

LNG Unlimited

LNG JOURNAL PUBLICATION

20 November 2018

Cheniere advances on earnings and with two LNG export plants

Sabine Pass plant has shipped a total of 475 cargoes to 29 different countries
LNG Journal editor

Cheniere Energy, owner of the Sabine Pass LNG export plant in Louisiana, posted an almost 30 percent rise in third-quarter LNG revenues as volumes increased along with prices and more than 215 cargoes were shipped in the year-to-date period.

Cheniere said its revenues for the third quarter amounted to \$1.72 billion compared with \$1.33Bln in the same three months of last year.

Output rising

Net income amounted to \$65 million for the quarter versus a loss of \$289M in the same quarter of 2017.

Cheniere has four liquefaction Trains in operation and Train 5 is in the commissioning process and when it comes on stream will increase Sabine Pass capacity to 22.5 million tonnes per annum

Nine-month LNG revenue from the Louisiana plant came to \$5.32Bln compared with \$3.64Bln in the first nine months of 2017.

Cheniere said that as of October 31, 2018, more than 215 cargoes have been produced, loaded and exported from Sabine Pass in the year-to-date period. The total had stood at 193 cargoes at the end of September.

Since the February 2016 start-



The 'LNG Jurojin' of Mitsui Osk Lines arrives for cargo

up of the plant, a total of 475 shipments have left the jetties for delivery to 29 different countries.

Cheniere noted that commissioning was progressing at the company's second liquefaction and export plant, the Corpus Christi facility in Texas.

"Our focus on execution and operational excellence, coupled with favorable LNG supply and demand fundamentals, drove solid financial results again in the third quarter," said Jack Fusco, Cheniere's President and Chief Executive.

Fusco confirmed a supply contract signed in November with the Polish state oil and gas company amounting to 1.45 million tonnes per annum for 24 years.

"As we look forward to 2019, we expect to build upon our reputation of superior execution by placing Corpus Christi Trains 1 and 2 and Sabine Pass Train 5 into service safely, ahead of schedule, and within budget," added the CEO.

The Houston-based company

has signed other supply agreements with global LNG market participants during 2018.

"In September 2018, we entered into a 15-year SPA with Vitol Inc. for the sale of approximately 0.7 MTPA of LNG beginning in 2018," said Cheniere.

This follows four other agreements signed earlier in 2018, including a 25-year deal with CPC Corp of Taiwan for 2 MTPA starting in 2021, two deals with PetroChina, a subsidiary of China National Petroleum Corp. for the sale of 1.2 MTPA of LNG through 2043, with a portion of the supply beginning in 2018 and the balance beginning in 2023.

Momentum

"Our commercial momentum continues, with SPAs recently completed with CPC and Vitol, and we're pleased to announce a long-term SPA with PGNiG (Poland)," said the CEO.

"These SPAs support our growth plans and solidify our position as the leader in US LNG," added Fusco.

At the start of the year, Cheniere had also signed up commodities firm Trafigura for volumes of 1.0 MTPA for 15 years beginning in 2019.

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“Our focus on execution and operational excellence, coupled with favorable LNG supply and demand fundamentals, drove solid financial results again in the third quarter.”
-Jack Fusco, President and Chief Executive, Cheniere

JGC of Japan to change structure and outlines increasing risks in overseas LNG plant projects

LNG Journal editor

JGC Corp. of Japan, one of the leading global energy engineering companies, has given a frank assessment of the risks posed by some overseas projects in terms of potential losses and outlined its activities and plans for the LNG Canada project, Ichthys LNG in Australia and the Russian Yamal LNG venture.

JGC has also explained how it was changing its structure to become a holding company to alleviate the risk factors in the business.

Explaining

Its statement was described as a fuller explanation of its latest quarterly financial results.

The increasing values of LNG plant construction contracts, running into billions of dollars, are raising the threshold of corporate risks.

"Our business is currently centered on engineering, procurement and construction (EPC) in the overseas oil and gas sector, and the company is dependent on the success or failure of projects in this field," explained JGC.

"To break free of this, we need



LNG carriers waiting to lift cargoes from Yamal plant

to develop a new pillar in our business to create a multi-pronged business system that integrates the overseas infrastructure sector, the domestic EPC business and the manufacturing business," said the company.

"Our aim is to change to a system of group-style management to enhance it," it added.

JGC stated that the purpose of this corporate overhaul, was not to open the way for mergers and acquisitions but to develop a more workable structure so that, as a group, the company would not be affected as much by the overseas plant construction market.

JGC was awarded the contract with Fluor Corp. of the US for the LNG Canada project in British Columbia at the coastal town of Kitimat.

The joint venture is led by Royal Dutch Shell with other participants being the Asian companies Petronas of Malaysia, PetroChina, Mitsubishi Corp. of Japan and Korea Gas Corp.

JGC noted that the use of modular methods would limit on-site construction work and admitted that its gross profit ratio for LNG Canada was around 10 percent.

"In the LNG Canada project, the use of modular construction for the entire facility, and the use of larger modules are expected to cut the amount of on-site construction work by around 70 percent compared to conventional stick-built construction," said JGC.

"We believe it meets our requirements in margin," it added.

JGC and Fluor have been retained for the first two Trains at

LNG Canada and the joint venture is also planning third and fourth Trains.

"That is the client's decision, so we cannot comment, but we would love to acquire the contract. In a project to build additional Trains, many of the existing utility facilities can be shared, so the contract amount will be slightly less, but still a large amount," explained JGC.

The Japanese company also outlined the problems encountered at the Ichthys LNG project in Australia's Northern Territory, led by Inpex Corp. of Japan and French major Total and which suffered delays and other contract problems.

"We are continuing negotiations regarding recovery of reimbursable costs and unapproved change orders with the client, and a part of these are undergoing arbitration," said JGC.

"Furthermore, regarding the construction of the combined cycle power plant, which is a part of this project, the subcontractor abandoned their responsibilities before completion despite working under a fixed-price EPC contract for the power plant," it explained.

Toshiba to transfer Freeport LNG volumes to Chinese and wind up UK nuclear project

Toshiba Corp., the Japanese conglomerate emerging from a crisis caused by an accounting scandal and massive losses in the nuclear business, has announced a five-year recovery plan, including the off-loading of its US liquefied natural gas assets comprising volumes from a 20-year tolling agreement at the Freeport LNG plant in Texas.

Chairman and Chief Executive Nobuaki Kurumatani, who took the helm in April 2018, stated that substantial cost reductions were also necessary for the recovery of Toshiba.

As regards the LNG business, it

would be taken over by an as yet unnamed third-party buyer, believed to be ENN Group of China.

The buyer would be paid just over \$800 million to assume Toshiba's commitment to a 20-year deal for 2.2 million tonnes per annum of LNG from the Freeport facility being built at Quintana Island in Texas.

"The Board of Toshiba has decided to withdraw from Toshiba's business related to the sale of LNG from the United States, and that it will transfer all outstanding shares of Toshiba America LNG Corp. (TAL), an operating company

focusing on the LNG business to a third-party buyer," said Toshiba.

The Japanese company explained that with the share transfer, all contracts related to the sale of US LNG entered into by Toshiba, including contracts between Toshiba companies and customers, would either be transferred or cancelled.

Toshiba said it had set a target for complete withdrawal from the LNG business by finalizing the transfer by the end of March 2019.

"With the close of the transfer, TAL is expected to be deconsolidated from Toshiba Group, and Toshiba expects to record a loss of

93 billion yen (\$818 million), which is included in the business results forecast and the five-year transformation plan," added the company.

Toshiba said that it would "promptly announce the name of the overseas buyer" in the transfer transaction after completing the contract with the company.

Japanese financial information service Nikkei has named China's ENN as the third-party taking over the Freeport LNG commitments, while Toshiba has explained how it found a party willing to assume control of the assets.

Japan spot LNG cargo prices edge up to \$10.70

Japanese spot LNG cargo prices edged up last month on a contracted basis to \$10.70 per million British thermal units as winter demand gathered pace in North Asia, where prices are now an average \$2.50 per MMBtu higher than a year ago.

Contracted spot LNG prices were up from \$10.60 per MMBtu the previous month and from \$8.20 per MMBtu in October 2017.

The average price of spot cargoes that actually arrived in Japan in October 2018 was \$10.60 per MMBtu versus \$10.10 per MMBtu in August 2018 and \$6.10 per MMBtu in October 2017.

Japanese spot LNG prices have been driven higher by more competition for shipments in the North Asian region, particularly from China and South Korea.

The North Sea Brent crude oil price that influences Japanese long-term contract prices also impacts spot LNG and other energy markets. It was at \$86 per barrel in October before dropping by around \$15 per barrel in November to be priced at about \$71 per barrel.

The spot cargo numbers come from the commerce division of the Japanese Ministry of Economy, Trade and Industry and are only issued if a minimum number of two trades are recorded.

The Ministry emphasizes that "spot LNG" refers to fuel traded on a cargo-to-cargo basis and does not mean shipments under contracts on a short-term, medium-term or long-term basis. The statistical accounting of the spot prices started in March 2014.

Plaquemines LNG project advances with plant south of New Orleans

LNG Journal editor

US regulators have prepared a draft environmental impact statement for the Plaquemines LNG export plant proposed for the banks of the Mississippi River and its associated Gator Express Pipeline system.

The Federal Energy Regulatory Commission said the draft EIS comment period would close on January 7, 2019.

Venture Global is the company developing the Plaquemines plant on 630 acres of land near river mile-marker 55 on the west side of the Mississippi, 30 miles south of New Orleans.

Smaller Trains

The Mississippi River project will produce 20 million tonnes per annum of LNG and will also include small-scale liquefaction Trains, four 200,000 cubic metres capacity LNG storage tanks and three marine loading berths.

"The FERC staff concludes that construction and operation of the project would result in some adverse environmental impacts, but impacts would be reduced to less-



Planned facility on Mississippi River and its pipelines

than-significant levels with mitigation," it said.

"However, the proposed project combined with other projects in the geographic scope could result in significant cumulative impacts on air quality," it noted.

The EIS also stated that no dredging related to the LNG project would occur within the Mississippi River.

Venture Global is run by joint chief executives Michael Sabel and Robert Pender and is in the FERC permit process for two Louisiana liquefaction plants.

The company is also developing the Calcasieu Pass facility on a 1,000-acre site at the intersection of the Calcasieu Ship Channel and

the waters of the Gulf of Mexico. Calcasieu Pass will produce 10 MTPA of LNG.

The proposed Plaquemines project would include two 42-inch-diameter pipeline laterals in Plaquemines Parish, Louisiana.

The first is a 15.1-mile-long southwest lateral to the Tennessee Gas Pipeline (TGP) and the second is an 11.7-mile-long southwest lateral to the Texas Eastern Transmission (TETCO) Pipeline.

"Venture Global would mitigate wetland impacts associated with the construction and operation of the proposed LNG terminal and the pipeline system," said the FERC.

Driftwood LNG to choose from investor-buyer list of 35 parties

Tellurian Inc., developer of the Driftwood LNG export plant in Louisiana, said it advanced the sale of LNG and Driftwood partnership interests with around 35 customers and potential partners conducting due diligence and would announce the investor and buyer list by year-end.

Tellurian disclosed the number as it reported a net loss of \$33.2 million, or \$0.15 per share, for the third quarter compared with a loss of \$22.9M in the same three months of 2017.

The Houston-based company, listed on the Nasdaq global exchange, said it ended its third

quarter with \$229.5M comprising \$172.3M in cash and \$57.2M of the net proceeds of a term loan.

"We have a strong balance sheet consisting of approximately \$420.9M in assets, of which \$87.5M represents our proved properties," said Tellurian in reference to its shale-gas assets.

In addition to allowing potential investors to examine its books, Tellurian also noted that it received its draft environmental impact statement (EIS) on September 14, 2018, from the Federal Energy Regulatory Commission for the LNG plant and its associated Driftwood pipeline.

Tellurian and its founder and

Chairman Charif Souki, the former Chief Executive of Cheniere Energy, have proposed developing six liquefaction Trains and associated facilities to produce 27 million tonnes per annum of LNG.

"Completing the draft EIS is a significant milestone in the LNG terminal regulatory process and reflects FERC's commitment to deliver the final EIS in January," said President and Chief Executive Meg Gentle.

"Tellurian has improved the efficiency of the Driftwood financing, reducing partners' equity obligation to \$500/tonne," explained the CEO.

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NEWS NUDGES

Abu Dhabi LNG deals

The Abu Dhabi National Oil Company (Adnoc) has agreed in principle to extend to 2040 its gas supply agreements, in coordination with the Adnoc LNG joint venture partners, Mitsui of Japan, BP of the UK and France's Total. "The new gas supply agreements are scheduled to take effect from April 1, 2019, replacing existing agreements, due to expire on March 31, 2019," said Adnoc. The move is in line with the new integrated gas strategy in the United Arab Emirates that will sustain LNG production at the Das Island liquefaction facility. Adnoc LNG has signed seven term contracts for the supply of more than 4.2 million tonnes per annum of the fuel, mostly to Japan.

GTT order for Greeks

French LNG storage tank technology company GTT said it received an order from the South Korean shipyard, Hyundai Heavy Industries, for tank designs for a 174,000 cubic metres capacity LNG carrier on behalf of Greek ship-owner Thenamaris. "GTT will realize the design of the tanks of the vessel, which will be fitted with the Mark III Flex membrane containment system, a proven technology developed by GTT," said the Paris-based company.

LNG carrier transfer

GasLog Partners, New York Stock Exchange-listed affiliate of Monaco-based GasLog LNG, said the partnership closed its acquisition from GasLog of all the shares in the LNG carrier "Methane Becki Anne". The 170,000 cubic metres capacity ship with tri-fuel diesel-electric propulsion was delivered in 2010. "The vessel is currently on a multi-year time charter with a subsidiary of Royal Dutch Shell through March 2024."

Avenir LNG led by Stolt-Nielsen completes Oslo share placement

LNG Journal editor

Avenir LNG, a small-scale niche market joint venture involving Stolt-Nielsen Ltd, the shipping and storage group and its Norwegian peers, Hoegh LNG and Golar LNG, is now registered on the Oslo over-the-counter market after holding a private share placement.

The Avenir joint venture will pursue opportunities to deliver LNG to areas of stranded demand as well as the development of bunkering capabilities.

Start-up

Avenir was first formed by Stolt-Nielsen in 2017 and it will consolidate all its LNG activities into Avenir, including four small-scale LNG newbuilds on order at Keppel Singmarine in Nantong, China, and a joint venture LNG terminal and distribution facility to be constructed in the port of Oristano in Sardinia.

Avenir plans to source and ship LNG to terminals using small carriers and to distribute LNG in trucks and through regasification into local network grids.

The first step in the capitalization of Avenir has now been car-



Stolt-Nielsen branches out from tankers to small-scale LNG in joint venture with Hoegh and Golar firms

ried out in the form of private placement of 110 million shares at a par price of US\$1.00 per share.

This placement was split in two tranches. Tranche A consisted of 99 million shares that were subscribed for by Stolt-Nielsen and a further 49.5 million shares split between Golar LNG and Hoegh LNG with each having 24.75M shares.

Tranche B consisted of 11M shares and was placed with a group of institutional and other investors on 8 November.

Stolt-Nielsen LNG now holds a total of 45 percent of the shares while Golar and Hoegh each hold

22.5 percent. The remaining 10 percent will be initially held by the subscribers in Tranche B.

The shares are now on the Norwegian OTC list with effect from November 14.

Managers of the share placement included the leading Nordic investment banks and brokerages.

They were Clarksons Platou Securities, Danske Bank, DNB Markets, Fearnley Securities, Nordea Bank, Pareto Securities and Swedbank Norge, a branch of Swedbank AB in cooperation with Kepler Cheuvreux and Skandinaviska Enskilda Banken (Oslo Branch).

Lloyd's Register approves design for STX LNG-powered tanker

Lloyd's Register, the UK maritime classification society, presented South Korean shipbuilder STX with an approval in principle for a tanker design capable of using liquefied natural gas as a fuel.

The approval is for a 50,000 deadweight tons medium-range tanker.

Lloyd's said STX incorporated an LNG-fueled propulsion system into their existing conventional MR tanker design with technical assistance and support from LR.

The UK class society said that this has ensured that the design is

in compliance with the new IGF code as well as the Lloyd's Gas Fuelled Rules, covering other applicable requirements.

Lloyd's also supported STX in carrying out a risk assessment of the LNG-fueled propulsion system.

"STX has an extensive reference list for designing and building MR tankers," said EK Choi, Chief Technical Officer of STX.

"The experience and know-how that has been built to date has been utilized to develop this new LNG-powered MR tanker," he added.

"The design enables the lowest possible fuel consumption and allows owners to select a design that will meet the future sulfur oxide and nitrogen oxide emission challenges," he stated.

The AiP certificate was presented by Young Doo Kim, the Lloyd's North Asia Technical Support Office Manager.

"It's been an exciting project where we are delighted to have been able to support STX in incorporating LNG as a fuel option," added Young.

International Group of LNG Importers makes 'Fukuoka Declaration' on future fuel policy

LNG Journal editor

The International Group of LNG Importers, involving 83 companies, has held a meeting in the Japanese city of Fukuoka and issued a statement on the future role of LNG as a clean and flexible solution for a responsible energy future.

The members of the France-based Group, also known as the GIIGNL, issued what they called the "Fukuoka Declaration" after discussing the role of LNG in the energy transition.

Conclusions

"We concluded that LNG, by facilitating the increased international trade and use of natural gas, can play a prominent role in the success of global policies promoting a responsible and cleaner economic and social development," said the statement.

The Group's member companies come from 26 countries and handle over 90 percent of LNG imports worldwide.

Over the last 50 years, the association has been playing a unique role in the development of the LNG industry, constituting a forum for



The GIIGNL publishes an annual review for the industry. It is regarded as one of the most informative available

exchange of information and experience among its members.

In accordance with the GIIGNL Strategic Roadmap, it continuously reviews and confirms this aim

The group's latest policy statement noted the main advantages of LNG such as the fact that it is the cleanest-burning hydrocarbon and one of the few energy sources that can be used across all energy sectors.

The GIIGNL added that natural gas reserves are abundant and accessible, making LNG a reliable

energy source. LNG infrastructure is also flexible and reduces the barriers to entry for exporters and importers.

The group noted that the fuel also facilitates the international trade and the use of natural gas, while improving energy security and mitigating the volatility of energy demand, including for the power generation mix.

"The access of all to reliable and affordable energy while reducing the impact on climate change and improving air quality is

one of the greatest challenges of our times," said the GIIGNL.

"Even assuming ambitious energy efficiency progress, global energy demand is forecast to grow by 30 percent by 2040," it added.

"In the Asia-Pacific region energy demand is expected to grow by more than 40% over the same period and natural gas demand in the region may double," it said.

The members of the GIIGNL said they pledged to contribute to the necessary energy transition and to help reduce anthropogenic emissions across all sectors, namely power generation, industry, housing and transportation.

"The role of natural gas and LNG in transforming the energy system has been endorsed by international frameworks such as the G20 and has resulted in various regional, national and local policy actions," explained the declaration.

"Natural gas is expected to represent 40 percent of total energy demand growth over the next two decades, not only powering electricity generation but also in sectors which are more difficult to electrify," it said.



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Murphy Oil of US posts profit to back its FLNG plan

Murphy Oil, the US exploration and production company whose Rotan natural gas discovery offshore Malaysia is the subject of a floating LNG joint venture with state energy company Petronas, has returned a third-quarter profit after posting a loss in the same three months of 2017.

Murphy, based in the town of El Dorado in the southern US state of Arkansas, is contributing its Block H reserves offshore Malaysia to the FLNG venture.

Its partner Petronas, which successfully started up the world's first production hull, the "PFLNG Satu", over the stranded Kanowit gas field offshore the state of Sarawak, is leading a similar project with Murphy and it is scheduled to come on stream on 2020.

Murphy's FLNG venture is focused on the deepwater Rotan gas field, about 80 miles offshore Sabah, the Malaysian state occupying the northern part of the island of Borneo.

The Rotan gas well was discovered by Murphy in 2007. The Rotan field FLNG vessel will be designed to produce 1.5 million tonnes per annum.

Murphy also provides gas to the Malaysia LNG complex at Bintulu via a gas sales contract with Petronas for volumes up to 250 million cubic feet per day.

The US company returned a third-quarter net profit of \$93.9 million after posting a loss of \$65.8M in the same three months a year ago.

Its international operations are centred on Malaysia and Brunei and Murphy achieved third-quarter production averaging 47,000 barrels of oil equivalent per day, with 61 percent liquids.

Bahrain to get commissioning cargo from UAE for Middle East LNG facility

LNG Journal editor

The Kingdom of Bahrain said it would receive its commissioning cargo from Abu Dhabi National Oil Company when the facility becomes operational in 2019.

Bahrain has completed the construction of the jetty and offshore sections of its first LNG import facility at a location about 5 kilometres from the existing breakwater at the Khalifa Bin Salman Port.

Subsea pipeline

The new facility, whose subsea pipeline has also been installed east of the port, will have capacity to receive 800 million standard cubic feet a day.

"We have an LNG terminal in Bahrain that is going to be commissioned next year and our first commissioning cargo is going to be imported from Adnoc. They gave us the best price," said the Bahrain Oil Minister Mohammed bin Khalifa Al Khalifa at an energy conference in Abu Dhabi.

Bahrain is moving forward with the LNG facility even as it recently made new oil and gas dis-



Bahrain facility to be part of an energy and logistics hub

coveries, including extensive tight oil reserves amounting to 200,000 barrels per day and deep natural gas resources of between 10 and 20 trillion cubic feet.

Bahrain would become the latest of the Gulf Cooperation Council states to have LNG import facilities installed following the United Arab Emirates and Kuwait.

The main contractor of the terminal and infrastructure is GS Engineering & Construction on behalf of the joint venture known as Bahrain LNG.

The completed facility will include the offshore jetty and break-

water to receive LNG shipments, as well as a floating storage unit (FSU) and a regasification platform.

The Bahrain LNG consortium comprises four companies, the Gulf state's National Oil & Gas Authority (30 percent), Teekay LNG (30 percent), South Korea's Samsung C&T (20 percent) and the Gulf Investment Corporation (20 percent).

The Bahrain project is aimed at supplementing natural gas production in the kingdom and ensuring capacity to meet peak-season demand and industrial growth.

Eni agrees to sell Mubadala a stake in Egypt's Nour North Sinai block

Italian energy company Eni signed an agreement for the sale of a 20 percent interest to Mubadala Petroleum from Eni's share in the Nour North Sinai Offshore block after Mubadala had previously invested in the Zohr field that enabled the Egyptians to re-start LNG exports.

Nour is a block located in the prolific East Nile Delta Basin of the Mediterranean Sea, about 50 kilometres offshore in water depths ranging from 50 metres to 400 metres and covers a total area of 739 kilometres.

Mubadala Petroleum is a wholly owned subsidiary of Mubadala Investment Company of the United

Arab Emirates. The sales agreement was signed by the Chairman of Mubadala Petroleum, Musabbeh Al Kaabi, and the Chief Executive of Eni, Claudio Descalzi.

In the concession, which is in participation with Egyptian Natural Gas Holding Company (EGAS), Eni holds an 85 percent stake in partnership with Tharwa Petroleum Co.

The partnership holds a 15 percent stake of the contractor's share where Eni and Tharwa are collectively the contractor.

Eni and Tharwa are currently carrying out the drilling of the exploration well as foreseen in the first exploration period of the

Nour concession. Eni previously sold Mubadala a stake in the Shorouk concession containing the huge Zohr natural gas field that has enabled the Egyptians to halt LNG imports as most of their domestic gas requirements are being met.

Eni's other partners in that Shorouk licence are Russian oil company Rosneft and BP of the UK.

The Egyptian Zohr field has estimated resources of at least 30 trillion cubic feet and has helped the nation to again become an LNG exporter, as other discoveries have been made and are also being developed.

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French energy major Total signs Abu Dhabi deal for Ruwais Diyaab unconventional gas project

LNG Journal editor

French energy major Total has been awarded a 40 percent concession by the Abu Dhabi National Oil Company, owner of the Das Island LNG export plant and other assets, in the Ruwais Diyaab unconventional gas basin which Total says has the potential to be a high impact play ranking alongside the most prolific North American shale-gas plays.

Under the terms of the agreement, Total will explore, appraise and develop the concession area's unconventional gas resources.

According to Total, the potential basin spreads over 6,000 square kilometres to the west of the prolific Adnoc onshore concession.

Well test

Adnoc carried out the first well test six years ago by multi-stage acidic fracturing for the almost

impermeable limestone and dolomite of the Diyaab formation, which is believed to be the source rock of the emirate's oil fields.

Sour gas currently represents Abu Dhabi's major potential source of additional and non-traditional gas supply.

Adnoc, which recently announced a strategy to reach one billion cubic feet per day of unconventional gas production before 2030 and to extend LNG output to 2040, said it would retain a 60 percent stake in the Ruwais Diyaab unconventional project.

The Adnoc-Total agreement includes a six to seven-year exploration and appraisal phase which will then be followed by a 40-year production term.

The accord was signed in Abu Dhabi by Ahmed Al Jaber, Adnoc's Group Chief Executive, and Patrick Pouyanne, CEO and Chairman of Total.

"The historic unconventional concession award is the first of its kind in the region," said both companies.

Al Jaber noted that Total was Adnoc's largest and one of its longest-standing international partners, having been active in Abu Dhabi's oil and gas sector since the late 1930s.

"This concession agreement marks an important and historic milestone in the development of Abu Dhabi's gas resources, as we deliver our strategic commitment to ensure a sustainable and economical gas supply, in line with the directives of the United Arab Emirates leadership," said Al Jaber.

"Total and Adnoc have agreed on commercial terms that will enable the project to deliver maximum value from our unconventional gas reserves as we work towards achieving gas self-sufficiency, for the UAE, and transition

to having the capacity to become a net gas exporter," added the Adnoc CEO.

"As Adnoc embarks on the exploration and development of Abu Dhabi's unconventional gas resources, it will undergo an accelerated learning curve which will help drive efficiencies in drilling and hydraulic fracturing and allow us to create higher value from what is a more challenging resource compared to the giant conventional oil and gas fields of Abu Dhabi," explained Al Jaber.

Total CEO Pouyanne said he was pleased to be the first international company to pioneer unconventional gas exploration in Abu Dhabi alongside Adnoc.

"We are committed to supporting the UAE in meeting its ambitions to unlock this significant unconventional gas resource," added Pouyanne.

Saudi Aramco and United Arab Emirates sign accord to cooperate on LNG and gas sectors

Saudi Aramco, the Saudi Arabian oil producer and one of the world's largest companies by revenue, and Abu Dhabi National Oil Company have signed a framework agreement to explore opportunities for cooperation in the natural gas and liquefied natural gas sectors between Saudi Arabia and the United Arab Emirates.

"The cooperation brings together two of the world's leading energy producers from the Arabian Gulf to work together in an area of strategic importance for both companies as they seek to boost revenues from the natural gas and LNG business segments," stated the companies.

The agreement was signed by Ahmed Al Jaber, the UAE Minister of State and Adnoc Group Chief Executive and Amin Nasser, the Saudi Aramco President and CEO.

Under the terms of the agree-



Amin Nasser, the Saudi Aramco President and CEO and Ahmed Al Jaber, UAE Minister of State and Adnoc CEO

ment, Adnoc and Saudi Aramco will jointly assess investment opportunities across the LNG value chain that could unlock value and drive revenue growth for both companies.

They will partner with each other on techno-economic feasibility studies and exchange knowl-

edge and experience in LNG growth markets.

"The UAE and the Kingdom of Saudi Arabia have a strong relationship built on shared strategic interests," said the UAE's Al Jaber.

"Increased cooperation between Adnoc and Saudi Aramco will ensure greater energy secu-

urity and long-term economic prosperity for both nations," he 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.

The Das Island 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.

Saudi Arabia for its part has no LNG import nor export facilities, though natural gas demand is increasing in the Kingdom in line with economic development needs and the growing population.