

# Oil and Gas News Briefs

## Compiled by Larry Persily

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#### **Gazprom says new gas pipeline to China will start up Dec. 1**

(S&P Global Platts; Feb. 15) - Gas giant Gazprom plans to start flows of Russian natural gas to China via the Power of Siberia pipeline a few weeks early, the company said Feb. 15. Following talks with its partner, China National Petroleum Corp., Gazprom CEO Alexei Miller said flows would start on Dec. 1 — ahead of previous guidance of Dec. 20. While only a small adjustment, the change could impact China's demand for its pipeline gas imports from Central Asia and LNG imports next winter.

The project — reportedly totaling \$50 billion in field development costs and the pipeline — will initially move gas from the giant Chayandinskoye field before gas from the Kovykta field is added to the supply. Gazprom has said it expects to begin gas exports through the eastern line to China at around 500 million cubic feet per day in the first year of operations. The volume is expected to double by 2021 and reach full capacity of about 3 billion cubic feet per day in 2022-2023.

Russia also would like to send an additional 3 bcf a day to western China via a second new pipeline with talks having resumed at the highest level after negotiations seemed to have stalled. Moscow and Beijing are eyeing ever closer relations in the energy sphere, particularly given that they have a common economic rival in the United States.

#### **Anadarko signs up another buyer for Mozambique LNG**

(Houston Chronicle; Feb. 15) - Anadarko Petroleum said Feb. 15 it has inked a new long-term deal to sell liquefied natural gas from its planned Mozambique LNG project, giving the company enough sales contracts to move forward with construction. Anadarko is expected to announce a final decision to start building the multibillion-dollar LNG export project by the end of this spring — if not sooner.

The latest deal includes the sale of 1 million tonnes of LNG per year to India's Bharat Petroleum for 15 years. The deal gives the project a total of 8.5 million tonnes of pre-sold capacity, lifting Anadarko over the 8-million-tonne threshold the company said it wanted to reach before authorizing construction. Bharat also owns a 10 percent stake in the project. Two other Indian firms own stakes as well. Anadarko has announced other sales deals with Tokyo Gas, the U.K.'s Centrica, Tohoku Electric, French utility EDF, Shell, and China National Offshore Oil Corp.

Johannesburg-based Standard Bank has estimated the all-in development cost for field development and the LNG terminal at \$25 billion. The first phase would produce 12.88 million tonnes of LNG. Anadarko leads the LNG project with a 26.5 percent stake. Other owners include the Mozambique state energy company, 15 percent; Japan's Mitsui, 20 percent; India's ONGC Videsh, 16 percent; India's Bharat, 10 percent; Thailand's PTT Exploration and Production, 8.5 percent; and Oil India, 4 percent.

### **Sempra plans to operate all 3 trains at Cameron LNG by end of 2019**

(The News; Port Arthur, Texas; Feb. 15) - The goal is to have all three trains operational by year's end at Cameron LNG as work nears completion at the site on the edge of Calcasieu Lake in Hackberry, Louisiana, near the Calcasieu ship channel. "We're almost there," said Farhad Ahrabi, CEO of Cameron LNG. The \$10 billion project is in its final year of construction, and the first gas liquefaction train almost ready to start up. At full capacity, the plant will be capable of making 13.9 million tonnes of LNG per year.

"In the next few weeks, the first ships will arrive and connect this little community to the four corners of the world," Ahrabi said in a recent news conference. When completed, the project will represent 240,000 cubic yards of concrete, 55,000 tons of steel, 7.45 million linear feet of cable, 1 million linear feet of piping, and 66 million hours of work.

San Diego-based Sempra, which owns 52 percent of Cameron LNG, partnered with Mitsui, Total, and Mitsubishi to transform the 2009 import terminal into an export facility. Building on the marshy soil required elevating the site to about 12 feet above sea level in places and installing pilings — some 27,000 — on which to build the structures. The plant is built to withstand a 500-year storm surge and Category 5 hurricane. Staffing for construction peaked at about 11,000 last summer.

### **Indian gas importer may invest in Louisiana LNG project**

(Reuters; Feb. 14) - Indian gas importer Petronet LNG on Feb. 14 signed an initial agreement with Tellurian to invest in the company's proposed \$15 billion Driftwood LNG venture at Lake Charles, Louisiana, and also buy liquefied natural gas from the project, Tellurian said. The deal, reached during high-level U.S.-India talks to advance trade and investment, will represent Petronet's first U.S. investment if it works out.

India is expanding its pipeline network and building new LNG import terminals to boost its use of the cleaner fuel. Prime Minister Narendra Modi has set a target to raise the share of gas in India's overall energy mix to 15 percent in the next few years from about 6.5 percent. Tellurian is offering an equity interest in Driftwood Holdings, which comprises Tellurian's upstream company, its pipeline and the project terminal that would, at full build-out, be able to export 27.6 million tonnes of LNG a year.

A \$500 million investment would give a stakeholder rights to 1 million tonnes per year of LNG over the life of the project, according to a presentation by Tellurian on its website. Tellurian hopes to make an investment decision this year and begin production in 2023. In addition to investors and customers, Tellurian also is waiting on federal regulatory approval. The tentative deal with Petronet is the latest win for Tellurian, which announced in December that the British energy and commodities company Vitol would be its first major customer and also an investor in the Driftwood project.

### **First-time U.S. LNG player believes in its low-cost plan**

(Bloomberg; Feb. 13) - A little-known company wants to be a standout in the crowded field of U.S. shale gas exports by slashing construction costs for the massive terminals that liquefy gas for overseas deliveries. The founders of Venture Global LNG — Bob Pender, a former energy lawyer, and Michael Sabel, who worked as a banker — don't have experience developing projects to ship liquefied natural gas. Still they plan to build a terminal made of small, standardized units costing about half less than existing plants.

The strategy is drawing interest, but analysts remain skeptical. "We've done something extremely dramatic," Sabel said. "We've figured out a way to change the configuration and dramatically lower the cost." Venture's Calcasieu Pass project in Louisiana is projected to cost about \$5 billion to produce 10 million tonnes of LNG a year, Sabel said. That compares with about \$10 billion for other, similarly sized terminals. The LNG modules will be built by Baker Hughes in northern Italy and shipped to Louisiana.

Venture Global may be offering its liquefaction services contracts for about \$2 per million Btu, given its lower construction costs, according to Wood Mackenzie and S&P Global Platts. That's at least 10 percent cheaper than its competitors. Venture Global is adopting Cheniere's model of charging a fixed fee for liquefaction, plus the cost of feed gas. The company has already inked deals with buyers including Shell and Spain's Repsol. Analysts, though, question whether it can attract enough lenders and investors.

"They're ... pushing the envelope of what engineers may think is possible," said Jason Feer, head of business intelligence at ship broker Poten & Partners in Houston. "They have to convince banks they can execute the project for the cost they're talking about." In addition to financing, the company also needs approval from federal regulators.

### **Nova Scotia LNG project looks to 2019 investment decision**

(Bloomberg; Feb. 14) - A proposed C\$7.5 billion liquefied natural gas project in East Canada focused on European buyers is looking to get the go-ahead this year. Pieridae Energy is targeting a final investment decision after having lined up some buyers for the LNG, mainly in Europe. The 10-million-tonne-a-year Goldboro LNG facility hopes to

benefit from its geographical location in Nova Scotia, with a journey time of six days to markets in the U.K., the Netherlands, or potentially Germany.

“Having the shortest distance to our primary market is extremely valuable,” said Thomas Dawson, senior vice president for business development at Pieridae. Germany, which is seeking to build at least two LNG terminals to reduce its dependence on Russian gas, is interested. German utility Uniper has said it would take half of the project’s planned capacity for 20 years. The German government last October increased its loan guarantee to \$4.5 billion from \$3 billion, Pieridae said. The final investment decision depends on debt and equity financing amid “very volatile” market conditions, Pieridae said, and the completion of the engineering, procurement, and construction contract.

### **Woodside sees ‘sweet spot’ in lower LNG construction costs**

(The West Australian; Feb. 14) – Australia’s biggest liquefied natural gas producer wants to lock in bargains to build its next two gas projects. Woodside plans in 2020 to sanction the \$US20.5 billion Browse and \$US11 billion Scarborough projects. To fund the 30.6 percent stake in Browse and 50 percent or so of Scarborough will require almost \$US12 billion at current cost estimates. Woodside CEO Peter Coleman said indicative costs received from contractors have been at the lower end of expectations.

“It seems we’ve hit the sweet spot still in the cost cycle,” he said. However, the costs will not be fixed until front-end engineering and design is completed, a process that has just begun. “I don’t want the market to run away from me if the price goes up,” Coleman said. “You know these contractors don’t need much of a signal in pricing for their costs to go up.” To help finalize the designs, Woodside has funded the start of Scarborough FEED without the backing of partner BHP. “It’s not unusual when you are trying to take advantage of low costs, Coleman said.

Woodside is upbeat about future LNG demand and wants to develop the offshore Scarborough and Browse fields to add new supply of about 16 million tonnes of LNG a year, starting in 2024 and 2026, respectively. Gas from both projects would be piped to existing onshore liquefaction plants.

### **LNG sales in South Korea down for 3<sup>rd</sup> month in a row**

(S&P Global Platts; Feb. 15) - South Korean state-owned Korea Gas Corp.'s LNG sales fell 9.6 percent year-on-year in January due to weaker demand for power generation and mild winter weather, company officials said Feb. 15. KOGAS, which has a monopoly on gas sales, sold 4.41 million tonnes in January, compared to 4.881 million a year earlier. It marks the third consecutive month of decline after 12 months of rises.

The 9.6 percent decrease was the biggest since October 2017. The decrease in gas sales to power generators is largely because the country restarted some of its nuclear reactors after months of maintenance, as well as mild winter weather, according to a KOGAS official. South Korea's LNG demand for power generation is expected to slow further later this year as the country's biggest nuclear reactor, Shin Kori-4, with a capacity of 1,400 megawatts, is scheduled to start commercial operations in September.

President Moon Jae-in is pushing to reduce the country's heavy reliance on coal and nuclear in power generation, and many of the country's 24 nuclear reactors were shut down for maintenance and safety checks. The country also closed five aging coal-fired power plants for four months from March to June as part of efforts to reduce air pollution, which also helped boost LNG consumption for power generation.

### **Asia LNG spot-market price down to \$6.47**

(S&P Global Platts; Feb. 14) - Supply disruptions in the Asia-Pacific region due to liquefaction plant maintenance have failed to lift LNG spot-market prices, amid lackluster demand in Northeast Asia and ample supplies elsewhere in the market. The Platts Japan-Korea Marker dipped to \$6.476 per million Btu on Feb. 14, the lowest level since September 2017, S&P Global Platts data showed. While long-term contract prices in the Asia-Pacific region are generally linked to crude oil prices on a Btu-equivalent basis, LNG spot-market prices fluctuate with supply-and-demand fundamentals.

### **Company still wants to build new gas pipelines into New England**

(S&P Global Platts; Feb. 15) – Calgary-based Enbridge will continue to push regulators in the U.S. at the local, state and federal levels to allow it to build new natural gas pipelines that could serve New England with production from nearby Appalachian basins, CEO Al Monaco said Feb. 15. The pipeline operator is seeing strong utilization on its existing lines into the region and believes that being able to move more supply from closer basins in the U.S. Northeast would be a significant growth opportunity.

However, environmental opposition has helped scuttle or delay major pipeline projects in New England. Among them is Enbridge's \$3.2 billion Access Northeast project, which is currently stalled. Officially, the company hasn't given up on that project or other opportunities. Monaco said the demand is there, largely because the pipeline-constrained region experiences high energy prices during winter peak demand.

"It's never been more clear that we need additional gas infrastructure and nowhere is that more evident than in the U.S. Northeast," Monaco said during a conference call with analysts to discuss fourth-quarter financial results. He said New England consumers are saddled with "higher-priced, lower-reliability peaking supply from oil

generation and foreign LNG imports, and this is actually an unbelievable irony when the Marcellus is sitting right next door to this market."

### **TransCanada still interested in second gas line to B.C. coast**

(Terrace Standard, BC; Feb. 15) - TransCanada is pursuing a revival of its Prince Rupert Gas Transmission Pipeline, which was canceled in mid-2017 after Malaysia's Petronas and its partners dropped their proposed Pacific NorthWest LNG export terminal at Prince Rupert, B.C. "There appears to be interest by a number of parties in investigating a second major LNG project in B.C. which would target an in-service date post mid-decade," said Terry Cunha, a TransCanada spokesperson.

"While no announcements are imminent, work is being done to assess the viability of projects within the service area of our pipeline project," Cunha said. He did not divulge the names of the interested parties. "Our understanding of global supply and demand for LNG would seem to support another B.C. project targeting post-2025." A Shell-led consortium in late 2018 decided to proceed with the C\$40 billion LNG Canada project in Kitimat, B.C., with a 2024 start-up. TransCanada is building the gas line for that project. Prince Rupert is about 75 air miles northwest of Kitimat.

Calgary-based TransCanada said it is taking steps to be ready to move forward if a new partner decides to proceed with an LNG export project in Prince Rupert. "We are in the process of renewing our environmental certificate and our Oil and Gas Commission permits and do not anticipate the need for new major permit applications," Cunha said.

### **B.C. gas line work suspended after opponents find artifacts**

(CBC News; Canada; Feb. 15) - Construction on a controversial gas pipeline project in British Columbia's northern interior has been suspended while the company investigates claims that Indigenous artifacts were found on a work site. The Unist'ot'en Clan of the Wet'suwet'en Nation said it found two stone tools where TransCanada-owned Coastal Gaslink is building a camp that will house workers near Houston, B.C. The 416-mile pipeline will feed the Shell-led LNG project under construction in Kitimat, B.C.

"It's scientific confirmation of what Wet'suwet'en and Unist'ot'en people already know, which is that this is a spiritually and culturally important site," said Anne Spice, a spokesperson for a nearby protest camp and healing center, which is home to many who have come to support the Unist'ot'en in their opposition to the pipeline. The company said Feb. 15 it has suspended work at the site while it investigates the claims.

Spice said two Unist'ot'en supporters had been searching the upturned ground of the future work camp in the evenings, after crews had left, when they found two stone tools.

The Unist'ot'en said the company didn't conduct an adequate archeological impact assessment during the permitting process. Coastal Gaslink said it did complete an archeological impact assessment as part of the permitting process, and the B.C. Oil and Gas Commission confirmed that it met provincial requirements for its permit.

## **BP forecasts more pipeline-vs-LNG competition in Europe**

(S&P Global Platts; Feb. 14) - Europe is likely to see increased competition between pipeline gas supplies and liquefied natural gas imports in the coming decades while domestic gas production continues its precipitous decline, BP said in its latest Energy Outlook published Feb. 14. In its annual outlook, BP also said it sees global gas demand growing by 1.7 percent per year to 2040 under its "Evolving Transition" (ET) scenario, up from a forecast of 1.6 percent per year in last year's report.

BP's latest scenario is broadly in line with its base-case scenarios in previous reports, which assume that government policies, technology and social preferences continue to evolve in a manner and speed seen over the recent past. "In the ET scenario, European gas production declines by 40 percent," BP said. This, BP said, will "cause Europe's import dependency to increase to around three-quarters (of its demand) in 2040." That compares with import dependency of some 50 percent currently.

"Europe's existing infrastructure means it has the capacity to increase substantially its imports of either LNG or pipeline gas, especially from Russia," the report said. BP said there would be greater competition between the two, though pipeline gas has a "marked cost advantage" over LNG.

## **BP forecasts strong growth in renewable energy**

(Wall Street Journal; Feb. 14) - The vast majority of global energy supply growth is expected to come from renewables and gas over the next two decades, but steep investment in oil exploration and production will be needed to meet crude demand in 2040, BP said Feb. 14. The central scenario in the company's annual energy outlook shows a future in which renewable energy — including wind, solar, geothermal, biofuels and biomass — and gas cover 85 percent of the energy growth in the run-up to 2040.

As part of the scenario, renewable energy production is projected to grow at a rate of 7.1 percent a year, with its share in primary energy increasing to 15 percent by 2040, compared with just 4 percent today. Natural gas would grow by 1.7 percent a year, surpassing coal as the world's second largest source of global energy and rivaling oil for the top spot by the end of the outlook period.

The new analysis “brings into sharp focus just how fast the world’s energy systems are changing,” said BP Chief Executive Bob Dudley. BP’s central forecast assumes that current government policies, technology and societal preferences will continue evolving the way they have in recent years. The company also said oil demand likely will grow, requiring trillions of dollars of investment in developing new oil fields to meet the world’s appetite for oil in 2040.

### **Company wants to boost U.S. propane, butane exports**

(Houston Chronicle; Feb. 15) - A pair of storage tanks along the Corpus Christi Ship Channel may soon become an alternative hub for exports of propane, butane and other liquefied petroleum gases. Houston-based Moda Midstream is already exporting oil from its Ingleside facility in the ship channel, but the company is making multimillion-dollar upgrades to use the storage tanks to ship propane and butane to customers worldwide.

Known in the oil and gas industry as LPGs, propane and butane are byproducts of oil and gas extraction and the refining process. The two gases can be compressed into a liquid form at relatively warm temperatures and low pressures, making them easy to store and transport. Along with oil and gas, the shale revolution has produced record volumes of LPGs as well as ethane, a feedstock for petrochemicals and plastics.

Moda is aiming to turn its Ingleside complex into an alternative to Mont Belvieu, the national hub for LPGs about 30 miles east of Houston. Propane is currently trading in the U.S. at around 68 cents per gallon and butane is trading just below 83 cents, but prices for both are higher overseas. The two gases are replacing wood, coal and animal dung as sources for cooking and heating in the developing world, while petrochemical plants in Asia and Europe use them as feedstock. The United States exported more than 1.2 million barrels of LPGs per day in 2017, according to the Energy Department.

### **Economics aren’t good for Canadian crude to replace Venezuelan oil**

(Wall Street Journal; Feb. 14) - U.S. sanctions on Venezuela have American refiners scrambling to find new sources for the dense crude they need to make fuel, but Canadian producers are finding the opportunity for their output too expensive to exploit. The U.S. neighbor, the world’s fourth-largest oil producer, would be a natural candidate to cover the loss of Venezuelan crude. But much of Canada’s heavy crude is landlocked because of a shortage of pipeline capacity — and the oil-by-rail option is expensive.

Canadian producers have been getting around the pipeline bottlenecks by using trains to carry more crude to the U.S., moving an average of more than 320,000 barrels a day as of November, according to the U.S. Energy Information Administration. That worked when Canadian crude was low priced. But recent data suggest Canada-to-U.S. rail volumes — which cost almost twice as much as moving oil through pipelines — are now decreasing sharply because they aren't economically viable at current oil prices.

Moving crude to the U.S. was an attractive prospect last fall, when heavy crude was selling in Canada at a steep discount to U.S. benchmark prices because of the pipeline constraints. However, the province of Alberta, fearful that low prices would destabilize its producers, invoked rarely used powers to curtail oil production in December to rein in production. While the curtailment propped up the price of Canadian crude, it also reduced the economic incentive to send crude by rail to U.S. Gulf Coast refineries.

The U.S., which mostly produces light crude, needs the heavier varieties of oil found in places because many domestic refineries are designed to process a mix of oils.

### **Growth opportunity for LNG as cleaner-burning maritime fuel**

(Houston Chronicle; Feb. 14) - A global shift to cleaner shipping fuels sparked by a change in international marine laws could create a big opportunity for the liquefied natural gas industry, said shipping industry executives speaking at S&P Global Platts conference in Houston on Feb. 13. LNG — now an uncommon alternative to heavy, dirty fuel used by large vessels — is beginning to gain more traction as a fuel that meets increasingly strict emissions standards set by the International Maritime Organization.

"The days of people saying, 'Green doesn't matter,' those days are long gone and as a result LNG and fuels like LNG have a major place going forward," said Peter I. Keller, executive vice president of Jacksonville-based shipping company TOTE. In less than a year, new IMO rules will aim to dramatically cut pollution by requiring vessels to burn fuel with a 0.5 percent sulfur content. Ships will need to install expensive scrubbers to clean the sulfur out of their heavy bunker fuel, or use ultra-low sulfur fuel, or burn LNG.

About 144 deep-sea large vessels are powered by LNG, and there are another 139 large vessels on order that could come along in the coming months, Keller said. With about 50,000 to 60,000 deep-sea vessels in the world, an industry group anticipates that eventually 10 to 15 percent of those vessels will use LNG in place of traditional bunker fuels, Keller said. Building a vessel with LNG capability comes with a hefty price tag though — up to \$15 million to \$16 million more than building a traditional oil-fuel powered vessel. That compares to a cost of \$8.5 million to install a scrubber.