

# Oil and Gas News Briefs

## Compiled by Larry Persily

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#### **Italy's Eni moves closer to investment decision on Mozambique LNG**

(Platts; Nov. 18) - The board of Italy's Eni has approved investment for the first phase of developing the Coral floating LNG facility off Mozambique, a key step toward a full final investment decision on the project. There has been much speculation over the Coral project and whether it would move forward given the industry's downturn and low LNG prices. Total cost of the development has been estimated at up to \$10 billion for six subsea wells and the floating liquefaction and storage facility.

Eni said approval by its board of the investment moved the project — based on the 16 trillion cubic feet of resources in the Coral field in Area 4 — closer to FID. "The approval of this investment by Eni's board is another fundamental step toward FID on the project, which will turn effective once all Area 4 partners have approved it and the project financing, which is currently being finalized, has been underwritten," Eni said.

The project received a boost last month when Eni and its partners signed an agreement with BP for the sale of the entire volume of LNG produced by the Coral project for 20 years. The floating production and storage facility will have a capacity of over 3.3 million metric tons of LNG per year. Eni is the operator of Area 4 with a 50 percent interest. The other partners are Portugal's Galp Energia, Korea Gas and state company ENH, each with 10 percent. China National Petroleum Corp. holds a 20 percent interest.

#### **Air pollution concerns will help push Asia away from coal toward gas**

(ICIS; Nov. 17) - Asian economic development continues to be fueled by coal, but unsustainable air pollution levels will force governments to take advantage of the new wave of natural gas available, the deputy head of the International Energy Agency said this week. Laura Cozzi, the IEA's principal analyst, said coal will continue to be favored over gas as the main source of energy in Asia, but by 2025 a shift that started in the west will be increasingly adopted in the region.

Following the narrative of this year's IEA World Energy Outlook presented Nov. 16, she said the new wave of liquefied natural gas infrastructure that is expected to come online within the next two years will make the shift from coal to gas more viable and more cost-effective despite the higher prices involved. "In a purely cost basis, it is still true that by 2025 coal will still beat gas in Asia economies. However, we are seeing more and more governments, China being a prime example, concerned about air pollution issues.

“China has put a cap on new coal overall capacity and the Indian government, with the recurrent news from [heavily polluted] New Delhi and its terrible air situation, is moving toward understanding what coal means in terms of the health impact,” Cozzi said. “It is not really related to climate change, but to the huge burden [coal burning has] on health that tilts the balance [toward gas].”

## **Sponsor expands proposed Indonesia LNG plant for better economics**

(Platts; Nov. 17) - Japan's Inpex plans to increase the capacity of its proposed Indonesia Abadi LNG project, known as the Masela block, to 9.5 million metric tons per year, almost four times the company's original plan of 2.5 million tons. It's part of the company's strategy to make the project economically viable after the Indonesian government decided to change it from a floating offshore project as planned to an onshore development, an Inpex official said Nov. 16.

“We respect the Indonesian government decision. We have told the government that there are some issues that have to be met to allow the project to be investable, such as increasing the capacity to 9.5 million tons per year,” Inpex Indonesia's spokesman Usman Slamet said, adding that the company is carrying out pre-front end engineering and design before submitting the revised development plan to the government. Inpex is a 50-year-old oil and gas exploration and production company.

The Masela block contains almost 11 trillion cubic feet of proven gas reserves, and may be larger, Slamet said. Indonesia President Joko Widodo decided in March that the project should be an onshore development rather than an offshore liquefaction plant and shipping terminal. The onshore model is considered to have a greater potential benefit for the local economy. The Energy and Mines Ministry approved the original plan of development in 2010. Indonesia's upstream regulator SKK Migas has said the project may be delayed to 2025 or 2026 — 26 years after Inpex discovered the gas field.

## **Floating LNG facility offshore Malaysia receives first gas**

(Asian Oil and Gas; Nov. 17) - Petronas' first floating liquefied natural gas facility, PFLNG SATU, accepted first gas from the Kanowit field, 110 miles offshore Sarawak, Malaysia, on Nov. 14. It made its 2,440-mile journey in May from Okpo, South Korea, where it was built, to the gas field for its commissioning. Construction of the 1,200-foot-long ship took four years after the shipyard contract was signed. The vessel will have the capacity to liquefy natural gas and produce 1.2 million metric tons of LNG per year.

Built to work in water 230 feet to 650 feet deep, PFLNG SATU will extract gas via a flexible subsea pipeline for onboard liquefaction and storage, offloading to LNG carriers for delivery. Designed to last up to 20 years without drydocking, the facility has the

flexibility to be redeployed to multiple locations to better access marginal and stranded gas fields of Malaysia. The facility will soon start commercial operations, Petronas said.

Petronas is Malaysia's state oil and gas company. Though PFLNG is the world's first floating LNG production and storage ship, A South Korea shipyard is being one 400 feet longer and with three times the production capacity for Shell to use offshore Australia. Petronas has not disclosed a total price for PFLNG SATU, though the 2012 shipyard contract alone was reported at \$2 billion.

### **November a busy month with nine LNG cargoes from Sabine Pass**

(Bloomberg; Nov. 17) - The U.S. is set to export a record number of cargoes of shale gas this month. Nine liquefied natural gas tankers have departed or are scheduled to leave Cheniere Energy's Sabine Pass, La., terminal in November, already the most for any month since exports began in February, according to ship-tracking data compiled by Bloomberg and Genscape. The country is on course to become a net exporter of gas next year, a stark turnaround from just a decade ago when it was facing a shortage.

"The continental U.S. becoming a net natural gas exporter is a milestone of the U.S. energy revolution and transition to 'energy independence,'" Citigroup analysts wrote in a note to clients Nov. 16. The Sabine Pass complex has exported 40 cargoes since February, Zach Allen, president of Pan Eurasian Enterprises, said in a research note. Cheniere, the nation's only exporter of shale gas as LNG, was cleared by regulators last month to start loading tankers from a second liquefaction unit at Sabine Pass.

### **Shipper interest weak in TransCanada plan for gas pipeline discount**

(The Canadian Press; Nov. 15) - TransCanada said it's not going ahead with a plan for new lower-priced, long-term contracts for Alberta natural gas shippers that want to use its Canadian Mainline system. The company said the "open season" resulted in bids that fell well short of the volumes required to make the plan viable. The Canadian Mainline system extends from Alberta to the Dawn hub, near Sarnia, Ontario.

TransCanada had hoped that giving up a few cents on its pipeline tolls would help convince gas producers to sign up for new long-term contracts. The company offered to cut the rate to transport gas on its system to Ontario on a 10-year term to 82 Canadian cents per gigajoule (about 61 U.S. cents per 1,000 cubic feet), down from a range of 85 to 90 Canadian cents, if it could lock in almost 1.9 billion cubic feet a day of volume.

The added discount was part of a toll reduction in current rates that TransCanada is offering to attract more long-haul shippers. The intent is to move Western Canada gas to the eastern provinces to better compete with U.S. shale gas coming to Canada.

## **Eastern Canada could be next market for U.S. shale gas**

(Bloomberg; Nov. 17) - Shale drillers in the U.S. are about to tighten their grip on the global natural gas market. TransCanada's decision this week to shelve plans for lower tolls on its gas pipeline to eastern Canada means less supply will head there from the country's western reservoirs. That opens the door for U.S. explorers to edge out Canadian competitors and ship more gas north of the border.

Eastern Canada is just one of many markets for shale producers propelling the U.S. into the ranks of the world's top suppliers. Less than a decade after gas imports to the U.S. rose to a record, Citigroup data show the U.S. has become a net exporter of the fuel as it moves gas by pipeline to Mexico and as LNG cargoes head out from the Gulf Coast.

"This makes it a lot easier for U.S. producers, knowing their Canadian counterparts aren't going to compete," said Jihad Traya, a gas consultant for Solomon Associates in Calgary. Canadian drillers are "getting shut out of a market they might never get back." Drillers in Pennsylvania's Marcellus Basin are poised to expand their reach in Canada's population centers. Calgary-based TransCanada halted plans to lower rates on its mainline because there wasn't enough interest from Western Canadian producers. The company offered to reduce its tariffs in return for long-term contracts to move more gas.

## **Small-scale gas-to-liquids plant (300 barrels a day) ready in Oklahoma**

(U.S. Energy Information Administration; Nov. 14) - The first microchannel gas-to-liquids plant in the United States was completed in September. The new plant, built by ENVIA Energy, is in Oklahoma and is expected to begin converting landfill gas into liquid petroleum products later this year, producing about 300 barrels per day of liquids. GTL plants convert natural gas to higher-valued petroleum products, including liquid fuels, waxes and chemical feedstocks.

The most common conversion method is the Fischer-Tropsch (F-T) process, which involves a series of chemical reactions that transform gas (or a gasified solid fuel, such as coal or biomass) into hydrocarbons and water. Six such large-scale GTL plants operate in the world today: two in South Africa, two in Qatar, and one each in Malaysia and Nigeria. These plants have output capacities ranging from 5,600 barrels per day to 140,000 barrels. No commercial-scale GTL plants currently operate in the U.S.

Several companies are developing microchannel plants in the U.S., including a 1,000-barrel-a-day plant set for completion next month in Texas. Because the F-T process requires high temperature and pressure, building a reaction vessel can be costly. But temperatures and pressures are less costly to maintain at small volumes. Small-scale

GTL plants can use microchannel reactors (diameters of a millimeter or less) to optimize their operation. The plants can be built close to sources of excess methane, potentially obtaining gas at steep discounts or for free, since stranded gas is often flared or vented.

### **Jamaica looks to expand use of LNG for power generation**

(The Gleaner; Jamaica; Nov. 14) - With Jamaica's first natural gas-fired powered plant, the newly converted 120-megawatt facility at Bogue in Montego Bay, now completed, the government is looking at plans to construct an even bigger plant in Old Harbour Bay, St Catherine, which could make the island the supply hub for liquefied natural gas in the Caribbean.

"Relatively lower and stable energy prices from the use of natural gas to generate baseload capacity will increase confidence and reliability for the productive sector and consumers," said Vincent Lawrence, chairman of Jamaica's Electricity Sector Enterprise Team. "We will now concentrate on the much larger facility to be built in Old Harbour Bay, which includes the agreement to make Jamaica a hub for LNG in the region."

New Fortress Energy, an affiliate of a New York City-based investment company, signed a 20-year deal with Jamaica Public Service Co. in 2015 to supply and deliver LNG for the Bogue power plant. That agreement has been extended to cover a second plant, at Old Harbour Bay. New Fortress invested \$750 million in construction of the LNG receiving terminal for the Bogue power station.

### **India will promote LNG as fuel for trucks and ships**

(Reuters; Nov. 18) - India's top gas importer Petronet LNG is betting on liquefied natural gas-powered ships and vehicles to drive up demand for the cleaner fuel, its managing director said, helping the world's third most polluting nation to improve its air quality. Prabhat Singh said he expects a shift to LNG-fueled vehicles to create "reasonable demand" for natural gas in a country where many industries are not linked to the pipeline grid. India currently lags China, where thousands of trucks and buses use LNG.

"This is a big item and big market," Singh said. Many of the 200,000 trucks that join India's fleet on average a year could run on LNG. New Delhi wants to raise the use of gas in its energy mix to 15 percent from 6.5 percent in three to four years to help curb emissions and cut dependence on imported oil. To that goal, it is expanding the pipeline gas distribution network to cities and plans to run inland barges and trains on LNG.

The government may issue an order in the coming week allowing the use of LNG as a transport fuel, Singh said, adding that LNG stations are cheaper to build than new pipelines. India also is increasing its capacity to import LNG to 50 million metric tons a

year by 2022 from 21.3 million tons now. Earlier this month, the country tested its first LNG-driven bus. Petronet is in talks with Tata Motors and Ashok Leyland to introduce LNG-fueled trucks and buses, Singh said.

## **Opponents sue Interior over fracking offshore California**

(EnergyWire; Nov. 14) - Environmental groups are trying again to reel in hydraulic fracturing in the Pacific Ocean. The California-based Environmental Defense Center and Santa Barbara Channelkeeper sued the Interior Department on Nov. 11, accusing it of failing to protect wildlife affected by offshore fracking and "acidizing" of the water off California's coast. It's the latest in a two-year legal struggle over fracking in the Pacific.

Previous lawsuits argued that the department had failed to adequately consider unique environmental risks from offshore fracking of wells. In a settlement, Interior agreed to perform a new environmental assessment, which was finished earlier this year, finding no significant impacts to the environment. According to the new lawsuit, Interior's conclusion does not square with data in its study, which included acknowledgements that offshore fracking could affect species listed under the Endangered Species Act.

The groups said Interior failed to consult with wildlife agencies that handle ESA issues. The groups said the activity could affect at least 25 listed species in the Santa Barbara Channel, including whales, sea otters and fur seals. The suit asks the court to compel Interior to perform a comprehensive environmental impact statement to further evaluate effects on the species from toxic discharges of fracking wastewater and longer life spans for existing oil platforms.

## **Protests continue against small-scale LNG plant in B.C.**

(CBC News; Nov. 20) - About 300 people gathered in Squamish, B.C., on Nov. 20 to protest a planned liquefied natural gas terminal in Howe Sound, about 30 miles north of Vancouver. The protesters described the gathering as a prayer service for the area waterways, which they say could be harmed by the \$1.6 billion Woodfibre LNG project. The event was organized by two groups, My Sea to Sky and Skwomesh Action. The LNG plant and marine terminal are to be located on a former pulp mill site.

Construction is expected to begin next year on the project, which is owned and financed by a Singapore businessman. Capacity is planned for 2.1 million metric tons of LNG per year. The project has drawn criticism since it was first proposed. Some Indigenous and environmental groups believe the project will damage the Howe Sound environment, will hurt tourism and doesn't fit into the future of Squamish. Some said they would be willing to set up protest camps next year.

## **USGS says shale play in Texas could hold 20 billion barrels of oil**

(U.S. Geological Survey; Nov. 15) - The Wolfcamp Shale in the Midland Basin of Texas' Permian Basin contains an estimated mean of 20 billion barrels of oil, 16 trillion cubic feet of associated gas, and 1.6 billion barrels of gas liquids, according to an assessment by the U.S. Geological Survey. The estimate is for continuous (unconventional) oil, and consists of undiscovered, technically recoverable resources, the USGS said Nov. 15, making it the largest estimate of continuous oil the USGS has ever assessed in the U.S.

This is the first assessment of continuous resources in the Wolfcamp in the Midland Basin of the Permian. Since the 1980s, the Wolfcamp has been part of the Wolfberry play. Oil has been produced using traditional vertical-well technology, the USGS said. However, oil and gas companies have been using horizontal drilling and hydraulic fracturing, and more than 3,000 horizontal wells have been completed in the Wolfcamp.

Continuous oil and gas is dispersed throughout a geologic formation rather than existing as discrete, localized occurrences, such as in conventional accumulations. Continuous resources commonly require special technical drilling and recovery methods, such as fracking, the USGS said. Undiscovered resources are those that are estimated to exist based on geologic knowledge and theory, while technically recoverable resources are those that can be produced using currently available technology and industry practices. Whether or not it is profitable to produce these resources has not been evaluated.

## **Report says overspending made oil price rout more painful in Alberta**

(The Financial Post; Canada; Nov. 17) - While Alberta and Texas both enjoyed 10-year economic booms thanks to high oil prices, Alberta's "undisciplined" budgets during the years left it in a worse financial position than Texas when oil prices tanked. In a study titled "One Energy Boom, Two Approaches," the Fraser Institute compared the budgets and spending patterns of governments in Alberta and Texas between 2004 and 2014.

The Vancouver-based free-market-oriented think-tank concluded that Texas was prudent during that period of higher oil prices, while faster government spending growth in Alberta contributed to the province's current dire fiscal situation. The collapse in oil prices beginning in the summer of 2014 has hurt Alberta's government revenues, which are heavily dependent on energy royalties. Alberta will borrow \$7 billion for operating expenses this year and is on a pace to run up more than \$30 billion in debt by the end of 2019. The province held net assets of \$30 billion at the end of 2009.

Fraser Institute director of prosperity studies Ben Eisen, who co-authored the report, said Alberta has a spending problem rather than just a revenue problem. "The deficits and debt are a function of policy choices, they're not an inevitable result of the fall in

energy prices, although that certainly didn't help," Eisen said. "The spending increases (in Alberta) were faster than the rate of inflation plus population, faster than the rate of economic growth," he said. But there are differences between Alberta and Texas: Oil and gas activity contributes 27.4 percent of Alberta's gross domestic product compared to 12.3 percent in Texas with its more diversified economy.