

LNG Unlimited

LNG JOURNAL PUBLICATION

31 October 2017

Demand from China and India to bolster winter season shipments

Asia's biggest growth economies gradually increase imports of LNG

Our Asia-Pacific editor

China and India both imported more liquefied natural gas in September as the Asian market braced for a rise in winter season prices and long-term prospects for demand in the two largest economies remained bright.

Imports of LNG by India rose 4.8 percent as more shipments came from Nigeria and Qatar and the costs also increased amid efforts to boost domestic gas production.

The volume of Indian LNG imports amounted to 1.78 million tonnes versus 1.70MT in September 2016.

Volumes

China imported 3.45MT in September, an increase of more than 36 percent from the 2.53MT brought in during the same month in 2016 as more shipments arrived from Australia and Qatar.

Additional cargoes are expected by China from the US as more capacity comes on stream on the Gulf coast and from Russia, where the Yamal plant in Siberia will be a supplier from 2018.

China is also currently the fourth-largest recipient of cargoes from the Sabine Pass plant in Louisiana, having received 13 deliveries so far.

The Chinese imports from January through September totaled 25.5MT, a rise of 43 percent on the nine months compared with 2016 when the imports stood at 17.9MT.

Cumulative imports for India in the first six months of fiscal 2017-2018 from April through Septem-



Petronet's Dahej import terminal north of Mumbai

ber amounted to 9.20MT, down 1.6 percent on the 2016 half-year total of 9.35MT.

Production of Indian natural gas for the month was 2.72 Bcm, a rise of 4.7 percent versus the 2.60 Bcm logged in September 2016.

Total domestic natural gas output for the first six months of the financial year was 16.41 Bcm, 4.4 percent up on the 15.72 Bcm half-year total.

Among China's network of 16 import terminals, the Qingdao facility in the northeast province of Shandong receives regular cargoes from the eastern Australian state of Queensland.

The owner of the Qingdao terminal is Sinopec, a stakeholder in the Australia Pacific LNG export plant in Queensland, operated by ConocoPhillips.

Among the shipments to China, the 174,100 cubic metres capacity vessel "Cesi Gladstone" delivered on September 22 to the Qingdao facility.

The "Gaslog Sydney" delivered a cargo on September 18 from the Shell-owned Queensland Curtis plant in eastern Australia to the Chinese Ningbo terminal in Zhejiang province, owned by China Na-

tional Offshore Oil Corp. Chinese imports will rise further in early 2018 as Russia's Yamal project comes on stream and shareholder China National Petroleum Corp takes its equity share.

The Yamal project, led by Russian natural gas company Novatek under its Chairman Leonid Mikhelson, signed a Sale and Purchase Agreement to supply CNPC with 3 MTPA of LNG over a period of 20 years.

India is paying more for its LNG. Figures show that LNG shipments during September cost around \$600 million and from April to September cost a total of \$3.2 billion versus \$2.8Bln during the same period last year.

During September, cargoes arrived in India mostly from Qatar and Nigeria, though also from Algeria and Australia and were delivered to its main regasification terminals, Dahej, Dabhol and Hazira, all on the West Coast near Mumbai.

India's imports of LNG may reach about 30MT in 2020 from 19MT in 2016 and 14.60MT the previous year, according to forecasts.

UNLIMITED AGENDA

EARNINGS

TechnipFMC posts income fall amid work advances for Yamal and Prelude

2

PROJECTS

Elba Island plant in Georgia sees more work on storage area

3

FUEL MARKET

Reganosa outlines marketing plan for fuel hub in Iberian Peninsula

5

STRATEGY

Baker Hughes GE signals positive long-term LNG value proposition

6

IMPORTS

Japanese firms order FSRU for Indonesia plant in West Java

7

LIQUEFACTION



Woodfibre LNG of Asian group RGE delays start of construction

8

TechnipFMC posts revenue and income falls amid advances in Yamal and Prelude LNG

Our Asia-Pacific editor

TechnipFMC, the French-US energy and subsea engineering company, posted lower third-quarter revenues and income as its work was almost completed on two of the world's most difficult LNG projects. Prelude FLN offshore Australia and the Yamal LNG plant in Arctic Russia.

The company posted an almost 18 percent plunge in third-quarter revenues to \$4.14 billion compared with \$5.03Bln in the same three months a year ago before the merger was completed.

Integration

As restructuring continued, TechnipFMC said pro forma net income was down 63 percent to \$121M versus \$327M in 2016 and adjusted gross earnings were 23 percent lower at \$536.2M compared with \$699.3M in the quarter to the end of September 2016.

TechnipFMC reported in its earnings that the last of the 142 modules for the three liquefaction Trains at Yamal LNG was delivered to the site in September, ahead of schedule. "Yamal LNG successfully



CEO Doug Pferdehirt proud of record on projects

achieved start-up of the first two gas compressors and the flare. Commissioning of Train 1 is progressing well and nearing completion," said TechnipFMC.

The Yamal venture is being developed by Russian natural gas company Novatek, French major Total and China National Petroleum Corp. in northwest Siberia where there is an Arctic shoreline.

Among the other highlights during the quarter, TechnipFMC noted that Royal Dutch Shell's Prelude Floating LNG hull it had worked on was now safely deployed offshore northwest Australia after being delivered from the South Korean shipyard of joint venture partner Samsung Heavy Industries.

"Umbilicals are connected and the water intake riser is installed," said TechnipFMC and the topsides for Prelude were undergoing offshore commissioning.

"We continued to deliver strong project execution in our Onshore/Offshore and Subsea segments, as we achieved several key milestones," said Doug Pferdehirt, Chief Executive of TechnipFMC.

"Our Surface Technologies segment benefited from increased activity in the North American market, primarily driven by higher demand for our well completion services," he added in his earnings comments.

"Total inbound orders for the quarter were \$2.5Bln, with Subsea at nearly \$1Bln - reinforcing our conviction in the steady recovery

of the subsea market. "We believe that most major subsea projects can move forward at today's oil prices, with delays in project sanctioning more a function of near-term price uncertainty than project returns," he explained.

"During the remaining months of this year and throughout 2018, we see the potential for additional major subsea awards, the strengthening of subsea services, and the growth of brownfield opportunities.

"We also expect our 2018 Subsea inbound to exceed 2017 levels, driven by the current momentum in project bid activity and an acceleration of integrated project awards," he stated.

TechnipFMC's CEO also said the company was pursuing several downstream projects with an aggregate inbound value of over \$5Bln.

"On these projects, we are actively working as the FEED provider or were the contractor of the original facility. This upfront involvement gives us a better understanding of the project and puts us in a stronger competitive position," he added.

French LNG storage firm GTT given services contract for 10 tanks on Prelude FLNG hull

Gaztransport and Technigaz (GTT), the French LNG maritime storage company, was awarded a services contract for the 10 membrane cargo containment tanks on board the Royal Dutch Shell Prelude floating LNG hull deployed offshore northwest Australia.

"This contract will provide support for the engineering, inspection, maintenance as well as testing of the containment system," said GTT.

The Prelude FLNG facility recently arrived at its location 475 kilometres north east of the town of Broome where the hook-up and commissioning phase of the pro-

ject is underway. Prelude FLNG has a liquefied gas storage capacity of 326,000 cubic metres. Of the 10 tanks, six are for LNG and four others are dedicated to liquefied petroleum gas. Each tank has the Mark III containment system developed by GTT.

"We are very proud to continue to work with Shell on the Prelude FLNG project, building on the portfolio of innovative services we have developed," said Philippe Berterottiere, Chairman and Chief Executive of GTT.

"This contract is somewhat of a landmark for GTT," said the CEO.

The Prelude FLNG vessel will

produce 3.6 million tonnes per annum of LNG as the world's second FLNG venture to start operations after one developed by Petronas of Malaysia.

For the Shell project, the Concerto gas field was discovered near the Prelude field and their combined resources of around 3 trillion cubic feet will be used to produce the LNG.

The FLNG facility, built by Samsung Heavy Industries, has been designed to withstand the most powerful tropical cyclones. It will remain permanently moored at the Australian location for at least 20 years.

The hull will be attached to a mooring system in 250 metres of water by four groups of chains. Each chain will be held to the sea floor by piles.

A series of seven production wells will send feed-gas and condensate from the reservoirs via four flexible risers into the facility.

The Prelude joint venture is owned 67.5 percent by Shell and 17.5 percent by Japanese energy and LNG developer Inpex Corp.

A further 10 percent is held by LNG buyer Korea Gas Corp. and 5 percent by CPC Corp. of Taiwan.

US export data shows Europe and Mideast focus

US LNG export data showed Middle East nations Jordan and Egypt were favoured as well as South Korea and European countries as destinations for shipments from the Sabine Pass export plant in Louisiana, while the highest price was paid by Japan for a spot cargo.

The Kingdom of Jordan received two deliveries and Egypt received one, along with European nations Italy, Lithuania, Portugal and Spain, according to the latest monthly data for August just released by the US Department of Energy.

A total of 13 cargoes were shipped during August versus 16 in July.

Of the remaining total, three were delivered to South Korea, two to Mexico and one to Japan.

Shipping data also showed that the cargoes were delivered by contract holders such as Royal Dutch Shell, Gas Natural Fenosa and the Cheniere marketing unit.

Prices were lower at \$3.41 per million British thermal units for long-term contract holders loading at the terminal in August versus \$3.53 per MMBtu the previous month.

There were 10 long-term contract shipments and three short-term or spot deliveries at lifted prices of \$3.97, \$4.21 and \$5.90 per MMBtu to Lithuania, Portugal and Japan respectively.

The prices were still lower than the \$6.61 per MMBtu prices paid for short-term liftings from the Cheniere Energy-owned facility the previous month.

Since Sabine Pass began its shipments in February 2016, the largest recipient of US LNG has been Mexico with 41 cargoes received followed by South Korea with 18, Chile with 16, China with 13 and Jordan with 11, along with Argentina.

US Elba Island LNG plant in Georgia advances with work on storage area

Kinder Morgan, the US pipeline company, has received permission from US regulators to advance with further work on storage for its export project at Elba Island near Savannah in the state of Georgia.

Elba Island is an existing LNG import terminal being transformed into an export plant to produce an initial 2.5 million tonnes per annum of LNG.

Shell cargoes

Royal Dutch Shell was the former partner of Kinder in the Elba island project and while it sold its stake, it remains the main customer for the completed venture.

The Elba Island project involves the installation of 10 small-scale liquefaction units and modifications to the terminal infrastructure.

Under the current schedule, the Georgia liquefaction plant could be producing LNG by the end of 2018 or early 2019.

The Federal Energy Regulatory Commission has just given permission to Kinder's subsidiary Elba Liquefaction Co. to construct the LNG tanks D-4 and D-5 impoundment areas.



Existing terminal being turned into export plant

"This approval is based on review of the information filed on September 28, 2017," said the FERC.

Kinder recently signed up investment fund firm EIG Global Energy (EIG) as its partner in the Elba Island venture.

EIG purchased a 49 percent joint venture participation in Elba Liquefaction Co. for an upfront cash payment of around \$385 million and agreed to fund its share of future capital expenditures.

Engineering work at Elba Island is being conducted by the US subsidiary of Japan's IHI Engineering & Construction, based in Houston,

Texas. The existing terminal on Elba Island is about eight miles upstream from the mouth of the Savannah River. It was first authorized by the FERC in 1972 as an import facility.

The transformation project to turn the terminal into a liquefaction plant began in November 2016 and is supported by a 20-year LNG supply contract with Shell.

The first liquefaction units at Elba Island are currently expected to be placed in service in mid-2018, with final units coming on stream by early 2019.

US plans largest federal lease sale offshore LNG export project states

The US Department of the Interior has announced the largest federal offshore oil and gas lease sale in history with a range of incentives for companies and involving 76.9 million acres in the Gulf of Mexico offshore the main LNG export project development areas of Texas and Louisiana, as well as Mississippi, Alabama and Florida.

The sale, scheduled for March 2018, includes all available unleased areas on the Gulf's Outer Continental Shelf, a reflection of the strategy of President Donald Trump's Administration to maximize oil and gas drilling on federal lands and waters to boost the

economy and exports such as LNG to help the trade balance.

"In today's low-price energy environment, providing the offshore industry access to the maximum amount of opportunities possible is part of our strategy to spur local and regional economic dynamism and job creation and a pillar of President Trump's plan to make the United States energy dominant," said Interior Secretary Ryan Zinke.

"And the economic terms proposed for this sale include a range of incentives to encourage diligent development and ensure a fair return to taxpayers," Zinke

explained. In addition to the high bids and rental payments, the Department will receive royalty payments on any future production from the leases.

Outer Continental Shelf lease revenues are directed to the US Treasury, Gulf Coast states, the Land and Water Conservation Fund and Historic Preservation Fund.

"In order to strengthen America's energy dominance, we must anticipate and plan for our needs for decades to come," said Senator Lisa Murkowski, Chairman of the Senate Committee on Energy & Natural Resources.

At the Core of LNG

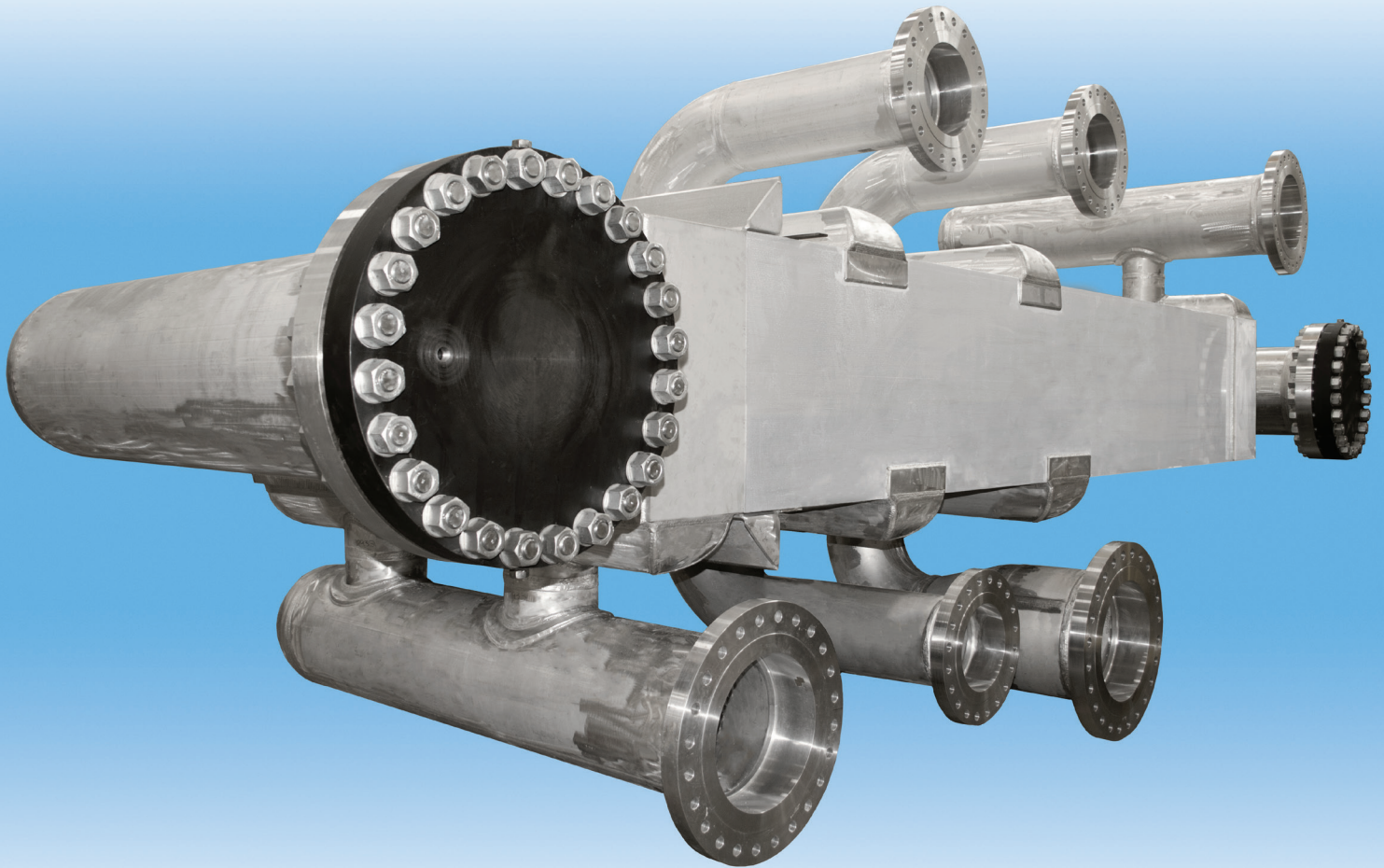


Chart brazed aluminum plate fin heat exchangers (BAHX) are highly efficient, custom engineered, compact units that have been at the heart of LNG liquefaction processes since the 1970's and are facilitating the export of North American shale gas today.

E-mail: bahx@chartindustries.com

www.chart-ec.com



Innovation. Experience. Performance.®

NEWS NUDGES

Eni-Exxon LNG deal

Italian energy company Eni said it expected to complete the sale of a 25 percent stake in Area 4 licence in the Rovuma Basin, offshore Mozambique to US major ExxonMobil before the end of 2017. Eni explained the status of the delayed deal in its third-quarter earnings statement. ExxonMobil agreed in March 2017 to pay around \$2.8 billion for part of the Eni stake in the Area 4 concession with estimated resources of 85 trillion cubic feet of natural gas. Under the deal, Eni will continue to lead the Coral floating LNG project and all upstream operations in Area 4, while ExxonMobil will lead the construction and operation of liquefaction and export facilities onshore.

Wartsila profit declines

Wartsila, the Finnish propulsion equipment and power and project company, posted a 1 percent fall in third-quarter pretax profits to 114 million euros (\$134M) as net sales rose 9 percent to 1.17 billion euros from 1.07Bln euros in the same three months a year ago. "Wartsila's performance in the third quarter was satisfactory," said Jaakko Eskola, President and Chief Executive.

Inpex names new carrier

Inpex Corp., the Japanese LNG project developer with France's Total of the Ichthys export project near the port of Darwin in Australia's Northern Territory, has named a second carrier that will transport cargoes to Japan. The 155,300 cubic metres capacity vessel was named "Oceanic Breeze" at the Mitsubishi Heavy Industries shipyard in Nagasaki.

Reganosa launches marketing for LNG fuel hub for Iberian Peninsula

Our Europe editor

Reganosa, the owner of the Mu- gardos import terminal at the port of El Ferrol in northwest Spain, has launched its LNG hub project for the Iberian Peninsula with the aim of providing marine fuel to a wide range of clients.

The Muardos terminal operated by Reganosa is close to the busiest shipping lanes in the world at the edge of the Bay of Biscay, an area traversed by around 40,000 commercial ships per annum en route to and from Europe, America and Africa.

Stakes

The majority shareholders in the Reganosa facility are the Government of Spain's Galicia region and the privately-held Tojeiro investment group. Algerian state energy company and LNG production plant owner Sonatrach has a 10 percent stake.

Spain is the country with the largest network of LNG terminals in Europe with six in operation.

Mugardos received one of the first shipments to Europe of US LNG in July 2016 from the Sabine Pass liquefaction plant in Louisiana.



Mugardos import terminal near port of El Ferrol

"The prime minister of the Region of Galicia and multiple partners and institutions support the company's plan to provide LNG as a marine fuel," said Reganosa, which takes its name from the Spanish words "Regasificadora del Noroeste".

Reganosa has just issued a video explaining the economic and environmental advantages linked to the development of the LNG hub in the northwest of Spain, an idea that has wide political and commercial support.

"We must not miss this opportunity to build up Galicia as an ideal location for supplying ships with liquefied natural gas," said Galician premier Alberto Nunez Feijoo.

"It would be worthwhile for Galicia to play an important role in the international LNG energy area," he added.

"We will make it happen. I am certain we have the means, tools and resources to turn Galicia into a logistical centre, a central point for LNG distribution," stated Feijoo.

The Finisterre corridor shipping route is also close to the Navantia shipyard, a European leader in repairing gas vessels.

The Mugardos terminal also runs one of the most successful LNG regional trucking operations for the retail and wholesale fuel markets.

French LNG terminal owner expands offering for users to swap and trade

Elengy, the French liquefied natural gas terminal operator, said it can point users of its regasification facilities at Montoir-de-Bretagne on the Atlantic Coast and at Fos Tonkin near the Mediterranean port of Marseilles to more downstream marketing opportunities.

"Elengy is now acting as a go-between for the shippers," said the company.

"Any market player can now advertise downstream services complementary to our regasification offer," it explained.

Elengy, an affiliate of French utility Engie, said locational swaps will allow a shipper who unloaded

an LNG cargo at Montoir-de-Bretagne or Fos Tonkin to retrieve the same volume on other gas hubs.

Elengy also controls the Fos Cavaou terminal, also near Marseilles, though it is not part of the offer. Fos Cavaou is owned by Fosmax LNG, a subsidiary of Elengy.

"Thanks to this type of service, our terminals are now virtually, and in a simple fashion, connected to the largest European gas hubs such as NCG (Germany) or TTF (Netherlands)," the French company said.

Engie said its balancing service also allowed a shipper who unloaded an LNG cargo at one of its

two facilities to manage its gas on the grid without necessarily having a gas license or a contract with the French transmission operator GRTgaz.

The company is additionally able to offer simultaneous booking services on the North-South link in France, allowing a shipper who unloaded a cargo at Fos Tonkin to transfer the gas directly north on the French PEG Nord trading hub.

Elengy said it was offering more flexibility to shippers by publishing a list of offers provided by operators or market players downstream of its LNG terminals.

Baker Hughes GE chief Simonelli sees positive long-term value proposition for LNG market

Our North America editor in New York

Baker Hughes GE, the merged US subsea and LNG and energy services company formed by Baker Hughes and GE Oil and Gas, posted a third quarter net loss as revenues slipped while the group comes to terms with its new structure.

The net loss amounted to \$104 million during the three months to the end of September on third-quarter revenues of \$5.37 billion versus \$5.41Bn in the comparable second quarter to the end of June 2017.

Orders

Baker Hughes GE said orders amounted to \$5.7Bn for the quarter, up 2 percent compared with the second quarter and were up 18 percent year-on-year on a combined business basis.

The company noted the success of the Turbomachinery & Process Solutions division from the former GE Oil & Gas side of the new business as it secured its third contract for the Coral South LNG development in Mozambique from Italian company Eni.

"In our Turbomachinery & Process Solutions segment, the LNG market continues to be over-supplied in the near term



Industry-leading portfolio in the LNG plant segment

with gas prices pressured in most markets," said Lorenzo Simonelli, BHGE Chairman and Chief Executive.

"The long-term value proposition for LNG remains positive and we have an industry-leading portfolio in the segment with strong manufacturing and service capabilities," stated Simonelli.

"Downstream markets continue to evolve. In refining, large, complex refineries should gain an advantage in a more competitive, oversupplied landscape.

"However, costs and refining margins continue to delay some projects," said the CEO of BHGE.

"In petrochemicals, we see healthy end-market demand. Cost advantaged supply bases continue to drive projects forward, particu-

larly in North America and the Middle East," he added.

Simonelli said that as the GE Oil & Gas and Baker Hughes merger only closed on July 3 he was pleased with the progress during the first operating quarter.

"Despite the continuing challenging environment, we delivered solid orders growth and secured important wins from customers, advanced existing projects and enhanced our technology offerings," said Simonelli.

"We also achieved key integration milestones and made significant progress working as a combined company. I am now more convinced than ever that we combined the right companies at the right time," he added.

"In our Oilfield Services seg-

ment, we continue to see growth driven by our well construction business in North America.

"While the North America rig count is up more than 40 percent year-to-date, we saw a deceleration in the quarter with the US land rig count up 6 percent versus the end of the second quarter. International activity remains muted with rig count flat year-to-date," he said.

BHGE in its LNG business also offers boil-off gas and booster compressors capable of operating at temperatures as low as -180 degrees Celsius and able to re-liquefy excessive BOG evaporating out of the LNG storage tanks.

In September, the BHGE signed its first highest-profile oil field services contract for phase two development of the Zohr gas field in the East Mediterranean that will boost Egyptian natural gas supplies and reduce LNG needs.

BHGE signed the subsea contract with Petrobel for the "super-giant" Zohr field, part of the Shorouk licence concession mainly owned by Eni of Italy, the operator, BP of the UK and Rosneft of Russia.

Petrobel is a subsidiary in Egypt of Eni, the licence holder and Egyptian General Petroleum Corp.

LNG Journal & Gas to Power Journal Subscription Package

The journals' comprehensive coverage is dedicated to the entire gas-value-chain. In addition to our LNG Journal & Gas to Power Journal Daily newsletters, each platform provides exclusive, accurate and up-to-date news and analysis divided in the following sector-focused publications:



- ➔ LNG Journal - Monthly issues
- ➔ Gas to Power Journal - Daily e-newsletter + PDF
- ➔ Gas Power Tech Quarterly - Quarterly PDF
- ➔ LNG Unlimited - Weekly magazine + PDF
- ➔ LNG Shipping News - Fortnightly e-newspaper + PDF
- ➔ LNG Fuelling - Fortnightly e-newspaper + PDF
- ➔ LNG North America - Monthly e-newspaper + PDF

United Kingdom	GBP 750
Europe and Africa	EUR 925
Asia and Americas	USD 1150

*Multiuser options under request**new subscribers only

For further information on subscribing please contact us at elena@lngjournal.com or + 44 20 7017 3416

Gunvor and GNF place low bids in tender for Pakistan

Gas Natural Fenosa, the Spanish utility and LNG market participant, submitted the lowest bid of just over \$9 per million British thermal units after six companies took part in a tender for the supply of cargoes to Pakistan LNG for the delayed second floating storage and regasification unit (FSRU) import project for Port Qasim near Karachi.

State-run Pakistan LNG launched the tender in September 2017 with four cargo delivery windows for January 2018.

The second-lowest prices were submitted by global commodities company Gunvor. The GNF cargoes were for two delivery windows and Gunvor tendered for four dates, according to the tender documents.

The cargoes will be delivered to Singapore-based BW Group's FSRU "BW Integrity" that will serve as Pakistan's second import terminal serving a consortium affiliated to the Pakistan GasPort Ltd (PGPL) group.

BW signed a 15-year agreement with Pakistan GasPort in August 2016 for the charter of the 170,000 cubic metres capacity FSRU.

The "BW Integrity" was named at a ceremony at the Samsung Heavy Industries shipyard in South Korea in January 2017.

However, the project has still not been completed because of onshore infrastructure delays, including connections to the pipeline network of utility Sui Southern Gas Co.

Six companies tabled bids in the tender including Spain's GNF and commodity traders Gunvor, Trafigura, Vitol, BB Energy and DufEnergy. DufEnergy's bid was "technically disqualified", though no specific reason was given.

Japanese companies order FSRU for Indonesian project in West Java

Our Europe editor

Japanese trading house Marubeni Corp is moving ahead with its floating LNG import project linked to an adjacent power plant venture in the Indonesian province of West Java by awarding the \$220 million contract for building the floating storage and regasification unit.

Marubeni has chosen Samsung Heavy Industries of South Korea for the FSRU contract and when the vessel is complete it will be deployed to regasify LNG volumes at Cilamaya near the Jawa gas-fired power plant, about 65 kilometres south of the Indonesian capital, Jakarta.

Power venture

Marubeni said the Jawa Power project, valued at around \$1.8 billion, also involves two other shareholders, the Indonesian energy company Pertamina and the Japanese conglomerate Sojitz Corp.

The order placed with the Samsung shipyard is for an FSRU with capacity of 170,000 cubic metres.

Samsung announced the order



Indonesia to expand imports for plant south of Jakarta

for the FSRU from Marubeni, Sojitz and Pertamina and said the vessel would be equipped with its newly developed in-house regasification system called S-Regas.

"S-Regas reduces chance of corrosion from the traditional method of heating LNG directly with seawater and is another energy efficient solution," said Samsung in its order details.

The Indonesian project company has entered into a long-term agreement with the Indonesian state-owned electricity utility, Perusahaan Listrik Negara (PLN), for the purchase of electricity from the power plant, underpinning the finances for the whole venture.

The project will see the devel-

opers building, owning and operating the power plant with 1,760 megawatts of capacity and the FSRU.

"The companies will proceed with the development of the Jawa Satu Power project by procuring financing, constructing the power plant, FSRU and associated facilities, and sell electricity to PLN for a 25-year term from its target completion date of 2021," stated Marubeni.

Marubeni is moving closer to realising its first FSRU LNG after a previous venture it was involved in with French utility Engie in the South American country of Uruguay did not proceed.

City-gas advances in eastern Indian state of Odisha as prelude to LNG

India has brought natural gas supply to Bhubaneswar, the capital of India's eastern state of Odisha, as part of an expansion of the pipeline network and infrastructure, including LNG import and regasification facilities on the Indian East Coast to boost industrial development.

The government held a ceremony for the start of the gas connections to homes attended by the Minister for Petroleum and Natural Gas Dharmendra Pradhan.

The natural gas was initially supplied to more than 250 homes in the Chandrasekharpur area of the city.

For now the gas is brought to Bhubaneswar in special containers transported by road from Vijay-

wada in Andhra Pradesh and fed into the pipeline connections to the houses.

Natural gas will be later supplied directly by pipelines from outside the city through the Jagdishpur, Haldia, Bokaro and Dhamra Natural Gas Pipeline, presently under construction and likely to be completed by 2019.

"The commencement of supply of natural gas is an important step towards the fulfilment of Prime Minister Narendra Modi's dream of developing a gas-based economy and linking Eastern India to the country's Natural Gas Grid," said Pradhan.

The link-up to the natural gas network of cities like Bhubaneswar is part of the Urja Ganga Project

the PM is implementing to boost city-gas pipeline connections in eastern India to be supplied from LNG imports and offshore gas.

The pipeline expansion venture is led by Gas Authority of India (GAIL) and involves laying 2,540 kilometres of pipelines in five eastern states to provide gas for 40 districts and 2,600 towns and villages.

City-gas deliveries are then planned for six other cities on the new Urja Ganga pipeline route in addition to Bhubaneswar. They are Varanasi, Patna, Jamshedpur, Kolkata, Ranchi and Cuttack.

The half-dozen East Coast LNG import projects include one in Odisha state at Dhamra Port on the Bay of Bengal.

Canadian Woodfibre LNG project of Asian group RGE delays start of construction until 2018

Our North America editor in New York

The Canadian Woodfibre LNG export project backed by Indonesian billionaire Sukanto Tanoto and his RGE Group and the only liquefaction plant venture with full permit approvals in the Pacific province of British Columbia, said it had postponed the start of construction until 2018 when final schedules would be finalized.

The Woodfibre venture has benefited from being on a brownfield site of a former pulp mill to receive all its provincial and federal permits as well as a 40-year export licence to ship cargoes to Asia.

Brownfield

However, the project in the town of Squamish, 65 kilometres north-east of Vancouver, has now pushed back the start of building from the end of 2017 to next year.

"We're definitely moving forward, but the reality is that we



Export plant will be built on site of former pulp mill

still have some issues to resolve before we can say a timeline," said the company.

Tanoto is developing the export venture through his privately-held firm, Woodfibre LNG.

Woodfibre was the first project of its kind in the province of British Columbia to receive its full environmental approval from the federal government in Ottawa.

The proposed liquefaction plant will produce 2.1 million tonnes per annum of LNG and early front-end

engineering and design work has already been completed. KBR Inc of the US is expected to be awarded the engineering, procurement and construction contract once a deal and final costs are approved.

Before the liquefaction project received its first permits Woodfibre had signed a contract to supply China's Guangzhou Gas Group with 1 MTPA of LNG over 25 years.

The project is also cooperating with First Nation tribes, right

down to letting them choose some of the technology for the plant.

The Squamish First Nation Chiefs and the tribal council voted in October 2016 to select air cooling as the technique the Woodfibre plant will use to cool its natural gas in the LNG production process.

Tanoto's RGE and affiliated Pacific Oil and Gas company has offices in Singapore and Jakarta as well as three in China, located in Hong Kong, Nanjing and Beijing.

His company's embracing of First Nation decision-making has tempered the reactions of groups in Canada opposed to the hydrocarbon industry.

Malaysia's Petronas and other companies such as Royal Dutch Shell and China National Offshore Oil Corp. have cancelled projects in BC over the last 12 months because of tougher federal permit regulations, fostering higher cost in the current environment of lower oil prices.

BC Premier alludes to future LNG plants as he visits sites of cancelled export projects

The Canadian province of British Columbia and Premier John Horgan toured the site of a US\$450 million propane export terminal on Ridley Island under construction for natural gas company AltaGas and said LNG projects were still possible in the future as he also visited the site of a cancelled Royal Dutch Shell LNG venture.

Scheduled for opening in early 2019, the propane terminal will be the first on Canada's West Coast to export the fuel from BC and Alberta to Asia and other overseas markets.

"This project opens the door to global markets for British Columbia, while creating good, sustainable jobs and economic development for the North Coast," said Premier Horgan.

The propane venture is the

only gas export project planned for the province, apart from the small-scale Woodfibre LNG plant proposed for Squamish, north of Vancouver, after more than a dozen large-scale projects were cancelled because of the Federal Government's new tougher permitting process that followed the oil price slump.

AltaGas, which had previously planned an LNG export plant on the Douglas Channel near Kitimat with European and Asian companies, opted to develop an alternative gas export terminal on Ridley Island when its LNG project was abandoned.

Ridley Island had also been the site of an LNG export project planned by BG Group of the UK, now part of Royal Dutch Shell.

Horgan toured the new propane

project with provincial Minister of Energy, Mines and Petroleum Resources, Michelle Mungall.

The Premier and the Minister also visited the proposed site of the LNG Canada project in the town of Kitimat previously planned by Shell and Asia LNG players Mitsubishi, Korea Gas Corp. and PetroChina.

"LNG Canada's commitment to the project demonstrates British Columbia remains a cost-competitive prospect in the global LNG export industry," said Horgan.

"Industrial site clearing is underway and is expected to be complete by the end of 2017," he added at the site of a proposed venture, now formally suspended.

Canada's National Energy Board in January 2016 had awarded its first 40-year LNG export licence

to the Shell-led LNG venture.

Shell said when it postponed LNG Canada that the project remained a "promising opportunity" at some time in the future.

The Anglo-Dutch company also formally cancelled the Ridley Island LNG venture - near where the propane plant is being built - in March 2017 and which it had inherited from BG after its takeover.

The Ridley Island propane terminal has resulted in up to 250 construction jobs and will provide up to 50 permanent full-time jobs instead of the \$150 billion of provincial revenues and tens of thousands of jobs promised by an LNG export boom.

"This is a very good day for Prince Rupert Port and all British Columbians," said Mungall.