LNG Unlimited

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Abu Dhabi strategy is to sustain LNG output to 2040 after boost

UAE plans to seize incremental LNG and gas-to-chemicals growth opportunities

LNG Journal editor

Abu Dhabi National Oil Company (Adnoc), the leading energy group in the United Arab Emirates, has issued a plan of action for its recently discovered 15 trillion cubic feet of natural gas and substantial additional oil reserves while preparing to award new exploration licences early in 2019.

The board of Adnoc said after a meeting that the long-standing LNG exporting nation of the UAE, which has also recently been an importer of LNG, aims to become a net exporter with its new feedgas reserves.

Six new blocks

Adnoc also plans to open up six new blocks for exploration and production and would award licences in the first quarter of 2019.

At its meeting, the Adnoc board confirmed discoveries of gas in place totaling 15 Tcf and discoveries of 1 billion barrels of oil in place.

It also approved Adnoc's five-year business plan and capital investment growth of 486 billion dirhams ($132.3 billion) between 2019-2023.

"The gas strategy will sustain LNG production to 2040 and allow Adnoc to seize incremental LNG and gas-to-chemicals growth opportunities, where they arise, from the UAE's dynamic demand-supply position and evolving energy mix," it added.

The UAE is one of the oldest LNG producers from the Das Island plant offshore Abu Dhabi consisting of three Trains with nominal capacity of 5.5 million tonnes of LNG per annum from associated and non-associated gases.

Adnoc to award E&P licenses in first quarter of 2019

The Das Island LNG plant, commissioned in 1977, is run by Adgas, a subsidiary of Adnoc and mainly supplies Japan.

The UAE is also an LNG importer at facilities in Dubai and Ruwais to help meet its own domestic gas needs.

The Abu Dhabi plant exported just 5.59 million tonnes of LNG last year and it could now be refurbished or de-bottlenecked to increase that total.

To export just over 5.5 million tonnes per annum of LNG requires around 1 billion cubic feet of natural gas per day to send to the liquefaction plant.

UK energy consultants Wood Mackenzie recently noted that the Das Island LNG plant would require an overhaul of existing facilities to maintain or raise output.

"We expect the plant could export at capacity from 2024 onwards, depending on Abu Dhabi's priorities for the gas," said Wood Mackenzie.

The UAE, which accounts for 4.2 percent of global production of crude and 3.1 percent of proven reserves of natural gas, now has a 7.1 percent addition to existing reserves of gas, which stood at around 209.7 Tcf at the end of 2017. "The UAE reports reserves of 97.8 billion barrels of crude and the announcement stated a discovery of 1 billion barrels in place, so assuming recovery rates of 25 percent it comes out at 250 million barrels of reserves," said Wood Mackenzie.

Adnoc outlined proposals to increase its oil production capacity to 4 million barrels per day at the end of 2020 and by 5 million barrels of oil per day by 2030.

The company added that its confirmation of the discovery of significant new oil and gas reserves endorsed the Abu Dhabi government's "historic decision " earlier in 2018 to open six geographical oil and gas blocks for competitive bidding.

Adnoc said the first exploration and production licenses are expected to be awarded in the first quarter of 2019.

"Based on existing data from detailed petroleum system studies, seismic surveys, log files and core samples from hundreds of appraisal wells, estimates suggest these new blocks hold multiple billion barrels of oil and multiple trillion cubic feet of natural gas," said the company.

■

UNLIMITED AGENDA

US Calcasieu Pass LNG advances on permits with much of its volumes pointed at Europe

LNG Journal editor

Kinder Morgan, the US pipeline company, has placed into service its Louisiana natural gas pipeline system serving the Cheniere Energy Sabine Pass LNG export plant to provide additional feed-gas volumes for the fifth liquefaction Train now being commissioned.

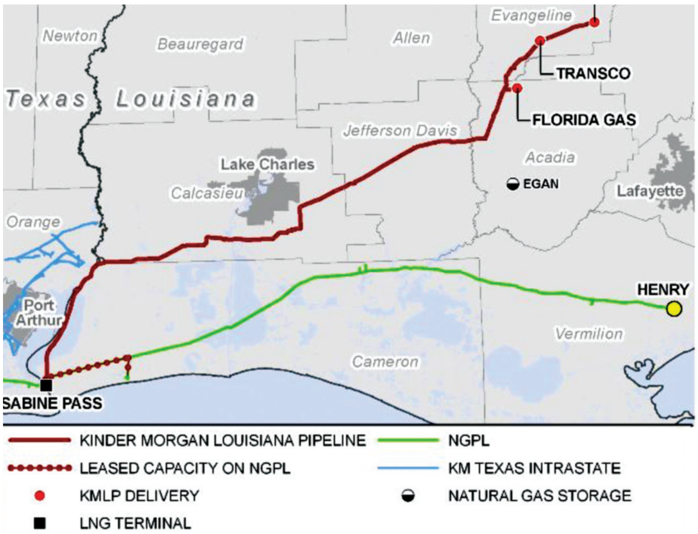
The $122M Kinder Morgan Louisiana Pipeline (KMLP) laterals are designed to deliver as much as 600 million cubic feet per day to Cheniere's Sabine Pass facility.

Laterals

The KMLP pipeline system has two laterals, both originating at the Cheniere Sabine Pass plant and inter-connecting with major pipelines.

One is a 42-inch pipeline extending northeast for 132 miles, terminating at Columbia Gulf Transmission Company in Evangeline Parish, Louisiana.

The other section located in Cameron Parish, Louisiana, is a 36-inch pipeline of around 1 mile in length, interconnecting with Natural Gas Pipeline Company of America (NGPL) and continuing on NGPL to two delivery interconnects near Johnsons Bayou.



All routes on pipeline lead to Sabine Pass plant

Cheniere has said Sabine Pass Train 5 was undergoing commissioning and was expected to enter commercial service by the first quarter of 2019.

The Federal Energy Regulatory Commission approved Kinder's request to build the pipeline a year ago for Cheniere affiliate Sabine Pass Liquefaction (SPL).

"SPL constructed the SPL meter station under authority that SPL received on August 2, 2013," noted Kinder. "Following SPL's construction of the Meter Station, SPL transferred its ownership to KMLP on November 1, 2018," added Kinder.

When Cheniere starts up its fifth liquefaction Train at Sabine Pass, the overall output will rise to 22.5 million tonnes per annum with one more Train expected to be built at the facility.

The company's second export plant at Corpus Christi is also making progress towards putting the first Train on stream before the end of 2018. Cheniere is also involved in bringing more feed-gas to the US Gulf Coast from Oklahoma for its Corpus Christi LNG plant and other market participants.

The Houston-based company applied to the FERC in October 2018 to begin construction of a natural gas pipeline to transport volumes from the prolific Anadarko Basin in Oklahoma.

Cheniere's $1-billion natural gas pipeline received environmental approval in June 2018.

The Midcontinent Supply Header Interstate Pipeline (Midship) project will go ahead with site preparation, pre-construction and construction activities for three pipeline segments and associated above ground facilities, contractor yards and access roads.

The Midship pipeline is designed to transport 1.44 billion cubic feet per day on almost 200 miles of new pipeline to existing pipelines near Bennington in Oklahoma for subsequent transportation to the Gulf Coast and Southeast markets and hubs. ■

LNG equipment-maker Air Products to acquire gasification business from GE with 1,000 patents

Air Products, the US LNG equipment-maker and industrial gases company, has signed an agreement to acquire the General Electric gasification business, including more than 1,000 patents relating to GE gasification technology.

This transaction will allow Air Products to expand its synthesis gas (syngas) solutions product offerings and its presence in build, own and operate gasification projects around the world.

Air Products said financial terms of the transaction are not being disclosed. The acquisition is expected to close following the receipt of any necessary regulatory approvals and satisfaction of closing conditions. "Acquiring GE's gasification technology and business would complement our other recently completed gasification technology acquisition and alliance formation," said Seifi Ghasemi, Chairman, President and Chief Executive of Air Products, based in Le High Valley, Pennsylvania.

"Together, they would give Air Products a broad range of product and service offerings and solutions to provide syngas for chemicals, fuels, power or refining," he explained.

"The transaction would allow us to further extend our onsite industrial gas production model to include syngas supply, and enable cross-selling opportunities for our other technologies and product offerings," stated Ghasemi.

As part of the overall syngas solutions offering, these opportunities could include air separation units, pressure swing absorbers, carbon monoxide cold box equipment, as well as plant support and cryo-machinery.

The gasification business being acquired by Air Products includes Boston-based GE's share of its 50-50 joint venture with China Shenhua Coal to Liquid and Chemical Company, a subsidiary of China Energy Group.

"Formed in 2011, the venture provides technologies for gasification projects in China," said Air Products.

"The acquisition also includes the 1,000 patents relating to technology, which has been deployed at over 90 sites, with more than 240 gasifiers, and represents over 36,000 MWth (thermal megawatts) of syngas production," it added.

The GE gasification technology has an extensive track record of processing solid, liquid, gaseous, and blended feedstocks.

"Air Products looks forward to continuing to support existing and future gasification licensees," it said. ■

Three Iberian Peninsula firms open Barcelona LNG station

Three Iberian Peninsula companies have opened a liquefied natural gas fuel station at the Port of Barcelona, offering an alternative and cleaner fuel for land transport of goods around the northeast Spanish port.

The Port of Barcelona is one of the companies involved in the LNG fuel station project along with Portuguese oil and gas company Galp Energia and the Barcelona-based transportation and logistics company, Groupo Ham.

The fuel station offers LNG and compressed natural gas and is located in the Galp service station within the Port area.

The facility was constructed with the help of European Union funding to encourage the spread of cleaner fuel.

It has two LNG pumps for trucks and a cryogenic storage tank with 60 cubic metres capacity and two CNG pumps for trucks and other vehicles.

The inauguration of the Barcelona LNG station was attended by executives of the three companies involved, including the marketing and strategy manager of the Ham Groupo, Antoni Murugo Sole, the President of the Port of Barcelona, Merce Conesa and commercial manager of Gas & Power at Galp, Fernando Martin-Nieto Vaquero.

The commissioning of the latest LNG infrastructure is part of the Port of Barcelona's Air Quality Improvement Plan, which aims to effectively reduce emissions from all the port's activities.

"This gas station is proof of the strong will of the Port of Barcelona to promote the use of an alternative, clean and sustainable fuel such as natural gas, which significantly reduces nitrogen oxide emissions and eliminates completely fine particles and sulfur oxide," said Port President Conesa.

Germany makes LNG import pledge after pipeline criticisms

LNG Journal editor

Chancellor Angela Merkel with Poland's PM Morawiecki

German Chancellor Angela Merkel pledged during a visit to Poland to speed up the development of liquefied natural gas infrastructure in Germany as it remains the only prominent European Union member without an LNG regasification terminal.

Germany has been accused by some EU members, including Poland, of encouraging the EU energy security policy of building LNG terminals to reduce dependence on Russian pipeline gas while encouraging new Gazprom-led pipeline projects to supply Western Europe.

Discussions

Merkel made her LNG statement after travelling to Warsaw with German Finance Minister Olaf Scholz for meetings with Poland's Prime Minister Mateusz Morawiecki and other Polish officials.

The two countries disagreed over the Nord Stream II project, led by Gazprom and backed by German and other EU-based energy companies, to deliver an additional 55 billion cubic metres of Russian gas to the EU.

However, Nord Stream II bypasses EU LNG importers Poland and Lithuania, as well as the traditional pipeline transit nation Ukraine, on its 1,200-kilometres route under the Baltic Sea from the Russian port of Ust-Luga, near St. Petersburg, to Greifswald in northeast Germany.

The Nord Stream II pipeline is expected to enter service in 2019 and deliver the huge new volumes to Germany and the western and central parts of the EU.

"Energy diversification is important for Germany and the country therefore would speed up plans to build liquefied natural gas terminals," said Merkel.

She also said Germany and Poland shared the goal of Ukraine continuing as a transit route for Russian pipeline gas from which it earns tariffs.

Merkel stated that Ukraine's role as a transit country for Russian gas pipelines "represented a security component for Ukraine."

Among the German LNG import plans, one involves Uniper, the Duesseldorf-based energy company with future volumes booked from the US and Canadian liquefaction projects.

Uniper is considering backing plans for the development of an import terminal at the German North Sea port of Wilhelmshaven.

Hoegh FSRU starts deployment to secure China gas supplies

Hoegh LNG Holdings, the Norwegian fleet operator, said its floating storage and regasification unit, the 170,000 cubic metres capacity "Hoegh Esperanza" had arrived at Tianjin port in northeast China and has started commissioning for FSRU import operations to serve the capital Beijing.

The "Hoegh Esperanza" is currently serving a three-plus-one year time charter for dual use as an FSRU and a conventional carrier for China National Offshore Oil Corp.

Under the charter contract, the vessel will be utilised in FSRU mode at Tianjin port, located on the coast east of Beijing, for a minimum period each year, with the balance of the year in LNG carrier mode.

Hoegh said the rate structure for the charter corresponded to the mode of use, with an anticipated annualised contribution to gross earnings when in FSRU mode of around $33 million.

The "Hoegh Esperanza" was delivered from the Hyundai Heavy Industries shipyard in South Korea in April 2018.

The contract with CNOOC, which currently operates nine onshore import terminals out of China's network of 19 facilities, entered the contract for the floating facility in June 2018.

"This high-specification FSRU has both open and closed-loop regasification capability and import capacity of around 6 million tonnes of LNG per year," said Hoegh.

It is also equipped with a French company GTT's Mark III membrane containment system, as well as dual-fuel diesel-electric propulsion.

"We are proud to assist CNOOC in enabling China to import more attractively priced LNG," stated Sveinung J.S. Stohle, President and Chief Executive of Hoegh.

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Plant claims for JGC

JGC., the Japanese energy and LNG engineering contractor, said it had 220 billion yen ($1.93 billion) of outstanding LNG contracts at the end of the latest quarter, including Yamal LNG in Russia, the Coral FLNG project offshore Mozambique and the Ichthys LNG project in the Northern Territory of Australia. JGC said the Ichthys plant owned by Inpex Corp. of Japan and French major Total, was the subject of contract disputes that have gone to arbitration. "Additional costs incurred due to the increase in service scope and other factors should be reimbursed by the client under the agreement," said JGC.

Golar upbeat on ships

Golar LNG Partners, the fleet owner listed on the Nasdaq global exchange, said the shipping market continued to improve in October and one of its carriers re-entered the spot market and completed multiple voyages. That's as Golar LNG Partners reported third-quarter net income through September 30 of $49.0 million and operating income of $62.0M.

Inpex gas sales drop

Inpex Corp, the Japanese oil and gas company and developer of the Ichthys LNG plant in Australia that delivered its first cargo in October to its own Naoetsu import terminal in Japan, said net energy sales decreased by 2.2 percent to 438.2 billion yen ($3.87Bln) in its fiscal first-half. "Net sales of crude oil increased by 42.0Bln yen, or 12.7 percent, to 372.9Bln yen, and net sales of natural gas decreased by 52.8Bln yen, or 47.7 percent, to 57.9Bln yen," said Inpex.

Mexico's first LNG export project signs volume sales agreements

LNG Journal editor

Sempra Energy said it signed accords with Japanese and French LNG buyers for volume sales from its Costa Azul facility on the Pacific Coast of Mexico that is being transformed from an import terminal to liquefaction and an export plant.

Sempra LNG & Midstream and the utility's Mexican subsidiary, Infraestructura Energetica Nova (IEnova) signed three Heads of Agreements (HOAs) with French energy major Total, Japanese trading house Mitsui & Co. and Tokyo Gas Co.

Costa Azul facility on the Pacific Coast of Mexico

Buyers

The three buyers have booked the full export capacity of the first phase of the Costa Azul liquefaction project.

The first part of the transformation will see the construction of a single liquefaction Train to be located adjacent to the existing terminal and with capacity for 2.4 million tonnes per annum of LNG exports.

"These three HOAs mark a significant milestone for the development of the liquefaction and export project, supporting Sempra Energy's strategic vision of becoming North America's premier energy infrastructure company," said Joseph A. Householder, President and Chief Operating Officer.

Franco-US engineering company TechnipFMC and Omaha, Nebraska-based Kiewit Corp. were selected in June as the Costa Azul engineering, procurement, construction and commissioning (EPC) contractors.

The Costa Azul facility was the first LNG terminal built on North America's West Coast.

It is located about 15 miles north of Ensenada in the Mexican state of Baja California and began commercial operations in 2008.

"We look forward to working with three world-class and well-respected LNG companies to develop a project that should provide low-cost, flexible operations and reliable LNG to the Pacific Basin market and to supply the Baja California peninsula market in Mexico," said Carlos Ruiz Sacristan, Chief Executive of the Sempra North American Infrastructure group and executive chairman of IEnova.

Sempra and French energy major Total sign accord on ventures

French energy major Total and Sempra Energy of the US have signed an accord for cooperation in the development of North American liquefied natural gas export projects, including phase two of the Cameron LNG plant in Louisiana and the Costa Azul project in Mexico.

The scope of a memorandum of understanding they have signed covers continuing development of the Cameron plant and the transformation of Sempra's Costa Azul import terminal in Baja California on the Pacific Coast of Mexico into an export facility targeting Asian customers.

Total, which already is a partner in the Cameron LNG joint venture with a stake of 16.6 percent, may acquire an equity interest in the Mexican plant.

The French company is a global player with stakes in recently completed ventures such as the Yamal LNG plant in Russia and the Ichthys LNG facility in Australia,

Sempra and Total explained that they also contemplate Total potentially contracting for around 9 million tonnes per annum of LNG offtake across Sempra's LNG assets.

Sempra has already started the commissioning process for the first liquefaction Train at the Cameron facility in Hackberry, Louisiana.

Cameron is jointly owned by Sempra and Total and two Japanese shareholders. They are Japanese trading house Mitsui & Co and Japan LNG Investment, a venture owned by Japan's Mitsubishi Corp. and the shipping company Nippon Yusen Kabushiki Kaisha, known as NYK Line.

"The US is increasing its global leadership position in the production of oil and natural gas," said Jeffrey W. Martin, Chief Executive of Sempra Energy.

"In large measure, the next step in fulfilling our country's energy potential is the development of critical export infrastructure for LNG," he added.

Petronas formally starts commercial gas-up and cool-down services at Bintulu LNG plant

LNG Journal editor

Malaysian energy company Petronas has started commercial gas-up and cool-down services for the global LNG carrier fleet from its liquefaction plant at Bintulu port in Sarawak in competition to other ports such as Singapore.

Petronas said the start of services by its Petronas LNG Ltd subsidiary positions the port and large-scale liquefaction plant at Bintulu as one of the main global LNG hubs.

Bintulu Port and LNG plant in Sarawak welcome ships

Temperatures

The gassing-up and cooling-down, known as GUCD, is a service for maritime storage tanks on LNG carriers, for example after dry-docking, and to cool down the tanks to cryogenic temperature before loading its next cargo.

The Malaysian company's subsidiary, Petronas LNG, has signed an accord in 2017 with Bintulu Port authorities for the provision of marine support services for GUCD in Bintulu for a trial period of three years.

Petronas said the vessel berthed at the Bintulu LNG terminal after arriving from Linggi, off the Strait of Malacca and completed the cool-down operation smoothly in around 11 hours.

"These new services are offered at attractive rates by Bintulu Port to LNG vessel operators and owners. The LNG for gassing up services is supplied from the Petronas LNG complex," it added.

"The partnership with Bintulu Port will enhance Petronas' portfolio of services in the integrated LNG value chain," said Ahmad Adly Alias, Petronas Vice President of LNG Marketing & Trading.

"Following an agreement signed last year between BPSB and PLL, we augmented efforts to garner vessel operators and owners' interests to utilise this service in Bintulu," he added.

"With the attractive rate offered by BPSB, we are confident that the GUCD services will draw more LNG vessel operators and owners," stated Adly.

The Petronas Bintulu plant produces more than 28 million tonnes per annum of LNG and has been on stream since 1983 and has output from seven liquefaction Trains.

Petronas also became the first FLNG producer when the "PFLNG Satu" processing hull entered commercial service in early 2017 after being deployed over the Kanowit gas field offshore Sarawak.

The FLNG venture has nameplate capacity of 1.2 MTPA and a second FLNG vessel is scheduled to enter service in 2020.

That production hull is designed to produce 1.5 MTPA using feed-gas from the Rotan field, about 80 miles offshore of Sabah, the Malaysian state in the northern part of the island of Borneo.

Singapore offers operators of LNG carriers GUCD services at its Jurong Island import terminal, which is seen as convenient for vessels on maintenance visits to shipyards in the region such as Keppel.

Kosmos gives Africa FLNG update ahead of FID

Kosmos Energy, the partner of BP in two floating LNG projects offshore Senegal and Mauritania, said the front-end engineering and design for phase one was almost completed and the development plan had been submitted to both governments.

"In partnership with BP, the company continues to make progress in Senegal and Mauritania with the Tortue LNG development," said Kosmos in its third-quarter earnings report.

"The FEED work for phase 1 is substantially complete. The Unit Development Plan has been submitted to both governments, and the partnership has reached agreement with the Governments of Mauritania and Senegal on the non-PSA fiscal terms for this cross border project," added Kosmos.

The Dallas, Texas-based company said the Tortue project remains on track for the phase one final investment decision by around year-end 2018.

"With the non-Production Sharing Agreement fiscal terms agreed, the partnership intends to submit the Declaration of Commerciality," explained Kosmos.

"The next key step is for the governments to grant the Exclusive Exploitation Authorization which would enable FID. In parallel, the partnership is progressing the LNG offtake agreement," stated the company.

The US exploration and production company that has focused its activities on the Atlantic Margin posted a wider third-quarter net loss of $126.1 million compared with a loss of $63.4M in the same three months a year ago.

Kosmos said it exited the third quarter with $668M of liquidity and $1.94 billion in net debt. ■

Jordan Cove LNG project in state of Oregon begins permit countdown

LNG Journal editor

Canadian Pembina Pipeline Corp. said it anticipated a final decision from the US Federal Energy Regulatory Commission on developing its Jordan Cove LNG export plant in the northwest US state of Oregon within a year as company earnings jumped.

"We received a FERC Notice of Schedule and based on that notice, we anticipate a final FERC decision on the proposed project in November of 2019," said Pembina in its third-quarter earnings report.

Export plant is proposed for this site in northwest US

Scale

The Jordan Cove plant is proposed for Coos Bay in Oregon and would comprise five small-scale liquefaction Trains each with 1.5 million tonnes per annum of output for a total of 7.8 MTPA.

It will also include two full-containment LNG storage tanks with a total storage capacity of 320,000 cubic metres, gas treating facilities, an export terminal and access to more than 25 billion cubic feet per day of gas supply from Western Canada and the US Rockies.

"We are as rich in growth opportunities as we have ever been, which is a testament to both our customers and the underlying attractiveness of the WCSB," stated Mick Dilger, Pembina's President and Chief Executive Officer.

Pembina's venture had previously been rejected by the FERC because of a perceived lack of market interest.

However, Jordan Cove confirmed in May 2018 that it had signed preliminary accords with Jera Co Inc. and Itochu Corp. of Japan to supply LNG.

Jordan Cove formally refiled its application with the FERC in September 2017.

Pembina said in its earnings statement that it continued to experience strong demand for transportation services across the liquids-rich areas of the Western Canada Sedimentary Basin.

Pembina said it achieved another strong quarter with increasing volumes leading to robust earnings.

"These results were largely driven by a $10 billion increase in assets year-over-year from the acquisition of Veresen," said the company in reference to the previous Canadian owner of the Jordan Cove venture and other assets acquired by Pembina. ■

Nova Scotia's Goldboro LNG project granted final construction clearance

The Goldboro LNG export plant in the Atlantic Coast Canadian province of Nova Scotia, with plans to ship cargoes to Europe, has been given the final go-ahead by the Nova Scotia Utility and Review Board after previously receiving its environmental approval.

The venture being developed by Canadian company Pieridae Energy will be located in Guysborough County.

The final investment decision for the venture is now expected by June 2019.

German utility Uniper is one of the Goldboro project's customers and Pieridae has also received a written confirmation of eligibility in principle for up to US$1.5 billion of untied loan guarantees from the German federal government.

Pieridae noted in its latest earnings report that owning its own reserves was important to provide feed-gas for the Nova Scotia plant to produce 10 million tonnes per annum.

Pieridae has signed a 20-year supply agreement with Uniper for 5 MTPA of its production and has additionally embarked on a strategy of securing natural gas reserves for liquefaction.

The LNG export plant developer earlier in 2018 agreed to acquire an Alberta natural gas producer, Ikkuma Resources.

Prior to the Ikkuma acquisition Pieridae, took over resources in the Canadian province of New Brunswick when it completed its merger with Petrolia Inc.

Pieridae added that in anticipation of the start of construction, the Toronto Stock Exchange-listed company has engaged Canadian consultants Hatch Ltd to act as its engineering adviser.

Pieridae is continuing to engage with First Nations so that the Mi'kmaq people will see the benefits of supporting the venture contemplated by a memorandum of understanding signed in August, 2013. ■

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Japan's Mitsui Osk Lines posts brighter earnings in energy transportation sector led by LNG fleet

LNG Journal editor

Mitsui Osk Lines, the Japanese shipping company with an operating fleet of almost 100 LNG carriers, posted a first-half profit and higher revenues from its energy transportation business as its other shipping divisions struggled.

MOL fiscal first-half revenue for all its divisions amounted to 619.8 billion yen ($5.5Bln) versus 818.9Bln yen in the year-ago period, a drop of 24.2 percent.

Naming event for recent delivery, the 'Marvel Eagle'

Energy boost

MOL reported first-half profits attributable to shareholders of 5.7Bln yen ($50.5M) versus 13.1Bln yen in the same six months of last year, a fall of 56.4 percent.

However, profits from the energy transportation business, including LNG carriers, rose by 60.6 percent to 8Bln ($70.8M) compared with 4.9Bln yen in the year-ago period.

Revenues from tankers and LNG carriers was 139.7Bln yen ($1.23Bln) in the six months, up 5.6 percent from 132.3Bln yen in the 2017 first half.

"The LNG carrier division maintained a robust performance, in part due to new vessel deliveries in addition to vessels operating under existing long-term contracts," said MOL.

US LNG projects will boost future demand for MOL carrier services to Japan and the company is continuing to expand its LNG fleet.

MOL President and Chief Executive Junichiro Ikeda was at a naming ceremony on October 25 at the Nagasaki Shipyard of Mitsubishi Heavy Industries for a newbuilding LNG carrier for Osaka Gas Co. with capacity of 180,000 cubic metres.

The vessel was named the "LNG Juno" by Osaka Gas President Takehiro Honjo and the rope was cut by his wife.

The hull design features the MHI-developed peapod covering for the four spherical Moss-Type storage tanks.

"The vessel will transport LNG that Osaka Gas purchases from the Freeport LNG Project in the United States and other suppliers," said MOL.

MOL also took delivery on September 5 of the 155,000 cubic metres capacity LNG carrier "Marvel Eagle", built at the Sakaide shipyard of Kawasaki Heavy Industries for Mitsui & Co.

MOL will operate the vessel for shipping volumes to Japan from the Cameron LNG plant of Sempra Energy in the US state of Louisiana.

Its other ships in the fleet include large crude oil carrier, liquefied petroleum gas carriers, containerships, bulk carriers and car carriers.

"The very large crude oil carrier market remained weak overall due to declining transportation demand as a result of seasonal factors extending from the beginning of spring to the summer months and despite tightening in the balance of vessel supply," said MOL.

"The LPG carrier market followed a downward trend in the first quarter due to declining vessel demand in the US region amid a situation where LPG trades slowed down as rising prices of US LPG resulted in a diminishing price difference in comparison with the Asia region," it said in its earnings.

"In the Capesize bulker market, the market rate rose to the US$24,000 range per day from July through August amid a recovery in iron ore shipments from Brazil," said MOL.

"Then, the rate remained roughly in the range of US$17,000 per day in September amid a weakening market brought about by deteriorating sentiment with respect to trade friction between the US and China," explained MOL. ■

SEA-LNG group welcomes IMO reaffirmation of 2020 sulfur cap deadline and plans for oversight

The coalition of energy and shipping companies backing the increased use of liquefied natural gas as a maritime fuel said it strongly supported the decision by the International Maritime Organization to reaffirm the January 2020 implementation date of the sulfur cap on ship fuel.

The new lower 0.5 percent limit on sulfur content in ship fuel oil will come into force under the IMO's MARPOL treaty, with benefits for the environment and human health.

The new regulations are encouraging ship owners to switch to cleaner fuel such as LNG and low-sulfur alternatives.

The coalition called "Sea-LNG" was referring to a meeting just completed in London, where the IMO is based, of the Marine Environment Protection Committee (MEPC) set up by the UN body to oversee the new anti-pollution measures for the shipping industry, known as MARPOL Annex VI.

"Sea-LNG also applauds the adoption of the amendment to MARPOL Annex VI for a carriage ban on non-compliant fuels for vessels without an approved equivalent arrangement to meet the sulfur limit - such as an exhaust gas cleaning system (known as a scrubber or EGCS) on March 1, 2020," added the statement.

Peter Keller, the Sea-LNG Chairman and who is also Executive Vice President of US shipping line TOTE Inc., said he believed both IMO actions provide greater certainty to ship owners considering new build and retrofit investment options in compliant marine fuelling solutions such as LNG.

"This sends a strong message to the whole maritime industry, including fuel suppliers to be prepared to deliver compliant marine fuels," added Keller.

Keller said that improvements in marine propulsion systems continue to advance apace, with today's engines already significantly ahead of previous years' technologies.

The coalition also highlighted the central role of LNG, not only in complying with the 2020 global sulfur cap, but for its potential to help achieve the IMO's target for a 40 percent reduction in carbon intensity by 2030 and by at least 50 percent in 2050. ■