

## Equatorial Guinea floating LNG plan progresses with Ophir-led accord

Agreement aligns all parties throughout the project value chain from upstream to marketing  
**Our Europe editor**

Ophir Energy of the UK, the licence holder for the Fortuna floating LNG project in Equatorial Guinea, said a full legal and fiscal framework agreement has been signed by all parties, signalling the go-ahead for the venture offshore West Africa with Chinese-sourced loans.

The accord was signed by Ophir, the government, the joint venture company OneLNG and state energy firm Compania Nacional De Petroleos De Guinea Ecuatorial (GEPetrol).

### Rights

Ophir said it confirmed the participation rights of GEPetrol as partners for 20 percent of the upstream portion of the project, as well as a future potential participation of up to 30 percent ownership of the midstream FLNG vessel for the government or a designated state company.

"These participations create alignment with the EG Government throughout the project value chain from upstream through to LNG marketing," said Ophir.

The UK company said signing the accord was one of the key milestones to be delivered ahead of the final investment decision.

Equatorial Guinea's Minister of Mines and Hydrocarbons, Gabriel Mbanga Obiang Lima, said the parties were one crucial step closer to realizing the "historic" plan for Fortuna FLNG.

The Fortuna FLNG Project FID is on schedule for mid-2017 with first gas expected in mid-2020.



**Gabriel Obiang Lima, Minister of Mines and Hydrocarbons**

It will be the nation's second liquefaction plant. Equatorial Guinea already has an onshore facility on Bioko Island, operated by US company Marathon Oil and on stream since 2007.

Ophir has a joint venture agreement to develop the Fortuna FLNG project with Norwegian shipping and project company Golar and oil services firm Schlumberger to produce free-on-board cargoes priced at around \$6 per million British thermal units.

Ophir signed an accord in November 2016 with a joint subsidiary of Golar and Schlumberger called OneLNG.

The shareholders agreement established a joint operating company to develop the Fortuna FLNG project from feed-gas resources in Block R offshore Equatorial Guinea using Golar's production hull technology.

"The impending award of construction contracts is well progressed and on schedule," said Ophir.

It added that "term sheets have been agreed with a consortium of China-based lenders" and the counter-parties to the financing had entered into the final documentation stage.

"The Fortuna partners will decide in the coming weeks the amount of the expected 2.5 MTPA to put under contract at FID from the several offtake options available," said Ophir.

Equatorial "As previously announced the expected total capital expenditure for the integrated project is approximately \$2 billion to reach first gas.

"Approximately \$1.2 billion is expected to be debt financed, with full drawdown by the start of commercial operations," the UK company added.

Nick Cooper, Chief Executive of Ophir, said the latest agreement formalized the value chain economics for the government and the project participants.

### Partners

"We welcome the introduction of Equatorial Guinea's national companies as project partners and the alignment of interests that this brings," said Cooper.

"The remaining milestones of the construction contract awards, the finalisation of debt and the LNG offtake are as advanced as we had wanted them to be at this stage," added Cooper.

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# Shell LNG sales edge higher as volumes increase from Gorgon project in Australia

## Our Europe editor

Royal Dutch Shell sold 3.2 percent more liquefied natural gas in the first quarter, helped by higher output from the Gorgon LNG plant in Western Australia as income for the Integrated Gas division more than doubled.

Shell sold 15.84 million tonnes of LNG in the first three months of the year compared with 15.34MT in the fourth quarter of 2016.

## Gas surge

The total was 29 percent more than the 12.29MT of LNG volumes sold in the same three months a year ago before the BG Group merger had fully kicked in.

Income in the Shell Integrated Gas division, including profits from LNG, more than doubled to \$1.82Bln versus \$905M in the same quarter of 2016.

Overall quarterly net income, including other areas such as oil and refining, amounted to \$3.86Bln in the first three months compared with \$1.83Bln in the year-ago period.

"Integrated Gas earnings, ex-



**CEO Van Beurden: 'We continue to reshape Shell's portfolio'**

cluding identified items, benefited from higher realized oil, gas, and LNG prices, higher LNG volumes and increased contributions from trading," said Shell.

"LNG liquefaction volumes mainly reflected the start-up of Gorgon in Australia and the contribution of BG assets for an additional month," it added.

"LNG sales volumes reflected increased trading of third-party volumes and higher liquefaction volumes compared with the same quarter a year ago," said the Anglo-Dutch company.

"New field start-ups and the continuing ramp-up of existing

fields, in particular Gorgon in Australia, contributed some 62 thousand barrels of oil equivalent per day to production compared with the first quarter 2016," it explained.

The full-year 2016 LNG sales volumes had been 57.11MT compared with 39.24MT in 2015, an increase of over 45 percent.

Among quarterly events, Shell highlighted the sale of its interest in the Bongkot field in Thailand as it continued to offload non-core assets.

It also mentioned the April signing of an agreement with Gazprom and other partners for

the Nord Stream 2 natural gas pipeline from Russia to Europe.

Shell will provide a long-term funding facility of 285 million euros (\$310M), expected to be drawn down in 2017, as well as funds of up to 665M euros to cover a combination of short and long-term financing and guarantees.

"The first quarter 2017 was a strong quarter for Shell," said Chief Executive Ben van Beurden

"We continue to reshape Shell's portfolio and to transform the company with over \$20Bln of divestments completed or announced that will strengthen the balance sheet.

"The strategy we have outlined to deliver a world-class investment case is taking shape.

"Following the successful integration of BG, we are rapidly transforming Shell through the consistent and disciplined execution of our strategy," added van Beurden.

"This includes investing around \$25Bln this year and the delivery of new projects," said the CEO.

# BP improves Trinidad assets and advances with joint venture offshore Mauritania and Senegal

UK major BP announced improvements in its Trinidad LNG production assets and advances in its joint venture plans offshore Mauritania and Senegal in West Africa to develop floating liquefaction projects.

"Following completion of BP's entry into Mauritania and Senegal, exploration drilling in Senegal has begun," said BP in regard to the upstream activities linked to two floating LNG projects being entered into with US company Kosmo Energy of Dallas, Texas.

BP gave details of the projects as it posted an improved replacement cost profit for the first quarter of \$1.51 billion versus the \$532 million logged in the same three months of 2016.

First-quarter operating cash flow, excluding payments related to the Gulf of Mexico oil spill, amounted to \$4.4Bln and not counting these disaster payments operating cash flow was \$2.1Bln.

"Our year has started well. BP is focused on the disciplined delivery of our plans. First quarter earnings and cash flow were robust," said Group Chief Executive Bob Dudley.

"We have shown continued operational momentum - it was another strong quarter for the Downstream and the first of our seven new Upstream major projects has started up, with a further three near completion," added the CEO.

Two projects meant to increase LNG output in Trinidad advanced.

"The Trinidad onshore compression project, the first of seven major projects scheduled to start up in 2017, began operation in April," said BP.

It added that the Juniper venture for additional feed-gas in Trinidad was also nearing completion.

BP noted that a third gas discovery in the North Damietta Offshore Concession in the East Nile Delta of Egypt was announced in the quarter.

The UK company additionally completed the purchase in February 2017 of a 10 percent interest from Italy's Eni in the Shorouk

concession offshore Egypt, which contains the huge Zohr gas field.

BP's natural gas production edged lower to 5,791 million cubic feet per day from 5,846 (mmcf/d). The company does not release LNG figures, nor quarterly volumes, in its earnings.

The BP average natural gas price in the US, Europe and the rest of the world rose in the first quarter to \$3.61 per million British thermal units compared with \$2.93 per MMBtu in the first three months of 2016.

Looking ahead to the next three months, the company is forecasting little change in current production levels.

## Norton Rose Fulbright boosts LNG legal team in Singapore

International law firm Norton Rose Fulbright has hired LNG and shipping experts Jonathan Siu and Sung Hwan Choi for its shipping and offshore oil and gas team in its Singapore office.

Siu has joined Norton Rose Fulbright as senior associate from Allen & Overy in Perth, Western Australia.

"He has extensive experience on a broad range of international transactions focusing primarily in the shipping, offshore and oil and gas sectors and has acted on numerous award winning deals including the Ichthys LNG and Nghi Son Refinery projects," said Norton Rose Fulbright.

Sung Hwan Choi, known as "SD", joined the firm as counsel from Campbell Johnston Clark in Singapore, having previously been at Kim & Chang in Seoul, South Korea.

"SD brings a wealth of knowledge, advising Korean and multinational clients in all aspects of shipping and offshore finance matters," his new employers said.

"He has acted for a variety of banks, lenders, investment funds and ship owners and is qualified to practice in England and Wales, the Marshall Islands, New York, and the District of Columbia," said Norton Rose.

Ben Rose, head of shipping for Asia at Norton Rose Fulbright, said that in a recovering market these "two significant hires" will help further cement our leading position in the shipping, offshore and oil and gas markets and continue to strengthen our practice.

"Singapore is an important hub for the global shipping and offshore markets and the links of 'SD' and Jonathan's into Korea, Australia, Malaysia and Japan will be of enormous benefit to our clients throughout the Asia-Pacific," said Rose.

## Exmar acquisition is bridge too far for Dutch storage giant Vopak

Our Europe editor

Royal Vopak, the Dutch-based global petroleum and products storage company, has decided not to proceed with the proposed acquisition of the floating storage and regasification and LNG import projects business of Belgian shipping line Exmar.

The two companies had announced in December 2016 that they had reached a conditional agreement on the acquisition by Vopak of Exmar's LNG assets, though the deal was subject to "consent and cooperation of multiple stakeholders" for it to be finalized.

### Consideration

"After careful consideration, Exmar and Vopak have concluded that these requirements will not be met on the envisaged transaction. Therefore the closing of the FRSU transaction between Exmar and Vopak will no longer be pursued," the statement said.

The Belgian company has been a pioneer in the FSRU and floating



Antwerp-based Exmar's joint venture FSRU 'Explorer'

liquefaction markets and is currently co-owner or the operator of 10 FSRUs. It also has one FLNG production built in China and up for charter.

The hull is known as the Caribbean FLNG production barge and was constructed at the Wison shipyard in Nantong, China.

The non-propelled barge was originally built for the cancelled Caribbean FLNG project and comprises a single processing Train.

Antwerp-based Exmar's vessel is capable of producing 72 million cubic feet a day of LNG, the equiv-

alent of 500,000 tonnes per annum.

Vopak had earmarked Exmar FSRUs business to be part of one of its strategic focus areas for expansion worldwide.

Vopak jointly owns and operates two land-based storage and regasification terminals, the Gate terminal in the Port of Rotterdam, and the Altamira import terminal on the coast of the Gulf of Mexico.

Exmar operates in the LNG and liquefied petroleum gas ship transport businesses as well as the offshore sector.

## RasGas delivers 2,000th cargo to main South Korean importer Kogas

Ras Laffan Liquefied Natural Gas Co. (RasGas), the Qatari producer currently finalizing its merger with Qatargas, has successfully loaded and delivered its 2,000th cargo to Korea Gas Corp., one of the world's largest importers.

The cargo was lifted by the Kogas vessel, the 138,000 cubic metres capacity "SK Summit", which also carried the first cargo of LNG supplied by RasGas to Korea in August 1999.

"We are deeply proud of our long-standing partnership with Kogas, which has been maintained for more than two decades," said RasGas Chief Executive Hamad Mubarak Al-Muhannadi.

The Korean natural gas company is the largest long-term con-

tract holder with RasGas as well as being its first customer as it began the process of building liquefaction Trains for around 32 million tonnes per annum of LNG.

"We are honoured by the trust they have placed in RasGas over the years to safely and reliably deliver LNG to meet Korea's energy needs from Qatar," added Al-Muhannadi.

Kogas CEO Lee Seung Hoon said his company appreciated its long and reliable energy link with Qatar.

"Over the last few decades, RasGas and Kogas have been proving the power of a harmonious partnership between seller and buyer," said the Kogas CEO.

RasGas had signed its first-ever long-term sales and purchase

agreement with Kogas back in October 1995.

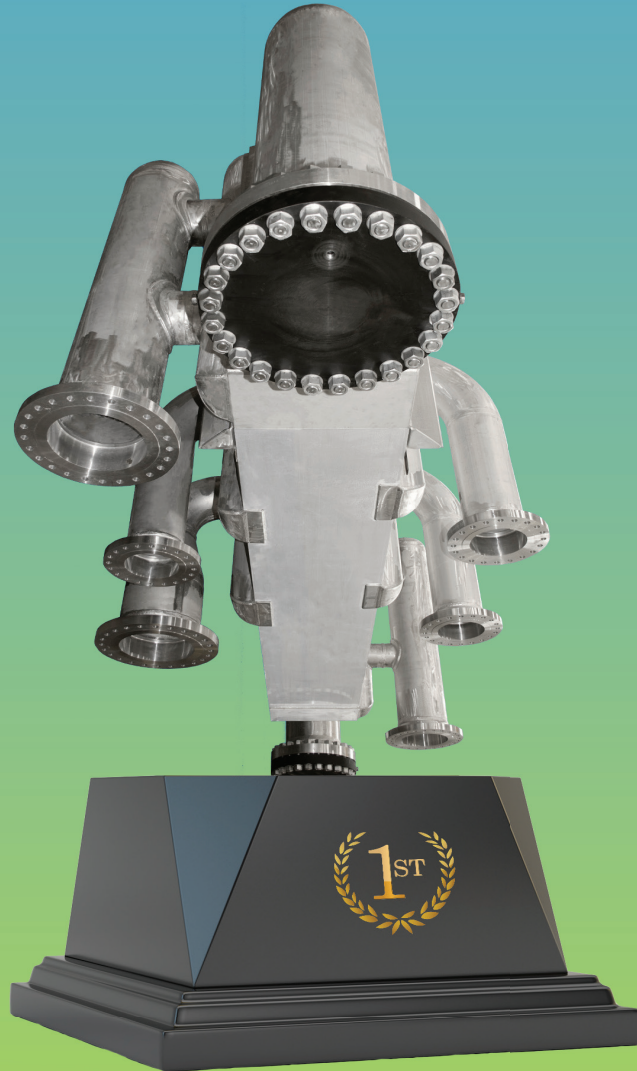
The two companies subsequently entered into two further long-term SPAs and RasGas is currently contracted to deliver more than 9MTPA of LNG to Kogas.

Qatar Petroleum, owner of both RasGas and Qatargas, announced in December 2016 it was merging its two production companies and consolidating all activities under the Qatargas banner to make operations more efficient.

Qatargas and RasGas have 14 liquefaction Trains in operation at the Ras Laffan production complex, including six of the world's largest Trains, enabling Qatar to produce more than 77 MTPA of LNG.



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## NEWS NUDGES

### Myanmar gas project starts

French energy company Total has started production from the Badamyan natural gas project in the South-East Asian nation of Myanmar. It is located 220 kilometres offshore from the port of Yangon and will enable an extension of the Yadana gas field and its 8 billion cubic metres per year production plateau beyond 2020. "Completed on schedule and with costs 20 percent below budget, this second start-up by Total in 2017 demonstrates our capacity to effectively implement cost reduction programs," said Arnaud Breuillac, President and Exploration and Production at Total.

### UK LNG pricing plan

Newly appointed Baltic Exchange Chief Executive Mark Jackson has set out the London-based Exchange's vision of the near future during a speech at a shipping conference in Singapore. One of its plans was to enter the LNG and container indices markets. "The recent acquisition of the Baltic Exchange by the Singapore Exchange has reinvigorated this key international maritime institution, allowing us to grow our leadership profile and play a bigger role than ever before in setting standards, building consensus and leading change in the shipping markets," said Jackson.

### Nakilat posts earnings fall

Qatar Gas Transport Co., the Qatari LNG carrier operator also known as Nakilat, posted a first-quarter drop in net profits to 191 million Qatari riyals (\$52.5M) compared with 240M riyals in the same quarter of 2016. The shipping line cited a one-off item related to lowering the estimated scrap value of vessels and reduced operations from joint ventures for the fall in earnings.

## Rio Grande LNG export project takes on French and Australian banks

### Our North American editor in New York

NextDecade, the US LNG export project developer, has appointed French bank Societe Generale and Australia's Macquarie Capital to act as joint financial advisors for the debt and equity financing of the Rio Grande project at the Texan port of Brownsville.

The Rio Grande export venture, which is advancing through the Federal Energy Regulatory Commission permitting process, will produce 27 million tonnes per annum of LNG when completed.

### Eisbrenner

NextDecade is led by Kathleen Eisbrenner, a former senior LNG executive at Royal Dutch Shell.

The Houston-based Eisbrenner company recently completed a reverse merger transaction to obtain a stock listing on the Nasdaq global exchange to make it easier to raise finance for the liquefaction plant and its affiliated pipeline.

Societe Generale and Macquarie Capital have each played extensive roles in advising and



**Macquarie Capital previously helped finance Freeport LNG**

participating in debt and equity financing for large-scale infrastructure and LNG projects.

NextDecade pointed out that the French bank has worked on more than 45 transactions in the LNG sector.

NextDecade Chief Financial Officer Ben Atkins commented: "Societe Generale and Macquarie Capital's combined experience and collaborative approach will help ensure that NextDecade optimizes its cost of capital and minimizes its execution risk."

Macquarie also has extensive experience in the infrastructure advisory role and in LNG projects in particular. This included raising more than \$3 billion of financing for the Freeport LNG plant cur-

rently under construction on Quintana Island in Texas.

"We are pleased to bring our expertise to NextDecade as they move towards their final investment decision," said Brent Wahl, Senior Managing Director at Macquarie Capital.

"NextDecade's commitment to proven technology along with their strong industry and commercial relationships make Rio Grande an attractive LNG project," added Wahl.

NextDecade submitted its formal application for the Rio Grande venture to the FERC in May 2016 and its six liquefaction Trains will be among the leading projects in the second wave of the US export build-out.

## US company to sell \$1Bln of shale assets that may attract tolling firms

US independent exploration and production company Devon Energy said it planned to sell upstream shale-gas assets worth around \$1 billion, mostly in the Barnett shale area and which could be attractive to European and Asian LNG liquefaction tolling agreement holders.

The Oklahoma City-based company reported its intention as it posted net earnings of \$565 million in the first-quarter of 2017.

On the sale of upstream shale assets, Devon said it planned to offload the Barnett shale resources over the next 12-18 months.

"The non-core assets identified

for monetization include select portions of the Barnett Shale focused primarily around Johnson County and other properties," the company said.

Devon said total Barnett natural gas production in the first quarter of 2017 amounted to 683 million cubic feet per day.

LNG export projects currently at an advanced stage of construction include Freeport LNG in Quintana Island in Texas, while a dozen others are planned on the Texas-Louisiana coastline.

Freeport has 20-year Liquefaction Tolling Agreements with Asian companies under which they provide their own feed-gas.

The accords are with some of the largest Asian LNG buyers such as Osaka Gas and Chubu Electric as well as the major global player, BP of the UK.

The US company said it preferred to concentrate its oil-led activities in the Stack region of Oklahoma and the Delaware sub-region of the Permian Basin in Texas and New Mexico.

Devon became a major player in the Barnett shale when it acquired Mitchell Energy, which was credited with launching the boom from hydraulic fracturing in the Barnett area, with more than 5,000 wells drilled.



# US LNG equipment maker Chart narrows losses amid plans to move HQ to Canton in Georgia

Our North America editor in New York

Chart Industries, one of the leading global suppliers of liquefaction and storage equipment, narrowed its net loss in the first quarter amid mixed LNG results and continued restructuring expenses ahead of the company moving its headquarters from Cleveland, Ohio, to Canton in the US state of Georgia.

Chart said the net loss amounted to \$2.91 million, down from the \$4.65 loss registered in the same three months a year ago.

## Improving

However, the company expects performance to improve as the year progresses with forecast 2017 sales just short of \$1 billion.

Gross profit for the first quarter was \$55.7M, or 27.3 percent of



## Products include equipment for LNG storage and liquefaction

sales, which was higher than the \$52.70M recorded in the same quarter a year ago, though unfavourably impacted by the restructuring charges taken of \$2.5M.

Orders received in the first quarter were \$209.7M, an increase of \$25.7M over orders in the fourth quarter of 2016 and \$10.4M higher than the prior-year quarter.

The Energy & Chemicals division, including LNG liquefaction equipment, saw orders increase in the first three months to \$38M compared with \$20.5M in the fourth quarter of 2016.

Chart's order backlog at the end of March totalled \$348.6M, up from \$342.6M at the end of 2016.

"In addition, there is an in-

crease in order and quotation activity related to equipment for cryogenic gas plant development driven by drilling activity in the (US) Permian and Scoop & Stack basins.

"Orders for equipment for eight natural gas processing plants were received in the first quarter, as compared to zero for the full year of 2016," said Chart.

"Additionally, the E&C order growth reflects continued signs of recovery in energy related markets, and includes the Bechtel FEED study for Tellurian LNG in the first quarter," the company said.

The Distribution & Storage business saw net sales sequentially decreased by \$10.3M from the fourth quarter of 2016 as several large LNG projects in the Distribution & Storage business in Europe did not recur in the first quarter of 2017.

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## TMC signs order for compressors with Korean yard building FSRU

Tamrotor Marine Compressors, the Norway-based equipment supplier, has signed a contract with Hyundai Heavy Industries to supply a complete marine compressed air system to a newbuild floating storage and regasification unit the South Korean yard is building for Norwegian project developer and shipping line Hoegh LNG.

TMC's scope of work includes engineering, manufacturing and supply of a complete compressed air system consisting of two 44 kilowatt (kW) service air compressors and two 44 kW control air compressors. The contract value was not disclosed.

This is the eighth and ninth FSRU that Hyundai is building for Hoegh LNG and TMC supplied the equipment for all of them.

"Repeat orders such as this for high-end vessels is a confirmation that both Hoegh and Hyundai value the reliability a fully marinised compressor technology like ours provides," said Per Kjellin, Managing Director of TMC.

Hoegh LNG's FSRU will have a minimum regasification capacity of 750 million cubic feet per day by 2018.

The newbuild vessel will be used at an LNG import project in Pakistan which Qatar Petroleum, Total, Mitsubishi, ExxonMobil, and Hoegh LNG are developing in collaboration with Global Energy Infrastructure Limited (GEIL).

"This is a high-profile development with a number of reputable industry giants involved, so we are very happy that our compressor technology has been chosen for this FSRU," added Kjellin.

Oslo-based TMC is one of the world's leading supplier of compressed air systems for marine and offshore use.

## TechnipFMC says LNG fundamental to company as it posts solid earnings

Our Europe editor

TechnipFMC, the energy and liquefied natural gas project engineering company, reported its first quarterly earnings since the company was created from the merger of France's Technip and FMC Technologies of the US and said LNG projects were still fundamental to its performance.

The first-quarter earnings saw revenues during the three months topping \$3.4 billion and net income at \$190.8 million.

### Leverage

"Our merger is completed. We are now leveraging the unparalleled breadth of capabilities of TechnipFMC, from our industry-leading front-end engineering, our culture of innovation that is bringing to market next-generation solutions, to our reputation of superior project management," said Doug Pferdehirt, CEO of TechnipFMC.

"These capabilities, coupled with our unique commercial alignment to deliver efficiencies across the value chain, allow us to drive



On course: Doug Pferdehirt, CEO of TechnipFMC

the change required for real, sustainable improvement to project economics," added the CEO.

TechnipFMC said the Onshore-Offshore division's first quarter revenue amounted to \$1.8Bln, including income from Novatek's Yamal LNG project in Arctic Russia and the Shell Prelude FLNG hull to be deployed offshore northwest Australia.

"Revenues declined 19 percent from the prior-year quarter on a pro forma basis, which includes the full consolidation of Yamal LNG," added TechnipFMC.

The company said that revenues were lower as a result of reduced project activity, notably in

the Middle East and the Americas.

"Execution remains fundamental to our performance, and our strong project management capability has been demonstrated, for example, in our LNG project portfolio which delivered Petronas Satu, the first-ever floating LNG (hull) to be operational (offshore Malaysia) and (we) continue to make progress on both the Shell Prelude FLNG and Yamal LNG projects," stated Pferdehirt.

At the end of the first quarter 2017, the company's backlog of contracts was worth \$16.1Bln, composed of Onshore-Offshore at \$9.1Bln, Subsea at \$6.6Bln and Surface Technologies at \$400M.

## US equipment maker Air Products posts sales rise offset by lower LNG

Air Products, the US equipment and technology supplier for liquefied natural gas liquefaction projects, posted its fiscal 2017 second-quarter earnings showing a rise in sales offset by a drop in the LNG business and made a cautious forecast for the rest of the year.

Based in Lehigh Valley, Pennsylvania, Air Products said adjusted net income from continuing operations amounted to \$314 million, up 5 percent from the same three months of 2016.

Second-quarter sales of \$1.98 billion were 11 percent higher compared with last year.

Air Products issued its latest earnings a month after withdrawing a US\$1.5 billion non-binding

offer for Hong Kong-listed Chinese company Yingde Gases to expand its Far East activities.

"Volumes were positive in Asia, North America and Europe, while continued progress on the Jazan (Saudi Aramco) project was partially offset by lower LNG activity," the company said.

Adjusted operating income of \$406M increased by 4 percent, and adjusted gross earnings were \$652M, 2 percent higher than last year.

"For the 12th consecutive quarter, Air Products reported higher adjusted earnings per share growth versus the prior year," said Seifi Ghasemi, Chairman, President and Chief Executive.

"This performance is entirely due

to the commitment and dedication of our people around the world as they continue implementing our strategic Five-Point Plan," he added.

Ghasemi added that Air Products continued to operate from a position of strength.

"Cash generation and disciplined capital allocation drive long-term value, and Air Products has a significant amount of cash to invest in our core industrial gases business," the CEO said.

"In fact, over the next three years, we expect to have approximately \$8 billion to deploy in strategic, high-return opportunities to create shareholder value," he stated.



# Eni wins tender to supply 180 cargoes to new Pakistani import terminal for 15 years

Our Europe editor

Italian energy company Eni will supply LNG to Pakistan under a long-term contract to a new floating storage and regasification unit to be moored at Port Qasim.

It will be the Italian company's largest ever tender win for LNG and will be supplied on a monthly basis to a Pakistan state-owned firm.

The total amounts to 180 cargoes over the period, corresponding to 11 million tonnes of LNG.

"The LNG quantities that Eni will supply every year correspond to 25 percent of Pakistan LNG imports in 2016," the company said.

Pakistan's first LNG import facility, the FSRU "Exquisite", began operations in April 2015 at Port



Port Qasim is located on a channel of the Indus River

Qasim, located on a channel of the Indus River east of Karachi.

Two other FSRUs will be deployed during 2018 to meet the country's growing natural gas needs in the absence of pipeline imports.

One will be supplied by Excelerate Energy of the US at Port

Qasim from around mid-2018 as the second Pakistani import facility, while a third FSRU will be deployed by Hoegh LNG near the same location at the end of 2018.

"A significant part of the LNG volumes will be sourced from Indonesia, where the Eni's operated Jangkrik field (supplying also the

Chinese market) will come on stream in the next couple of months," Eni explained.

"Pakistan is nowadays one of the fastest growing LNG markets worldwide," said Eni.

"This LNG contract will contribute to satisfying the increasing energy needs of Pakistan and will allow Eni to further consolidate its presence in the country, where Eni is already leader for domestic gas production," added the Italian company.

Eni recently signed an agreement with BP for the sale over more than 20 years of the LNG volumes produced by the floating liquefaction facility to be placed offshore Mozambique and known as the Coral South project.

# Israeli natural gas pipeline supplies to Jordan will lessen future need for LNG shipments

Noble Energy of US, the main production company in the East Mediterranean, said it began exporting natural gas from Israel for the first time to industrial customers in Jordan as part of a ramp-up of pipeline supplies in the region that may displace LNG shipments.

The Israel Natural Gas Lines link passes via the Sdom area by the Dead Sea to supply the Jordanian companies from the Tamar natural gas field, jointly owned by Noble and subsidiaries of the Israeli Delek Group.

Noble and Delek first signed an agreement in February 2014 to supply the companies, Jordan's Arab Potash Company and Jordan Bromine.

The two companies are believed to be paying \$5.50 per million British thermal units in a price linked to North Sea Brent crude oil. They will receive 1.8 Bcm of natural gas over 10 years at a cost of around \$500 million.

A second Israeli pipeline to Jordan is also being built in the Beit

Shean area and is scheduled to supply gas by 2019 from the Noble-led Leviathan project in the East Med to Jordanian National Electric Power Co. (NEPCO) plants in the Arab Kingdom.

The Leviathan partners signed a letter of intent to supply 45 Bcm of gas to NEPCO over 15 years. The value of that contract is estimated at more than \$15 billion.

The Jordanian economy is still suffering from the loss of Egyptian natural gas since 2011 when political unrest and sabotage of the pipeline running through the Sinai Peninsula caused supplies to stop.

Jordan has partially replaced some Egyptian supplies since 2015 with its LNG import terminal at the port of Aqaba, though LNG requirements are expected to drop after the larger Israeli pipeline opens in 2019.

Noble said in its first-quarter earnings just published that the company averaged 274 million cubic feet equivalent per day in sales volumes from its Israel as-

sets within the first three months of 2017.

"Gross field sales of 956 MMcf/d reflected an increase of over 12 percent from the first quarter of 2016," Noble said.

"The company began exporting natural gas from Israel for the first time to industrial customers in Jordan," it added, in reference to the pipeline start-up in January 2017.

During the first quarter, the company completed the Tamar 8 development well, further supporting long-term field deliverability. The Tamar 8 well began producing in early April and is performing as expected," said Noble.

Noble noted in its earnings report that the company and Delek sanctioned the initial phase of the Leviathan development project.

"Development activities and project spend have commenced, with drilling underway on two production wells (four production wells capable of 1.2 Bcf/d are included in the first phase of Leviathan).

"Initial Leviathan proved

reserves are anticipated to be recorded in 2017 at approximately 3.3 trillion cubic feet (550 MMBoe) net," it stated.

In addition to the East Med, Houston-based Noble has extensive US assets, including in the Eagle Ford and Marcellus shale plays, the DJ and Delaware basins and in the Gulf of Mexico.

"Noble Energy is off to a great start in 2017, with strong operational and financial performance and importantly, numerous recent strategic accomplishments," said David L. Stover, Noble Energy's Chairman, President and Chief Executive.

"Our top-tier US onshore assets and execution are delivering ahead of plan as a result of drilling advancements in all basins and continued industry-leading well performance.

"Offshore, we are maximizing the cash flow from our existing assets, while progressing the recently-sanctioned Leviathan major project," added Stover.



# Australian government plans to temporarily block LNG exports if necessary for domestic market

## Our Asia-Pacific editor

The Australian government is planning to temporarily block liquefied natural gas exports if necessary to ensure adequate domestic gas supplies in Queensland and other eastern states and at lower prices.

Announcing the plan, Prime Minister Malcolm Turnbull said it was in response to shortages and the threat of future shortfalls on the East Coast, where coal-seam gas is used for three CSG-to-LNG plants brought on stream in the past three years.

### 'Unacceptable'

"It is unacceptable for Australia to become the world's largest exporter of liquefied natural gas, but not have enough domestic supply for Australian households and businesses," said the Prime Minister in reference to the nation overtaking Qatar next year



Gladstone LNG plant, one of three on Curtis Island

as the world's largest exporter.

The southeast of Australia around Sydney and other cities are forecast to be facing gas shortages in the next few years, now blamed partly on LNG production as well as a policy of over-reliance on renewable energy such as solar and wind power, responsible for power cuts in the city of Adelaide.

"The shortage of domestic gas

supplies has resulted in dramatically higher prices in Australia, higher than prices paid in the markets to which Australian gas is being exported," Turnbull said.

"By ending the shortage, and ensuring the domestic market has adequate supplies, we will ensure gas prices in Australia are lower and fairly reflect international export prices as they should," he

added. "Gas companies are aware they operate with a social licence from the Australian people.

"They cannot expect to maintain that licence if Australians are short-changed because of excessive exports," the PM stated.

The Australian Domestic Gas Security Mechanism will ensure gas supply in Australia always meets the forecast needs of the local market.

The Federal Government and senior executives from the country's natural gas and energy companies have held discussions in recent weeks.

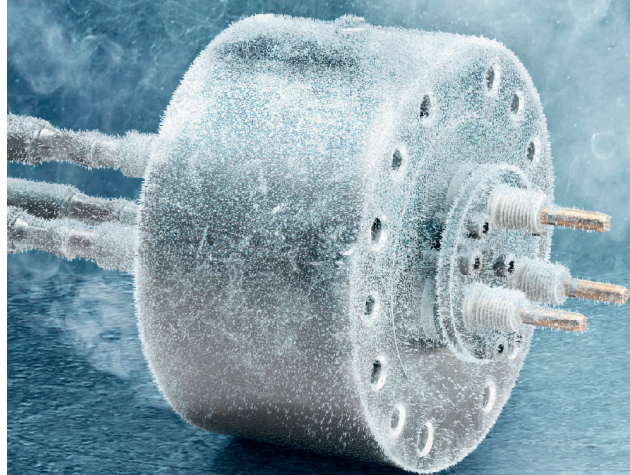
During the talks two of the three east coast LNG exporters, the ConocoPhillips-led Australian Pacific LNG plant and the Royal Dutch Shell Queensland Curtis LNG facility said they would continue to be net suppliers to the domestic market.

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