

Oil and Gas News Briefs

Compiled by Larry Persily

November 8, 2018

Toshiba quits U.S. LNG trade, pays Chinese firm to take over contract

(Reuters; Nov. 8) - As part of its plan to shed money-losing assets, Japan's Toshiba will exit its U.S. liquefied natural gas business by paying China's ENN Ecological Holdings more than \$800 million to take over the Toshiba unit and its 20-year obligation at an LNG export terminal in Texas. The sale is the disappointing end of a venture that puzzled analysts when it was announced in 2013. Asian LNG prices have plunged 42 percent in the past five years and the potential for future losses spurred Toshiba's exit.

Under the deal, Toshiba will sell its Toshiba America LNG unit to ENN Ecological, a unit of ENN Group, for \$15 million, the Japanese company said in a statement Nov. 8. After the sale is complete, Toshiba will then make a one-time payment of \$821 million to ENN to pass on its roughly \$7 billion commitment, starting in 2020, to purchase 2.2 million tonnes per year of LNG over 20 years from Freeport LNG in Texas. "The project posed a huge risk, because no one knows how the situation will be over the next 20 years," Toshiba's CEO Nobuaki Kurumatani told reporters at a press conference.

"We expect to get 2.2 million tonnes of relatively low-cost LNG starting in 2020 to meet growing domestic demand," said a spokeswoman at ENN Ecological. Toshiba has spent years trying to either sell the gas to power customers or offload the business. Toshiba's annual cost of its deal with Freeport was a bit over \$360 million, meaning it is paying about two years of those costs to ENN to take over the long-term obligations, said Nicholas Browne, director of Asia-Pacific gas and LNG at Wood Mackenzie. "For Toshiba, it clearly ends their short foray in the LNG business," Browne said.

Ichthys LNG contractor reports more than \$900 million in claims

(Australian Financial Review; Nov. 7) – Contractual disputes over construction of the US\$40 billion Ichthys LNG project in northern Australia have been laid bare by U.S. contractor KBR just after majority owner Japan's Inpex Corp. celebrated the start-up of cargo loading. KBR, part of the consortium that holds the US\$15 billion engineering and construction contract for the Ichthys LNG plant near Darwin, has outlined several legal cases and arbitration disputes with Inpex over more than US\$900 million in extra costs.

Credit Suisse energy analyst Saul Kavonic said he suspects that claims "well in excess of US\$1 billion" could be in dispute, calling them "beyond the normal contractual argy-bargy usually expected during LNG project construction." KBR also has revealed a

further delay in construction of the Ichthys power plant, which has suffered a series of problems. It has allocated an additional US\$100 million to cover completion of the plant.

Construction disputes over large and complex LNG projects are not uncommon, and the ones at Ichthys follow disputes at Chevron's US\$54 billion Gorgon project in Western Australia, Santos' US\$18.5 billion Gladstone project in Queensland and others. Many of the problems emerge from changes in the scope of work, which contractors can seek to push back on the client. Claims can spark a chain reaction as subcontractors seek to claw back funds. With Ichthys starting to get cash in the door, KBR said it hopes the contracting consortium "can sit down with the customer and conclude a settlement."

Sempra signs up tentative buyers for West Coast LNG project

(Reuters; Nov. 7) – Sempra Energy said Nov. 7 it signed three non-binding agreements to sell all of the liquefied natural gas to be produced at its proposed Costa Azul LNG export terminal in Baja California, Mexico. Sempra said it will now work to negotiate binding 20-year LNG sales agreements with the three companies — Total of France and Mitsui and Tokyo Gas of Japan — and has targeted late 2019 to make a final investment decision on the first phase of the project, with a possible start-up in 2023.

Costa Azul would have an advantage over U.S. Gulf Coast LNG terminals because it will be much closer to Asian markets, like China, where demand for gas is growing as power plants and other industries seek to burn less coal for environmental reasons. The first phase of Costa Azul would be a single-train liquefaction facility capable of producing about 2.4 million tonnes per year of LNG, co-located at Sempra's 10-year-old LNG import terminal about 55 miles south of San Diego.

Sempra said the three tentative buyers each would take about 0.8 million tonnes per year. In June, Sempra selected TechnipFMC and Kiewit as the engineering, procurement and construction contractor for the Costa Azul project. In addition to Costa Azul, Sempra is building the three-train, \$10 billion Cameron LNG terminal in Louisiana and considering development of Port Arthur LNG in Texas. Cameron is scheduled to enter service in 2019; Total and Mitsui are partners in the first phase.

Total may take LNG from Sempra projects and sign on as partner

(S&P Global Platts; Nov. 5) - French energy company Total may buy up to 9 million tonnes per year of LNG from two export terminals being developed by Sempra Energy — one in the Louisiana and one in Mexico. Total already is an equity partner in Cameron LNG in Hackberry, Louisiana, and also could take a stake in the Mexico

project. First Cameron LNG production and exports are expected in early 2019. The three-train facility will have capacity to produce 14 million tonnes of LNG per year.

The San Diego-based power and gas provider has yet to make an investment decision on the Energia Costa Azul project in Baja California, Mexico, where it is looking at adding liquefaction and exports to a 10-year-old import terminal. The memorandum of understanding between Sempra and Total provides the framework under which Total would potentially contract for LNG offtake from the second phase of Cameron LNG (two liquefaction trains for an additional 9 million tonnes) and from Energia Costa Azul.

Total, which holds a 16.6 percent stake in Cameron LNG, also may acquire an equity interest in Energia Costa Azul, Sempra said. The Baja California project, 55 miles south of San Diego, would rely in large part on feed gas supplies from the United States. It could source its gas from the Permian Basin, which spans West Texas and southeastern New Mexico.

Indian companies look at buying stake in Louisiana LNG project

(Reuters; Nov. 3) – India’s Petronet LNG and ONGC Videsh are jointly in talks to buy a stake in Tellurian’s proposed Driftwood liquefied natural gas export project in Louisiana, Petronet’s managing director said. “We have moved slightly forward (from the preliminary discussion stage) ... we are evaluating it seriously and we are in serious discussion with them,” Prabhat Singh told Reuters on Nov. 2.

Houston-based Tellurian proposes to build Driftwood LNG in four phases, eventually reaching as much as 27.6 million tonnes annual capacity. The Federal Energy Regulatory Commission in September released its draft environmental impact statement for the project. In an effort to raise capital, Tellurian is offering a 60 to 75 percent equity interest in Driftwood Holdings, which comprises Tellurian’s upstream company, its pipeline and the proposed LNG project. In exchange for the upfront investment, equity partners would receive long-term liquefaction capacity at the plant for a fixed price.

Petronet is India’s top gas importer with no experience of the upstream business, which is why it is tying up with ONGC Videsh, the overseas investment arm of India’s top producer Oil and Natural Gas Corp. India is expanding its pipeline network and building new LNG import terminals to boost use of the cleaner fuel in the country. 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 at present.

Barclays forecasts supply-constrained LNG market in early 2020s

(Oil & Gas Journal; Nov. 5) - A glut of liquefaction capacity anticipated earlier by LNG project developers is unlikely to materialize, and stronger-than-expected demand could result in a market constrained by supply as early as 2020. Increasing worldwide energy consumption and a transition away from coal in key economies is driving a rapid growth in demand for liquefied natural gas, and the wave of new supply capacity may be unable to keep up, according to research from London-based Barclays.

Barclays sees the market rebalancing over the next two years despite large volumes of supply expected to come on stream, aided by strong demand in Asia and the delay of project start-ups in recent years. "Post-2020 we expect the LNG market to rapidly tighten with few projects under construction now ready to start up in the first half of the next decade. We see a clear need for liquefaction projects to be sanctioned now to prevent a supply shortfall," said Barclays, a multinational bank and investment firm.

With a forecast of demand growth of more than 60 million tonnes in 2021 and 2022, the LNG market returns to being supply-constrained rather than demand-constrained. "There is likely to be significant new capacity in 2024-25 if the companies make the sanction decision imminently, but this (as with the last wave of new supply) is still likely to struggle to meet demand growth," Barclays said. However, development of new LNG projects will be slower, given the difficulty in securing financing and long-term buyers.

Site clearing at LNG Canada to be done by end of the year

(Northern Sentinel; Kitimat, BC; Nov. 3) - Kitimat residents received a first-hand look at LNG Canada's proposed construction timelines in open houses held Nov. 1. Officials from LNG Canada's engineering, procurement and construction contractor briefed prospective contractors and residents on the multibillion-dollar gas liquefaction plant that will be built in their coastal British Columbia community. The contractor is a joint venture of Japanese engineering company JGC Corp. and construction firm Fluor.

"In reality the amount of work that we have going over the next two years is limited," said Phil Clark, Fluor project director. Site clearance will be completed by the end of 2018 with cut and fill starting in the first quarter of 2019 and pile driving starting in the fourth quarter of 2019. The first completed module fabricated in Asia for use in construction of the LNG plant is expected to arrive in the second quarter of 2021 with the first of four liquefaction trains ready for operation in the fourth quarter of 2023.

"Our priority is to get the first train ready for start-up by fourth quarter 2023. It's a five-year program from getting full notice to proceed next week for the first train, followed by the second train," Clark said. The partners in the Shell-led C\$40 billion project made their final investment decision Oct. 1.

Mozambique pledges share of LNG revenues to settle bond debt

(Reuters; Nov. 6) - Mozambique has reached an agreement with the bulk of its creditors to restructure a \$726.5 million Eurobond, including extending maturities and sharing future revenues from proposed liquefied natural gas projects, the finance ministry said Nov. 6. Mozambique has been battling to recover from a debt crisis after admitting in 2016 to \$1.4 billion of undisclosed borrowing, much of which was supposed to be spent on a tuna fishing fleet but instead went to the defense budget for maritime security.

Mozambique's offshore Rovuma Basin boasts natural gas resources of around 180 trillion cubic feet, enough to underpin massive LNG export plants under development by ExxonMobil, Anadarko, and Italy's Eni. Eurobond holders had pushed for a settlement linked to the expected gas windfall, a demand Mozambique had previously rejected. Under the deal creditors would receive 5 percent of Mozambique's future revenues from the natural gas projects, though the payments would be capped at \$500 million.

Investors welcomed the change in stance, but some said it was not without risks. "If we get lower oil prices, higher construction costs, or long delays, there is a risk of significantly lower recovery than \$500 million," a bondholder said. Under the deal Mozambique would issue a new \$900 million Eurobond maturing in 2033 with a coupon of 5.875 percent — just over half what the current outstanding bond was intended to pay in interest charges. Bondholders still must vote on the deal.

China's truck-delivered LNG market is flourishing

(Bloomberg; Nov. 4) - Gas is in such hot demand in China right now that it's allowing a quirky market to flourish: transporting the fuel by truck. Call them pipelines on wheels. The country's top suppliers are loading liquefied natural gas onto tanker trucks and delivering it to users to make up for insufficient pipeline coverage inland. The method is so effective ENN Group is using it as a primary way to move LNG from its new terminal.

This new gas market has thrived over the past few years as China's blue-sky policies boosted demand for the cleaner-burning fuel faster than new pipelines can be built. The trucked LNG market is unregulated, allowing nimble sellers to benefit from rising prices during peak demand seasons, while the city-gate benchmark pipeline gas price remains set by the government. "We haven't seen this kind of volume in trucked LNG anywhere else in the world" said Xizhou Zhou, head of China energy research for IHS Markit.

ENN is betting the market will endure. Its new terminal in Zhoushan at the mouth of the Yangtze River is the first in the world built to load the majority of its LNG onto trucks instead of reheating it to a gaseous state for pipelines or power plants. The facility is designed to import about 3 million tonnes a year with 2 million destined for trucks. But trucking the fuel is expensive. Still, the pricier route can be lucrative. Trucked gas sells for about 4,500 yuan (\$650) a tonne, about \$13.50 per million Btu — two-thirds higher

than benchmark Shanghai city-gate rates. Trucks carried about 19 million tonnes last year, accounting for 12 percent of China's total use, Wood Mackenzie estimates.

Chinese producers step up drilling to boost domestic gas output

(Reuters; Nov. 5) - China's Sinopec and China National Petroleum Corp. are speeding up drilling and exploration in major tight and shale oil and gas formations in the country's western regions to boost domestic output, according to company reports Nov. 5. New exploration in shale gas, tight oil, and tight gas will lead to growth in production for the country's largest oil and gas producer CNPC, the firm's official newspaper said.

Oil wells are being completed and produced at a faster rate at the Mahu field in Xinjiang, one of CNPC's largest discoveries in recent years. The company this year increased spending in its upstream sector after a government call to safeguard China's energy security by increasing domestic output. Sinopec plans to tap 66 new gas wells and install 23 gas drilling stations over the winter to increase supplies from its fields in southwestern China, the company said in its official newspaper Nov. 5.

China needs more gas because it is in the midst of a gasification push that is moving millions of households and factories from coal-fired power and heating to gas. The aggressive gasification targets and an unusually cold winter last year caused a supply shortage. To prevent a repeat, Chinese companies have this year increased spending on domestic gas production and filled up storage tanks ahead of winter.

Australia likely to block Chinese takeover of gas pipeline network

(Australian Broadcasting Corp.; Nov. 7) - A multibillion-dollar Chinese-backed takeover of more than half of Australia's gas pipeline network looks likely to be blocked by the federal government. Treasurer Josh Frydenberg said his "preliminary view" was that CK Asset Holdings' proposed \$13 billion purchase was against the national interest. The decision is awkwardly timed for the government, as Australia's Foreign Minister Marise Payne arrives in China Nov. 7 ahead of talks with her Chinese counterpart Wang Yi.

"I have formed this view on the grounds that it would result in an undue concentration of foreign ownership by a single company group in our most significant gas transmission business (APA Group)," the treasurer said in a statement. "My preliminary view reflects the size and significance of APA Group." The company owns almost 10,000 miles of pipelines, about 56 percent of Australia's gas pipeline transmission system, including 74 percent of New South Wales and Victoria pipelines.

The takeover had been approved by the Australian Competition and Consumer Commission, but Frydenberg acknowledged the "concentration of foreign ownership"

was not a question considered by the watchdog. Frydenberg said his decision was made in close consultation with the Foreign Investment Review Board. Two years ago, some of the companies in the CK consortium were blocked from buying Ausgrid, the owner of the electricity poles and wires in New South Wales.

Australian LNG plant looks to new supplies to maintain full capacity

(The West Australian; Nov. 6) - Woodside's growth plans have taken a step forward with the North West Shelf (NWS) LNG joint venture reaching preliminary agreements to process gas for the offshore Woodside-led Browse project and Chevron's Clio-Acme field. The non-binding agreements signed Nov. 5 are a step toward keeping the five trains of the NWS Karratha gas plant operating at full capacity as supply from the joint-venture's own fields decline early next decade. The plant's first train started up in 1989.

Woodside CEO Peter Coleman said the agreements are part of his company's hub concept to extend the operating life of the Karratha plant for decades more. "Central to our vision ... is the transition of the Karratha gas plant into a third-party tolling facility," he said. "The Browse joint venture will be the anchor tenant underpinning that transition and this preliminary agreement enables the participants to progress toward an earlier final investment decision to develop the gas resources targeted for 2020."

Browse gas resources are pegged at almost 14 trillion cubic feet. Chevron announced in September it wanted to develop Clio-Acme at 3.5 tcf using another company's infrastructure rather than building its own liquefaction plant. Gas from Clio-Acme is planned to be piped to Woodside's Pluto offshore platform and then mixed with Pluto gas and piped to onshore facilities. Woodside, which operates the North West Shelf LNG plant, said negotiations would continue to reach binding, fully termed agreements.

Australian LNG projects agree to cooperate to move more gas

(S&P Global Platts; Nov. 5) - The Australia Pacific LNG project on Nov. 5 said it has signed a deal to buy gas through the neighboring Queensland Curtis LNG project and for both projects to share infrastructure. Pipeline- and resource-sharing agreements are seen as a feasible long-term solution for the industry in Australia, which is home to many of the world's most expensive LNG projects with some of the highest break-even costs globally after its projects suffered a series of cost overruns earlier this decade.

As part of the tolling agreements, the Queensland Curtis LNG project will be able to transport and process gas and water from Surat Basin gas fields using available capacity in existing APLNG-QCLNG joint infrastructure. Arrow Energy's Surat Basin holds one of the nation's largest onshore undeveloped gas resources. The agreement

will enable moving more gas into the east coast market without having to build new infrastructure. The sharing arrangements will commence in 2020 and run until 2035.

APLNG is the largest LNG project on Australia's east coast with an export capacity of 9 million tonnes per year. It is a joint venture between ConocoPhillips (37.5 percent), Australia's Origin Energy (37.5 percent), and Sinopec (25 percent). Shell is the operator of Queensland Curtis LNG at 8.5 million tonnes per year export capacity. Its partners in the LNG plant include China National Offshore Oil Corp. and Tokyo Gas.

First gas flows, testing continues at U.K. fracking operation

(BBC News; UK; Nov. 2) – Shale gas has flowed for the first time at the U.K.'s only fracking site currently in operation, energy firm Cuadrilla said. Operations began at the Lancashire site in October for the first time since 2011 when it was suspended because of tremors. The renewed drilling operations have been suspended at least a couple of times after further tremors. The firm said it would spend at least three months operating two horizontal exploratory wells before testing the commercial viability of the gas flow.

Cuadrilla said the site may provide "a significant source" of gas, but Rosie Cooper, a local member of Parliament, said fracking at the site should be banned immediately following a 1.1 magnitude tremor Oct. 29 — the strongest since work began Oct. 15. According to the British Geological Survey, earthquakes with a magnitude of less than 2.0 are not usually felt and, if they are, it is only by people very close to the epicenter.

Anti-fracking campaigners, who argue it poses environmental risks, had unsuccessfully tried to stop the work with an injunction bid. John Sauven, executive director of Greenpeace UK, criticized the fracking industry, saying it had "produced a deep hole in a muddy field with a small amount of very expensive gas at the bottom."

European imports of U.S. LNG may be too costly

(Financial Times; London; Nov. 3) - German Chancellor Angela Merkel showed her political skills last month when she told a group of U.S. lawmakers that her government planned to co-finance a \$576 million LNG import terminal, the country's first. The news played well in the United States, where it was reported as a concession following lobbying from President Donald Trump to buy more U.S. gas. It was seen that way in Russia, too, where the government said Merkel was "yielding to Trump's pressure."

In September, Germany's economy minister described his government's support for the planned LNG import terminal as "a gesture to our American friends." The flaw in this plan is that his description is right: a new terminal would not be much more than a gesture. There is no guarantee that it would bring in gas exclusively or even mostly

from the United States. Of all the obstacles to increasing U.S. LNG sales to Europe, insufficient import capacity is low on the list. At the end of 2017, the average utilization rate of the EU's LNG import terminals was just 25 percent.

The fundamental problem that U.S. LNG faces is that it is typically too expensive for the European market. Amy Myers Jaffe of the Council on Foreign Relations said U.S. LNG exporters need to sell in Europe for at least \$6 to \$7 per million Btu to cover costs. But Tatiana Mitrova, director of the Skolkovo Energy Centre in Moscow, said last month at Columbia University's Center on Global Energy Policy that Russia's long-run marginal cost of supply to Europe was only about \$5, including production, transport, and tax.

Cheniere ramps up feed gas at Corpus Christi LNG terminal

(S&P Global Platts; Nov. 5) – Feed gas flows to Cheniere Energy's LNG export terminal in Corpus Christi, Texas, reached their highest level to date on Nov. 5 as the company prepares to produce, load, and ship its first cargo from the facility. Deliveries to the terminal totaled almost 121 million cubic feet per day, approximately double the feed gas that flowed there on Nov. 4, S&P Global Platts Analytics data showed. The latest figure is the highest since flows ramped up in earnest in September, the data showed.

Cheniere CEO Jack Fusco said Oct. 22 he expected the first export cargoes would leave the Corpus Christi terminal by the end of the year. The CEO of the Port of Corpus Christi Authority said Oct. 30 that Cheniere was planning to host a commissioning event Nov. 15. The Federal Energy Regulatory Commission has approved Cheniere's request to export LNG produced during commissioning at the facility.

Cheniere became the first U.S. exporter of LNG produced from shale gas in 2016 when its Sabine Pass terminal in Louisiana shipped its initial cargo. Dominion Energy began exporting LNG in March from its Cove Point terminal in Maryland. Currently, Cheniere has four liquefaction trains in operation at Sabine Pass. Train 5 is expected to begin production by the end of the year. Three trains are under construction at Corpus Christi. Three other LNG projects are nearing completion in Louisiana, Texas, and Georgia.

Growth in LNG shipping pushes charter rates to all-time high

(Financial Times opinion; London; Nov. 5) - The rapid growth of the liquefied natural gas market is testing the shipping industry's ability to supply specialized vessels, pushing rental prices for carriers capable of transporting the super-chilled fuel to an all-time high. The growth of a spot market in LNG, together with increasing supply and demand from new buyers, especially in China, and the rise in flexible destination agreements have boosted the demand for vessels designed to carry the commodity between continents.

“Shipping rates are higher than post-Fukushima levels, driven by additional LNG export volumes,” said Kwok Wan, an analyst at shipping broker Clarksons. With more LNG supply expected to come online next year, vessel charter rates are expected to remain elevated, he said. Some are worried whether limited shipping capacity will hamper flows on international gas markets. Spot-charter rates are as high as \$170,000 per day according to Clarksons, despite a high number of new LNG carriers going into service.

“This absence of available shipping capacity in a fast-growing LNG market could be a serious issue for flexibility and security of supply,” said the International Energy Agency. After growing between 2018 and 2020, the fleet is expected to remain almost flat in 2021 and possibly 2022, unless new orders are placed in the near future, the IEA said. LNG vessels take two to three years to build. Alastair Maxwell, chief financial officer at GasLog, a leading tanker company, said vessels would be available, albeit at a price.

Colorado voters defeat bill to limit oil and gas drilling

(Bloomberg; Nov. 7) - Companies exploring for oil and gas in Colorado jumped in stock market trading Nov. 7 after voters rejected a plan that sought to limit their ability to drill in the state. Proposition 112 was defeated 57-43 percent. It would have forced oil and gas development further away from residential and environmentally sensitive areas, curbing drilling across more than half of Colorado. Oil and gas companies raised more than \$41 million to defeat the proposal, compared with \$1.3 million raised by supporters.

The battle over the proposition illustrated the industry’s influence in a state that’s producing more crude than ever driven by activity in the prolific D-J Basin just north of Denver. The vote lifts a threat that hung over some energy stocks since early August, when supporters gathered enough signatures to get the measure on the ballot. As of August, Colorado’s oil output reached 477,000 barrels a day, leading the state to overtake California and become the nation’s fifth-largest producer.

But the boom’s proximity to Denver’s suburbs has raised concerns about health and safety, especially after a gas line explosion last year killed two people. Despite failure at the ballot box, the legislature may take action next year to further regulate the industry. House Majority Leader KC Becker, representing Boulder County and a Proposition 112 supporter, said the House will consider legislation tackling funding for orphan wells, air and water monitoring, greater local control over siting, and potentially new setback limits.