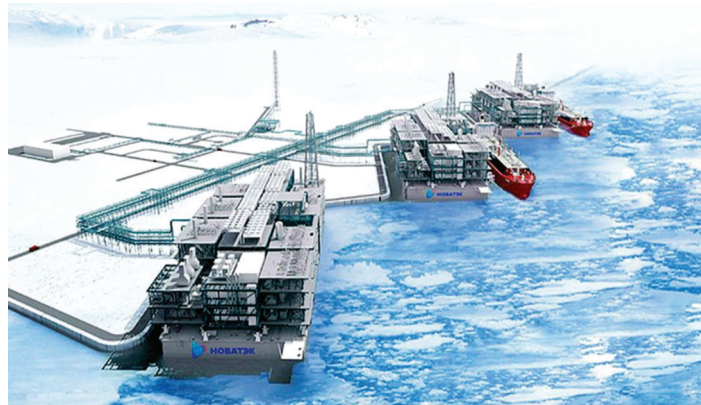
TotalEnergies, the French major with global LNG stakes, booked an impairment of over \$4 billion in its earnings because of the negative impacts of involvement in Russian LNG and particularly the Arctic LNG II project on the Gydan Peninsula.

“Given the uncertainty created by the technological and financial sanctions on the ability to carry out the Arctic LNG II project currently under construction and their probable tightening with the worsening conflict, TotalEnergies has decided to no longer book proved reserves for the Arctic LNG II project,” explained the French company listed on the Euronext Exchange.

New sanctions

The Paris-based major noted that during April new sanctions have effectively been adopted by the European Union, notably prohibiting exports from EU countries of goods and technology for use in the liquefaction of natural gas benefitting a Russian company.

“It appears that these new prohibitions constitute additional risks on the execution of the Arctic LNG



A graphic of Arctic LNG II on Gydan Peninsula

II project,” stated TotalEnergies.

“As a result, TotalEnergies has decided to record in its accounts, as of March 31, 2022, an impairment of \$4.1Bln, concerning notably Arctic LNG II,” it added.

Because of the Russian impairment TotalEnergies recorded first-quarter net income of \$4.9Bln.

This was 15 percent less than the \$5.8Bln posted in the final quarter of 2021, though 48 percent higher than the \$3.3Bln reported in the prior-year quarter.

Chairman and CEO Patrick Pouyanné said the company’s Integrated Gas, Renewables & Power division posted adjusted net operating income of \$3.1Bln, up 11 per-

cent over the previous quarter, and first-quarter cash flow of \$2.6Bln.

“TotalEnergies leveraged its integrated midstream LNG to saturate its European regasification capacity thanks to record spot LNG purchases (4.7 million tonnes) and posted a very good performance in gas, LNG and electricity trading activities,” explained the CEO.

“TotalEnergies also launched with its partners the Cameron LNG expansion project and that will contribute to Europe’s security of supply,” added CEO Pouyanné.

In other LNG project developments, the French company highlighted the expansion of its strategic alliance with US company

Sempra Infrastructure to develop the Vista Pacifico LNG project in Mexico and to co-develop several onshore and offshore renewable projects in North America.

This was in addition to the signature of a heads of agreement with Sempra, Japan’s Mitsui and Co., Mitsubishi Corp. and shipping company NYK Line for the launch of the Cameron LNG expansion project with a maximum production capacity of 6.75 million tonnes per annum.

The Arctic LNG II joint venture is being developed by Russian natural gas company Novatek and partners from China and Japan as well as TotalEnergies, which is also a direct shareholder in Novatek.

The project envisages the construction of three processing Trains each with capacity of 6.6 MTPA. The first Train is scheduled to start up in 2023, the second in 2024 and the third in 2026.

The Novatek company, which already operates the Yamal LNG plant, holds a 60 percent shareholding in the Arctic LNG II project and four other 10 percent stakes are shared between the various shareholders.

Woodside LNG revenue from Western Australia to over US\$2 billion as expansion plans advance

Woodside Petroleum, the operator of the North West Shelf and Pluto LNG export plants in Western Australia, said first-quarter LNG sales revenues increased to US\$2.04 billion from US\$838 million in the prior-year quarter as plans advanced for liquefaction and feed-gas expansions.

Overall revenues including oil, condensate, liquefied petroleum gas and other products amounted to US\$2.29Bln versus US\$1.16Bln in the same three months of 2021.

Woodside said its average realised LNG price in the quarter was US\$13.00 per million British thermal units versus US\$6.90 per MMBtu in

the first three months of last year.

The realized oil price of the Australian major came to US\$111 a barrel compared with US\$87 a barrel in the final quarter of 2021 and US\$72 a barrel in the prior-year quarter.

“The implications of Russia’s invasion of Ukraine have reverberated globally, exacerbating already tight energy markets, particularly for LNG,” said Woodside Chief Executive Meg O’Neill.

LNG forecast

“This has resulted in unprecedented volatility and price spikes to levels not seen since the early part of last decade,” stated O’Neill.

“We expect in the second quarter to see the continued benefit of stronger pricing, reflecting the oil price lag in many of our LNG contracts,” added the CEO, who noted that progress continued in finalizing the merger with BHP Petroleum.

Woodside said quarterly highlights included starting the processing of Pluto field gas at the Karratha Gas Plant (KGP) following the start-up of the Pluto-KGP Interconnector pipeline.

The company also achieved steady operations for the Julimar-Brunello Phase 2 expansion and in April Greater Western Flank Phase

3 achieved ready for start-up.

Woodside also signed binding agreements for the long-term charter hire of three newbuild LNG carriers to be delivered ahead of Scarborough’s first cargo targeted in 2026.

“Work on our Scarborough and Pluto Train 2 projects began to ramp up during the first quarter with Bechtel, the engineering, procurement, construction and commissioning contractor for Pluto Train 2, beginning major civil works for the construction accommodation village in Karratha,” explained O’Neill.

German open season for new terminal

One of the companies involved in the German North Sea liquefied natural gas import project at Wilhelmshaven has announced an open season to fast-track LNG imports into Germany and the European Union.

German utility E.ON has formed a partnership with Belgian start-up Tree Energy Solutions (TES) to develop the North Sea facility and TES has announced the open season to gauge interest.

The Wilhelmshaven plan revolves around the construction of a new “green gas” terminal at the port which will initially accept shipments of mainly LNG to help reduce Germany’s reliance on Russian pipeline gas before a “green hydrogen” solution is safely developed by 2030 or later.

E.ON has signed a memorandum of understanding with Australian billionaire Andrew Forrest’s Fortescue Future Industries to import to Europe up to five million tonnes of “green hydrogen” from Australia or other locations by 2030.

Until then the North Sea facility will have to make do with LNG and TES has asked for LNG regasification capacities, shipment offers or other ideas in the consultation.

“The open season is accessible to all parties seeking to import LNG in the drive to reduce EU and Germany energy dependence on Russia,” said a statement.

“Parties are invited to submit an expression of interest to reserve capacity and services for the import of LNG volumes,” it added.

TES is planning for initial capacity to import up to 16-20 billion cubic metres per annum of natural gas from 2025 onwards.

US government moves on permits for more LNG exports

LNG News Editor

The US Department of Energy (DoE) has issued two long-term orders authorizing additional liquefied natural gas exports from two projects of the US Gulf Coast, the QatarEnergy-backed Golden Pass LNG plant in Texas and the Magnolia LNG venture in Louisiana owned by the Glenfarne Group.

Golden Pass, an existing import terminal currently being transformed into an export facility, is a joint venture between QatarEnergy and ExxonMobil Corp. and the first liquefaction Train is scheduled to come on stream by 2024.

Faster pace

The Federal Energy Regulatory formally approved the transformation of Golden Pass, located on the Sabine-Neches Waterway in Texas, back in 2016.

However, the Qatar-ExxonMobil project has advanced at a slow pace because of doubts several years ago over market demand issues that have now been resolved and work has gathered pace to construct three liquefac-



Golden Pass is on the Sabine-Neches Waterway in Texas

tion Trains with around 16 million tonnes per annum of output.

US regulators had previously approved construction of the Magnolia LNG plant proposed for a 115-acre site near the Calcasieu Ship Channel with 8.8 MTPA of output from four Trains.

The Magnolia development had previously been owned by an Australian-listed company LNG Ltd that ceased trading amid financial difficulties.

Glenfarne, a New York-based fund specialising in energy infrastructure investment, then took over the project.

The DoE orders have authorized additional 0.5 billion cubic

feet per day (Bcf/d) of natural gas flows to the plants. “The orders allow Golden Pass LNG to export the equivalent of an additional 0.35 Bcf/d and Magnolia LNG to export an additional 0.15 Bcf/d of natural gas as LNG to any country not prohibited by US law or policy,” said the statement.

The DoE had previously issued long-term non-free trade agreement export orders for the majority of the projects’ capacities, with Magnolia LNG’s authorization for 1.08 billion cubic feet per day in 2016 and an authorization for 2.21 billion cubic feet per day issued to Golden Pass LNG in 2017.

Indian LNG imports costs jump 40 percent and domestic output up

Indian liquefied natural gas imports in the fiscal year from April 2021 to March 2022 declined by 3.4 percent, though still amounted to 350 cargoes even as costs jumped by 40 percent to almost \$12 billion.

India’s network of six terminals, which has been slow to expand on a geographical basis, handled 23.61 million tonnes of LNG in the 12 months to the end of March 2022.

This was down on the 24.44MT received and regasified in the same 12 months of the previous fiscal year, according to preliminary data from the Indian Ministry of Petroleum and Natural Gas.

The Ministry data showed that LNG imports for the month of March 2022 tumbled by 12 percent, the seventh straight monthly fall, to 1.93MT, or 28 cargoes, versus the 2.20MT, or 32 cargoes, received in March 2021.

LNG deliveries to Indian terminals come mainly from Qatar, which provides over one-third of volumes, as well as West Africa, the US, Asian nations, Australia, Russia and the spot market.

Cost rises

Fiscal year 2021-2022 LNG imports cost \$11.9 billion, or 90,661 crore Indian rupees, compared with \$7.9Bln, or 58,666 crore rupees,

in the previous 12 months.

March imports cost 25 percent more year-on-year at \$1bln, or 7,619 crore rupees, versus \$800M in the same month of 2021.

While LNG imports have declined every month since September 2021 more domestic pipeline natural gas has been coming ashore from the Bay of Bengal to satisfy an increasing amount of Indian demand.

The Ministry said gross production of natural gas in the past fiscal year came to 34.024 billion cubic metres, marking a surge of 18.7 percent on the 28.673 Bcm logged in the 2020-2021 fiscal year.



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NEWS BRIEFS

Gazprom gas halt

Russian natural gas company Gazprom issued a statement from its headquarters in Saint Petersburg saying it had halted gas supplies to Bulgaria and Poland over their refusal to pay for their gas in Russian roubles. "Gazprom has completely suspended gas supplies to Bulgargaz and PGNiG (Polish Oil and Gas Company) due to absence of payments in roubles," said the Gazprom statement. "Payments for gas supplied from April 1 must be made in roubles using the new payments details, about which the counterparties were informed in a timely manner," added Gazprom.

Gasum deal in Belgium

Gasum, the Finnish state-owned liquefied natural gas provider to the Nordic countries and with stakes in two small-scale LNG import terminals in Finland, has obtained a distribution licence for the Belgian LNG fuel market. "The distribution licence allows Gasum to expand its supply network and guarantees safe and high-quality deliveries of LNG to customers bunkering in Belgium," said Gasum.

New Fortress permit move

New Fortress Energy Inc., the New York-based LNG-for-power project company with LNG production plans offshore the United States and Africa, said that the US Coast Guard in coordination with the Maritime Administration had affirmed the completeness of NFE's deepwater port license application. NFE said that both US security and regulatory bodies would proceed with the preparation of an environmental impact statement as part of the environmental review within the 356-day application process.

LNG engineer Technip Energies reports jump in revenues and profits while managing market evolution and sanctions

LNG News Editor

Technip Energies, the leading energy and LNG project company with contracts at leading global ventures including in Arctic Russia, offshore Africa and in Mexico, reported a jump in first-quarter revenues and profits.

First-quarter adjusted revenues increased to €1.62 billion compared with €1.55Bn in the same three months of 2021.

Quarterly net profits increased to €72 million versus €44.2M in the prior-year quarter.

Russian contract

The Technip Energies backlog amounted to €15.63Bn compared with €17.80Bn a year ago.

Technip Energies revenues had benefited from sustained activity on the Arctic LNG 2 project run by Russian company Novatek on the Gydan Peninsula, which contributed €445.4M of revenue in the quarter.

"Revenues outside of Russian projects under execution increased year-over-year by 25 percent due to the ramp-up of recently awarded LNG and downstream projects," added the company.

"First-quarter revenue growth and solid profitability demonstrate strong execution across the entirety of our portfolio from project delivery to technology, products and services," said Arnaud Pieton, Chief Executive of Technip Energies.

"This is consistent with our full-year financial framework and we expect our activity outside of Russia to progressively ramp up through 2022," stated the CEO.

Pieton explained that regarding Russia, Technip Energies was committed to complying with all applicable laws and regulations, which includes current and future sanctions.

"Our priorities are to protect our people, and the interests of our company and shareholders," stated the CEO. "In anticipation of



CEO Arnaud Pieton (right) previously signing Qatar contact

the escalation of the European Union sanctions, we have been working with clients, partners and suppliers within the relevant contractual frameworks to take appropriate measures in connection with our activities in Russia, including Arctic LNG 2," he added.

"We expect that the balance sheet position of the project and the relevant contract protections will be sufficient to fulfil our various contractual obligations in compliance with applicable sanctions," Pieton declared.

The CEO added that in the first quarter the company reconfigured the organizational structure around four business lines focused on the various markets.

He noted that the energy landscape has become more complex in recent months with an urgent energy independence agenda, notably in Europe.

Livellier LNG market

"Despite near-term volatility in commodity and raw material prices, the attractiveness of LNG, an inherently flexible energy source, has improved and the market opportunity is accelerating," said Pieton.

"In addition, government policy is increasingly promoting faster adoption of energy transition technologies and Technip Energies is playing a leading role in this market evolution," he added.

In a list of project updates,

Technip said it installed all Gravity-Based Structure-One modules for Arctic LNG 2.

In the US Sempra Infrastructure-led Costa Azul Mexican LNG export project on the Pacific Coast, the company said that all process equipment had been ordered and a 60 percent model review had been completed.

Progress was also reported at the Greater Tortue Ahmeyim floating offloading and storage (FPSO) and floating LNG projects offshore Senegal and Mauritanian waters in West Africa.

The project being developed by UK major BP and US-based Kosmos Energy had had now seen the completed of the installation of all 16 mooring piles.

For the Energean Karish Gas Development offshore Israel, the FPSO had entered dry-dock in March 2022 to be cleaned and prepared for sail-away and entry into Israeli waters.

Also in the first quarter, Technip Energies, whose shares are listed on Euronext Paris and whose American Depositary Receipts (ADRs) are traded over-the-counter, announced three investments in the markets outside of the LNG sector in hydrogen, floating offshore wind and biochemicals.

"These expand and diversify our technology portfolio, while enabling new business model opportunities," he added.

Progress in British Columbia at Port Edward LNG with plans to send containers to China

LNG News Editor

The newest Canadian export project developer, Port Edward LNG, is a British Columbia company proposing to build and operate a small-scale liquefaction plant and to export LNG in ISO containers to nations like China.

It is one of the companies that will be showcased at the forthcoming Canada Gas and LNG Conference and Exhibition being held from May 10 until May 12 at the Vancouver Convention Center.

Pacific Northern Gas

Port Edward LNG is also proposing to supply off-grid domestic customers with a switch to LNG from conventional fuels such as diesel.

According to the company, the small-scale liquefaction plant will produce around 300,000 tonnes per annum of LNG at a 37-acre site located about 5 kilometres east of Port Edward.

The plant when constructed will be adjacent to existing industrial facilities, including utility company BC Hydro's operations and a natural gas pipeline.

The project is being developed on the traditional territories of the Tsimshian communities.

"We are committed to meaningful engagement with First Nations on whose traditional territory we will operate," said Port Edward LNG.



Graphic of how Port Edward liquefaction facility would look

Its feed gas for liquefaction will come from the existing Pacific Northern Gas (PNG) natural gas pipeline.

The LNG exported to Asia will be loading into ISO containers and onto conventional ships.

"Many Asian countries are switching from carbon-intensive fuels, such as coal or diesel, to cleaner natural gas," said the company.

Port Edward LNG noted that its facility is the latest project to offer the potential for rate relief for existing customers of the PNG.

The utility's customers west of the town of Vanderhoof in the centre of BC to the coast have for years endured the highest gas delivery rates in the province because PNG lost a series of large industrial customers, and their revenue over time.

"Two pulp mill closures, one in Kitimat and the other near Port Edward, and the decision by chemical giant Methanex to shutter its natural gas-using, methanol-producing plant in Kitimat increasingly left PNG's existing residential, small business and commercial customers paying the full cost of maintaining the utility's largely empty pipeline," said a recent report on the project.

But now, Port Edward LNG wants to build a small feeder line from PNG's line to its liquefaction plant.

"The project now has regulatory approval from the BC Utilities Commission and has met permit conditions laid down by the BC Oil and Gas Commission," said the company.

And while there's been a delay in site preparation and putting

construction boots on the ground, Port Edward LNG has advanced enough that its first payments to PNG are to start this December 2022.

Money from Port Edward LNG will thus help pay to maintain and improve the utility's pipeline services.

Under a previous owner, Calgary-based AltaGas, PNG was heavily involved in the middle of the past decade in Douglas Channel LNG which would have been a floating terminal moored near Kitimat.

It would have been fed via a spur line branching off of the utility's line into Kitimat.

That project was shelved when AltaGas and customers could not sign up enough customers.

The contract arrangements for payments to start from Port Edward LNG are in provisions called "take or pay".

Port Edward LNG is required to begin its payments on December 1, 2022 whether it is ready to take service or not.

Guarantees given

PNG said that Port Edward LNG had already provided the pipeline company with sufficient financial guarantees so that the utility is moving ahead on design and engineering.

Port Edward LNG had wanted site preparation to start in 2021 with a production start in 2023. However, a delay in the BC Oil and Gas Commission providing permits pushed the timetable back.

The BC O&G Commission had never examined proposals for small-scale LNG projects before and so wanted to fully understand what was involved.

"Bringing schedule alignment requires some flexibility," said Port Edward LNG President Chris Hilliard.

"Port Edward LNG has worked hard with PNG and the regulator and is confident schedules will mesh," he added.

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Sea-LNG urges end to methane slip criticism

Sea-LNG, the UK-registered non-profit industry foundation committed to furthering the use of LNG as a cleaner and superior maritime fuel, has urged an end to the misrepresentation of the status of methane-slip risks delaying the build-out of a cleaner LNG-powered fleet.

Methane slip from LNG-fuelled vessels is a recognised problem that the maritime industry has been actively addressing for well over a decade.

"Sea-LNG is disappointed to see the ongoing campaign of misinformation that misrepresents the progress the industry has made, and is continuing to make, to reduce slip," said the foundation.

Methane slip is methane that evades the burning process because of engine inefficiency, for example, and can then escape into the atmosphere.

"Sensationalist claims lacking scientific evidence are a transparent attempt to distract the industry from investing in LNG - a solution that can deliver immediate greenhouse-gas emissions reductions and provide a low risk, incremental pathway for full decarbonisation of the maritime sector," stated Sea-LNG.

The foundation has members across the entire LNG value chain including providers of the product, users, engine and asset suppliers and classification societies.

Sea-LNG is already recognised as an international leader in LNG matters.

Each member organisation commits mutually agreed human resources, data analysis and knowledge-sharing in support of Sea-LNG initiatives and activities and financially contributes via a membership fee.

Singapore shipyards in landmark merger to relaunch energy services

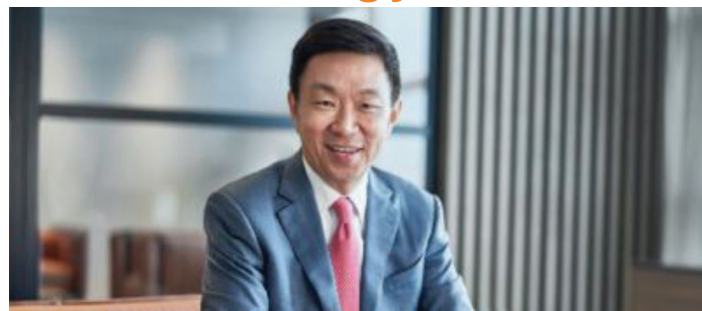
LNG News Editor

Singapore's largest shipping and energy sector companies, Keppel Corp. Ltd and Sembcorp Marine, have agreed a multi-billion-dollar deal to merge Keppel Offshore & Marine and Sembcorp Marine to create a global provider of offshore energy infrastructure services covering oil-to-LNG, transition fuels and reviving the Singaporean shipyards sector.

The April 27 announcement was widely expected with Sembcorp Marine and Keppel Corp. creating a new company based on a 50-50 enterprise value ratio between Keppel O&M and Sembcorp Marine.

Asset shares

After taking into account the respective capital structures of the two companies, the S\$500 million (US\$364M) cash that Keppel O&M will pay to Keppel and other adjustments, Keppel will end up owning 56 percent of the combined entity (NewCo), while Sembcorp Marine shareholders will own 44 percent.



Loh Chin Hua CEO of Keppel and head of Keppel O&M

Temasek, the Asian city state's wealth fund, will become the largest shareholder of the NewCo, with a 33.5 percent shareholding.

Sembcorp Marine (SSM) will undergo an internal restructuring exercise whereby its shareholders will exchange their shares for shares in the NewCo on a one-for-one basis.

Sembcorp Marine will then transfer its listing status on the mainboard of the Singapore Exchange to the NewCo.

The Singaporean NewCo will go to the market as one of the world's largest offshore and marine energy players with S\$6.4 billion (US\$4.65Bn) worth of orders in place.

The official statement said the entire transaction would unlock S\$9.4Bn (US\$6.8Bn) in value for Keppel, comprising S\$4.9 billion which represents its 56 percent stake in the combined entity via an extraction of the \$500M in cash as part of Keppel O&M's pre-combination restructuring as well as vendor notes, perpetual securities and a 10 percent stake in Asset Co worth a total of S\$4.1Bn.

Loh Chin Hua, Chief Executive of Keppel and Chairman of Keppel O&M, said the deal was a win-win agreement for Keppel O&M and Sembcorp, marking a strategic landmark for the offshore and marine sector in Singapore.

Iberian Peninsula celebrates advances of LNG as ship fuel

Spain and the national gas grid operator and LNG terminal owner Enagás have marked the successful first phase of a European Union-backed project to bring liquefied natural gas maritime fuel to the ports of the Iberian Peninsula.

The "CORE LNGas hive" project was an EU initiative launched in 2016 that, together with its subsequent development called LNGhive2, allowed the building of a safe, efficient and integrated LNG logistics chain in Spain and Portugal.

The Deputy Director of the European Commission in Spain, Lucas González, commented on the progress of LNG fuel in the region along with the President

of Spain's State Ports, Alvaro Rodríguez, and the General Director of the Enagás Infrastructure division, Claudio Rodríguez.

"CORE LNGas hive and LNGhive2 are benchmarks for public-private collaboration in the Iberian Peninsula and in Europe," said a statement.

"They are led by Puertos del Estado and coordinated by Enagás and have a total of 49 partners from Spain and Portugal, 21 of them public partners, eight state institutions and 13 port authorities and 28 private industrial companies, shipowners, LNG operators and service providers in the value chain," the statement explained.

The participants in the meeting

in Madrid recalled how the deployment of this joint strategy, led by Spain's Puertos del Estado and coordinated by Enagás, was a first step towards the decarbonisation of maritime transport and the promotion of the region's ports as clean energy hubs.

"The project has made it possible to adapt the Spanish network of regasification terminals to supply of LNG as fuel for ships," they said.

"These infrastructures will make it possible to incorporate renewable gases, such as biomethane or hydrogen in the future," they noted.



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Japan's energy group JERA signs LNG and energy transition accord with major Thai power operator

LNG News Editor

Japanese energy group JERA Co Inc., one of the world's biggest importers of liquefied natural gas, has signed an accord with the main electricity grid operator of Thailand to cooperate on LNG and the energy transition.

JERA, the 50-50 joint venture between Tokyo Electric Power Co. Holdings and Nagoya-based Chubu Electric Power, has concluded a memorandum of understanding with Electricity Generating Public Company (EGCO), the southeast Asian nation's major power generator.

Stable supply

"In Asia, there is demand both for decarbonization and for a stable energy supply that supports economic growth," said JERA.

"Gas-fired power generation, which emits less CO₂ than power generation using other fossil fuels,



Thai power firm EGCO will benefit from LNG import rise

can be a flexible supplement to intermittent renewable energy and, as an energy source indispensable to moving the energy transition forward," added the Tokyo-based firm.

The accord stipulates that JERA and EGCO will discuss the possibility of collaboration to develop LNG value-chain projects and establish in the future a large-scale supply chain for hydrogen and ammonia.

"JERA has contributed to a stable supply of energy in Thailand as a shareholder with an approxi-

mately 12 percent stake in EGCO through TEPCO Generating BV," explained JERA, which has been expanding its project footprint in the Asian region since 2020.

"In Thailand, where energy demand is expected to continue to increase in line with economic growth, JERA believes that pursuing business opportunities to develop LNG value-chain projects and to establish hydrogen and ammonia supply chains together with EGCO based on this MOU will enable it to contribute to expanding

its earnings base, improving the reliability of its supply of LNG and next-generation fuels," stated the company.

JERA said it has long experience of leveraging in the LNG value-chain business and plans to follow the decarbonization roadmaps it is drawing up for each country and region it intends to operate in.

"JERA will continue to work with leading companies in Japan and overseas to establish and expand supply chains," said the company.

In Japan JERA handles 40 million tonnes per annum of LNG imports and accounts for about 40 percent of Japan's annual imports of the fuel.

The company controls a fleet of around 20 LNG carriers and currently operates and provides fuel for a total of 26 power plants in Japan and imports LNG into 11 of Japan's network of 37 terminals.

Inpex and JGC join Thailand's PTTEP to advance their southeast Asian carbon-capture initiative

Japanese LNG industry participants, export plant operator Inpex Corp. and engineering company JGC Holdings are teaming up with the Thai national energy provider, which has increasing natural gas and LNG stakes, to develop a carbon-capture and storage (CCS) project in Thailand.

Thailand's Public Company Exploration and Production (PTTEP) has stakes in Malaysian floating LNG as well as in Mozambique LNG and is taking over the operatorship of the main natural gas field in neighbouring Myanmar.

While all three companies are heavily involved in the energy transition on fuels in their promotion of LNG and pipeline gas, with Inpex operating the Ichthys LNG plant near Darwin in Australia and JGC being a builder of LNG plants and terminals, they are now exploring

Southeast Asian CCS prospects.

They said the potential development of the CCS project in Thailand would help reduce greenhouse-gas emissions and accelerate the decarbonization of Thai industries and the country as a whole.

Studies and solutions

Inpex, JGC and PTTEP have now signed an accord on the Thailand Carbon-Capture and Storage Initiative, which aims to study the potential development of CCS solutions to help industries including the oil and gas sector, hard-to-abate industries and power generation reduce their carbon-dioxide emissions.

CCS involves capturing CO₂ from industrial processes before it enters the atmosphere and transporting the CO₂ for underground storage in geological formations

where they will be appropriately managed and monitored.

"The collaboration will involve identifying and evaluating facilities as well as procedures and technologies concerning CCS to build economically viable CCS solutions for Thailand," said a statement.

PTTEP said the initiative reflected its determination to take part in regional efforts to manage and mitigate GHG impacts.

"We have the potential to help industries and Thailand reduce carbon emissions and achieve carbon neutrality goals," the Thai company added.

Reforms

Inpex said it was proactively engaging in energy structure reforms towards the realization of a net-zero carbon society by 2050 while responding to the energy demands

of Japan and other countries.

"The company aims to create clean energy business opportunities centred on CCS in Thailand with a view to expanding these opportunities to other parts of Asia," said Inpex, whose headquarters are in Minato City in Tokyo.

JGC, based in Yokohama, noted that among the three it had "a rich track record" of building CCS facilities not only in Japan, but also in Algeria and Australia.

"The company also provides technical consulting services with energy and environmental themes, combining various methods such as surveys, analysis and evaluation, simulation, and risk assessment, and contributing to the realization of CCS through the provision of a wide range of solutions," it explained.