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Total joins Exxon in looking at Papua New Guinea LNG expansion

(Reuters; Nov. 16) - A long-awaited project led by France's Total that would help double Papua New Guinea's liquefied natural gas exports has come another step closer with the government agreeing to set financial terms early next year. The expansion, estimated at \$13 billion, is crucial to the Pacific island nation's economy as LNG is its biggest export earner and would help meet surging demand in international markets.

Prime Minister Peter O'Neill said Nov. 16 that "physical terms" had been agreed, but that negotiations over how revenue would be shared in the community and provincial governments requires more work. "I'd say we are almost 50 to 60 percent through ... our understanding of revenue sharing." Disagreements over land-owner rights and revenue-sharing agreements have been an almost constant issue in the country.

The non-binding memorandum of understanding signed Nov. 16 is a commitment by the government to finalize a gas agreement in early 2019, which would lead to development of Papua LNG, run by Total. "There is still some work to be done, but we are ambitious and I'd love to come back not in two years but in 10 months or before," said Total CEO Patrick Pouyanne. Total's Elk-Antelope fields would supply two new liquefaction units built at ExxonMobil's two-train Papua New Guinea LNG plant that went online in 2014.

At the same time, ExxonMobil plans to develop the P'nyang field to help fill its own new train at the plant. In total the two projects would double the LNG plant's output to about 16 million tonnes a year. Final investment decisions may not come until 2020 or 2021.

Australia on track to overtake Qatar as world's largest LNG supplier

(Oil & Gas Journal; Nov. 16) - Japanese Prime Minister Shinzo Abe has officially opened the \$40 billion Ichthys liquefied natural gas and condensate project at a ceremony in Darwin in the Northern Territory of Australia, a symbolic milestone that also propels Australia to the top of the list of the world's LNG exporters, according to Adelaide-based energy economics group EnergyQuest. Ichthys is majority owned by Japan's largest oil and gas producer, Inpex.

Graeme Bethune, CEO at EnergyQuest, said that as the Ichthys project ramps up in the coming months to its full capacity of 8.9 million tonnes per year, Australia's LNG production capacity is set to overtake Qatar's total of 77 million tonnes per year, making Australia the world's biggest LNG exporter. When all of Australia's 11 LNG projects

achieve full capacity, the country's total will reach about 88 million tonnes. However, Qatar has plans to boost its capacity to 110 million tonnes by 2024. Australia also is the largest LNG supplier to China, providing 43 percent of China's imports in September.

Ichthys LNG could expand if other companies need capacity

(Australian Broadcasting Corp.; Nov. 15) – Darwin, the capital of Australia's Northern Territory, may reap far more than the expected 40 years of business from the biggest project ever undertaken in the region. Maybe in the years to come, the liquefied natural gas plant could be expanded if more gas reserves are found near the existing Ichthys field in the Browse Basin off the Australian coast, said Takayuki Ueda, CEO of Inpex, Japan's largest oil and gas producer and operator of the \$40 billion Ichthys LNG project.

"We think we will continue to produce this energy at least for 40 years from now on," Ueda said. "We have two LNG trains here, and there is still room for construction of an additional four LNG trains. ... So, if there are some who want to use our LNG plant, we are very happy to provide our facilities for those companies," Ueda said on the eve of a visit to Darwin on Nov. 16 by Australia Prime Minister Scott Morrison and Japanese Prime Minister Shinzo Abe. The lifting of the Northern Territory's fracking moratorium earlier this year could also give the Japanese gas giant room to grow within the region.

The leaders' visit will coincide with the official opening of the Ichthys project, which has taken almost two decades to plan and more than six years to build. The first LNG cargo left for Japan on Oct. 23. Ichthys has capacity to produce 8.9 million tonnes of LNG per year and about 150,000 barrels a day of condensate and gas liquids at peak production. About 70 percent of the gas will be exported to Japan, with other nations taking the remainder. "This is contributing to the energy security in Japan," Ueda said.

FERC issues draft EIS for Mississippi LNG project

(Reuters; Nov. 15) – Houston-based Kinder Morgan's proposed \$8 billion liquefied natural gas export terminal in Mississippi took a step toward regulatory approval Nov. 15 when the Federal Energy Regulatory Commission issued its draft environmental report. The draft environmental impact statement concluded that construction and operation would result in some adverse impacts, but those would be reduced to less-than-significant levels if the company follows the recommendations in the draft report.

Kinder Morgan has not committed to a date for a final investment decision on the project after it completes the FERC process. The company proposes to add liquefaction and export to the 7-year-old underused Gulf LNG import terminal in Pascagoula, Mississippi. The LNG project includes two liquefaction trains, each with the capacity to produce 5.75

million tonnes per year. The project is one of several LNG export terminals proposed in the United States, Canada, and Mexico to meet growing global demand for the fuel.

The Gulf LNG partners include units of Kinder Morgan and investment funds Blackstone Group, Warburg Pincus and Lightfoot Capital Partners, according to Kinder Morgan's website. It's the fifth draft EIS issued by FERC for a Gulf Coast LNG export terminal in recent months. Kinder Morgan also holds an interest in the Elba Island LNG export terminal under construction in Savannah, Georgia. That project, at \$2 billion and 2.5 million tonnes annual capacity, is scheduled to go online in 2019.

Chinese tariffs, U.S. winter prices are a concern for LNG exporters

(Bloomberg; Nov. 14) - Ari Aziz is standing atop a 180-foot-high tank in Corpus Christi, Texas. It's big enough to hold a jumbo jet. Aziz is supervising more than 100 workers who form a kind of SWAT team for Cheniere Energy. They're checking every valve and pipe that feeds the sparkling new tank. Cheniere said it started producing liquefied natural gas for the first time at the plant on Nov. 14. It plans to fill up the tank with 43 million gallons of super-chilled LNG that's slated to be shipped to gas-hungry countries.

Less than three years ago, the Lower 48 states exported zero LNG. Now there's an abundance of domestic gas from shale, America is shipping more abroad, moving the country closer to becoming a global gas power. That means greater influence in setting prices and in new markets for domestic producers struggling with an overabundance. The dark cloud is the 10 percent Chinese tariff on U.S. LNG cargoes, imposed in September after the Trump administration levied tariffs on some Chinese goods.

The industry's looming fear is that come January, China will raise the levy to 25 percent, essentially wiping out the discount for buying U.S. shale gas. The \$15 billion Corpus Christi plant marks Cheniere's second LNG project — the first opened in 2016 in Louisiana. By 2020 the U.S. will have six LNG export terminals, providing 17 percent of global capacity and making it the world's No. 3 supplier after Qatar and Australia. But the U.S. is heading into winter with the lowest gas stockpiles in 15 years. That threatens to send gas prices spiking in a cold snap, potentially dissuading overseas LNG buyers.

Rising U.S. gas prices squeeze margin for LNG offtakers

(S&P Global Platts; Nov. 14) – U.S. LNG profitability for offtakers from Cheniere's Sabine Pass terminal in Louisiana has been squeezed with U.S. gas benchmark Henry Hub prices jumping recently, adding costs to deliveries into global markets, an analysis by S&P Global Platts showed Nov. 14. The Henry Hub front-month contract traded as

high as \$4.929 per million Btu on Nov. 14, levels not seen since February 2014, as forecasts for cold weather and low storage levels led to rising prices in the market.

Assuming a liquefaction/tolling fee of \$2.50 per million Btu — the fee will be different depending on the terms of the long-term contracts with Cheniere — and adding in escalating shipping rates, the cost of a Sabine Pass cargo for December delivery into Japan/Korea was estimated at \$10.35 per million Btu on Nov. 13 vs. Platts' Japan-Korea market price of \$10.37, leaving a margin of just 2 cents for Sabine Pass offtakers.

High spot-market LNG carrier charter rates in the Atlantic (\$140,000 per day) and the Asia Pacific (\$190,000 per day) have boosted the cost of moving the LNG from Sabine Pass. With Henry Hub prices seen trading around the \$4.60 mark on Nov. 14 and the shipping market holding tight, the margins could be squeezed further in the short-term.

Weaker demand in Asia sends LNG into floating storage at sea

(Reuters; Nov. 15) - Tankers storing liquefied natural gas in Asian waters have more than doubled in number since late October as traders have been caught off guard by warmer-than-expected temperatures that have capped demand and pulled down prices. Spot-market demand ahead of winter has been slowed by the forecasts for warmer temperatures this year in North Asia, with onshore storage tanks filling up.

"People were expecting China to buy as much as last year in the spot market, but the weather so far has been quite mild and I don't think they were anticipating that," a Singapore-based LNG trader said. About 15 to 20 LNG carriers holding more than \$400 million of LNG at spot-market prices are floating in Asian waters, industry sources said. That's up from a half-dozen tankers being used for storage in Asia three weeks ago. Globally, the number of such LNG tankers stands at 20 to 30, one of the sources said.

Most of the traders storing cargoes are "seeking better winter pricing ... holding out against rising charter rates to achieve an acceptable profit on the molecules," shipbroking firm Braemar said in a weekly LNG report. Storing LNG on tankers out at sea, unlike oil, is generally seen as a risky bet, given the high costs of storage and the fact that cargoes degrade over time by evaporating. The last time LNG was put into floating storage on a large scale was in 2014, though the number of tankers was lower.

PetroChina will merge gas sales unit with retailer to help cover losses

(Reuters; Nov. 15) - PetroChina will merge its wholesale gas sales unit with retail provider Kunlun Energy to shore up profits, though the move worries independent gas sellers that fear the combination will create a monopoly. PetroChina announced the

restructuring internally last week to merge PetroChina Natural Gas Sales Co., the country's largest gas wholesaler, with Kunlun Energy, three sources said.

Kunlun operates PetroChina's liquefied natural gas import terminals and distributes gas to households and factories. PetroChina Natural Gas Sales markets the state-owned company's domestic gas production, imports of pipeline gas from Turkmenistan and Myanmar, and LNG shipped in from Qatar and Australia. But the firm, which supplies 70 percent of China's gas, has suffered losses in its gas import business as the global prices it pays are often above state-regulated prices it can charge customers.

In the first nine months of 2018, PetroChina booked a net loss of nearly 20 billion yuan (\$2.88 billion) on gas imports. During the first six months of 2018 Kunlun reported net profit of 5.04 billion yuan, up 1.4 percent from last year. "This shall boost PetroChina's lagging gas retail business and cut heavy losses at the wholesale department," said one of the sources. The restructuring worries independent firms such as China Resources Gas Group, China Gas Holdings and ENN Energy Holdings that fear the move could squeeze gas supplies in a fast-growing market and create a monopoly wholesaler.

Big Oil starts to gain on shale production pioneers

(Wall Street Journal; Nov. 15) - Smaller, nimbler companies pioneered the U.S. shale boom. But as production scales up, they are losing ground to Big Oil. Giant companies such as Chevron and ExxonMobil are increasing shale production faster and with fewer complications than their smaller rivals. Their size and deep pockets give them an edge in large projects and for locking in the pipeline and labor deals needed for profitability.

Exxon doubled its shale rigs across the U.S. from the end of 2017 through September and became the most active driller in the country, according to industry tracker RigData. Chevron's output in the Permian Basin of Texas and New Mexico rose 80 percent for the year ended in September, eclipsing some of the small producers that spent years building up their fracking positions. "Scale is so important in shale," said Uday Turaga, chief executive of ADI Analytics, an energy consulting firm. "You can drive down costs from suppliers, secure pipeline access more quickly and get better contracts."

Size also helps larger companies weather volatility in the oil markets, where U.S. crude prices have plunged more than 20 percent in the past month to about \$56 a barrel. The bigger companies kept spending in check as oil rallied earlier in the year, making them less vulnerable to the recent selloff. About three-fourths of the smaller companies have spent more cash than they have generated from drilling so far in 2018. Collectively, they have outspent their cash intake by about \$5 billion, according to FactSet data.

The bigger-is-better trend is most apparent in the Permian Basin. Large companies including Exxon, Chevron, BP, Shell, and Occidental this year are set to produce an average of about 600,000 barrels a day of crude in the region, up 54 percent from last

year. By 2021 their output will exceed 1.1 million barrels a day, or about 20 percent of the area's total shale-related output, according to consulting firm Rystad Energy.

Energy analyst says investors are turning away from Canada

(Bloomberg; Nov. 14) - One of the largest foreign holders of Canadian energy stocks said investors are turning away from the country, frustrated over Prime Minister Justin Trudeau's failure to get pipelines built to ease a record discount for oil sands crude. In a letter to the prime minister, Darren Peers, an analyst and investor at Los Angeles-based Capital Group, warns that investors and companies will continue to avoid the Canadian energy sector unless more is done to improve market access.

"Capital Group's energy investments are increasingly shifting to other jurisdictions and that is likely to continue without strong government action," Peers wrote in a letter dated Oct. 19. Capital Group, which runs about US\$1.7 trillion in global assets, has a lot at stake in Canada's oil patch. The firm holds more than US\$30 billion of investments in Canadian companies, and is the largest shareholder of Suncor Energy, Enbridge, Canadian Natural Resources, and Keyera Corp.

Peers, a Canadian, said he is responsible for nearly US\$6 billion of investments in Canadian energy companies. He declined to comment beyond the letter. Peers said policymakers need to do more to help drillers get crude to global markets. Canadian oil trades at a record discount to the U.S. benchmark price because companies have been unable to get new pipelines approved. The industry's frustration has mounted after Canadian oil plunged to a record US\$50-a-barrel discount to the U.S. price last month.

Some Canadian oil companies propose temporary production cutback

(Bloomberg; Nov. 15) - Canada's oil sector is divided over whether to force a temporary cut to production, with some major producers pushing the controversial idea in a bid to ease a supply glut and halt a steep plunge in prices, according to multiple sources. The producers called on Alberta Premier Rachel Notley to invoke a provincial government power to force "curtailment," the people said, at a time when Canadian heavy crude is selling for a near-record discount from U.S. benchmark prices, costing Alberta billions.

Some called for a temporary 10 percent cut, or about 380,000 barrels per day, until the market stabilizes, the sources said. But companies that hold integrated operations, from production to profitable refineries, oppose the cutback. Notley's government has publicly lowered expectations for intervention. She emerged from a meeting with producers calling for the purchase of more oil-hauling rail cars but did not advocate curtailment. If sustained, the steep discount will cost the government billions. Peters &

Co. estimated last week Alberta could lose at least C\$5 billion in royalties if it persists for a year.

"At the price that Albertans are getting for their oil, no one is making any money whatsoever in the upstream industry. At the same time, [a] number of producers who are integrated with refineries are making windfall profits," said Cenovus CEO Alex Pourbaix. Canadian producers are not only being hit by the global plunge in oil prices but face severe transport bottlenecks that have caused their customary price discount to balloon to near record highs. Canadian heavy crude was worth \$15.75 a barrel Nov. 14. Pipelines are full and storage facilities and rail cars are at capacity.

Natural gas industry would be smart not to lose sight of renewables

(Reuters' columnist; Nov. 14) - There was something for everyone in the International Energy Agency's latest energy outlook, but supporters of coal, renewables, and oil and gas are likely to take away the wrong messages. The report released Nov. 13 outlined a future where gas overtakes coal by 2030 as the world's second-largest energy source. There was positive news for renewables as well, with the IEA forecasting that the sector would overtake coal in power generation by 2040 with a share of just over 40 percent.

Even if this sounded like bad news for coal, the IEA still believed that use of the highpolluting fuel will remain largely flat over the forecast period as gains in Asia (except China) are offset by declines in Europe and North America. If this forecast is correct, it means coal-exporting countries focused on Asia, such as Australia, Indonesia, and South Africa, can look forward to years of solid demand.

The risks to the IEA scenario appear to be stacked in favor of a faster-than-forecast adoption of renewables, mainly at expense of coal and gas in power generation and oil for transportation. The trend the past decade has been coal losing favor as renewables and gas expand market share and the gas industry has been quite happy to target coal, bolstered by the fact it is less polluting and increasingly available. But the risk to the gas industry is that in its glee to kill coal, it isn't seeing renewables in the rearview mirror.

Insurers move away from coal-fired power plants

(Bloomberg; Nov.16) - The words "clean coal" are repeated frequently by industry executives and politicians, notably the president. Often used to defuse concerns about greenhouse gas pollution, the moniker is meant to give the impression that the dirtiest of fossil fuels has cleaned up its act. Many say that's an exaggeration. While dozens of so-called clean-coal plants are being built worldwide, environmentalists, scientists, and even investors argue the world can't keep burning the fuel without damaging the planet.

It's a marketing phrase coined by industry that encompasses different technologies designed to reduce the harmful effects of relying on coal to make energy. They include burning coal at a higher temperature to squeeze more energy out of the fuel so less is used, and scrubbing sulfur and nitrogen oxides out of it to reduce the harmful pollutants released into the atmosphere. "Clean coal" also can refer to the act of taking carbon dioxide spewed out by power plants from the air and burying it deep underground.

Coal is popular because it's abundant, easy to ship and can sit in storage for years. It's still the most widely used fuel for power generation. While it is losing market share to the spread of renewables and gas, coal will remain a large part of the world energy supply for decades. However, pressure from environmentalists and nations trying to meet climate agreement goals has provided momentum for investors and insurers to pull out of coal. Some of the world's biggest insurers have pledged to stop underwriting new coal plants, and insurance market Lloyds of London said it will divest from the fuel.

Eni signs on to develop Abu Dhabi gas fields

(Bloomberg; Nov. 13) - Eni has won rights to develop major gas fields in Abu Dhabi, the company's CEO said, a deal that could help the Mideast emirate become a larger exporter of the fuel. Rome-based Eni expects to achieve daily output of 1.5 billion cubic feet of gas and 150,000 barrels of oil at an offshore block that includes the Hail and Ghasha deposits, CEO Claudio Descalzi said. Investment in the project, which Eni will develop with Abu Dhabi National Oil Co. (ADNOC), could total \$20 billion over 40 years.

The project will reach peak production by 2022 or 2023, Descalzi said. The deal is government-run ADNOC's second gas-production partnership, after it signed one on Nov. 11 with Total of France. CEO Sultan Al Jaber said ADNOC seeks to transform the United Arab Emirates, of which Abu Dhabi is the capital, into a net exporter of gas by 2030. The UAE's LNG export plant went online in 1977. The Eni deal also may help Abu Dhabi's effort to boost oil capacity to 5 million barrels a day by 2030 from 3 million now.

Eni will take a 25 percent stake in the fields, with ADNOC holding the rest. The project will triple the total amount of oil and gas Eni produces in Abu Dhabi, Descalzi said. The Italian company already has rights to 55,000 to 60,000 barrels of daily crude output in the emirate after securing a stake in March at one of ADNOC's offshore oil fields.