Oil and Gas News Briefs Compiled by Larry Persily February 22, 2018

Partners move closer to LNG expansion at Papua New Guinea

(Reuters; Feb. 20) - Global giants ExxonMobil and France's Total have reached broad agreement on plans to double liquefied natural gas exports from Papua New Guinea, their partner, Oil Search, said Feb. 20. The plan to expand the ExxonMobil-operated Papua New Guinea LNG plant to about 16 million tonnes per year, at a cost of around \$13 billion, would see it rival Australia's biggest LNG projects, according to analysts.

Oil Search said the companies plan to add three new liquefaction trains with two underpinned by gas from the Elk-Antelope fields, run by Total, and one underpinned by existing fields and the new P'nyang field, run by Exxon. The partners aim to start engineering and design work in the second half of this year, but first need the Papua New Guinea government to approve the plans. The \$19.5 billion Papua New Guinea LNG project started production in 2014.

"Joint-venture alignment challenges remain and shouldn't be underestimated," said Saul Kavonic, an analyst with consultants Wood Mackenzie. Sanford C. Bernstein analysts estimate the 8 million tonnes of new capacity could be added for between \$12 billion and \$14 billion. "This is the big shift in the next cycle. ... It's very much about lowercost, brownfield, backfill developments," Bernstein analyst Neil Beveridge said. The partners are racing to start production by the mid-2020s, when the LNG market is expected to slide into deficit due to growing demand in Asia and a lack of new projects.

Anadarko signs up another customer for Mozambique LNG

(Reuters; Feb. 20) - Anadarko's plan to export liquefied natural gas from Mozambique moved a step closer to completion Feb. 20 after it agreed to a 15-year sales-and-purchase deal with Electricite de France. The state-controlled utility will take 1.2 million tonnes of LNG annually from the Mozambique venture led by Anadarko and including Japanese trader Mitsui, India's ONGC Videsh, and Thailand's PTT, among others.

In all, Anadarko has agreed to commercial terms including volume and price for 5.1 million tonnes per annum of LNG off-take deals, closing in on the 8.1 million tonnes needed to trigger a final investment decision, said spokeswoman Helen Wells. The company plans to build a plant estimated at \$15 billion and start exporting gas from Mozambique's offshore Area 1 block in 2022 or 2023. In addition to the EDF deal, Anadarko has an earlier agreement with Thailand's state-run PTT that is still undergoing government approvals. There is also a preliminary deal with Japan's Tohoku Electric.

LNG developers across the board have struggled to find the long-term buyers needed before banks and export credit agencies will commit financing. Low oil prices, surging global LNG output and buyers' demands for flexible, shorter contract terms and lower pricing have challenged profitability and delayed investments. The tug-of-war between buyers and sellers has unsettled lenders. The Anadarko project would be Mozambique's first onshore LNG venture. Italy's Eni and its partners have decided to proceed with a \$7 billion floating LNG production facility in the same offshore area, set for start-up in 2022.

LNG supply depends on demand, and demand is hard to predict

(OilPrice.com; Feb. 19) - Many reputable forecasters, who have anticipated an LNG supply glut for years, now expect a brief period of surplus at most and gradual market tightening after 2020. But global demand, which has surprised market watchers to the upside and kept physical markets tight during the past four years, could cut this looming mini-glut short. Numerous factors are at play, but a few key indicators will shed light on likely supply-and-demand conditions through the mid-2020s.

Looking near term, the International Energy Agency expects LNG export capacity will exceed demand through 2022. The IEA's recent medium-term gas market outlook said the surplus will peak in 2020, then gradually dissipate as tighter market conditions reappear in the early 2020s. "It is relatively easy to see what's coming on the supply side, given the long lead times for liquefaction projects," said Akos Losz of Columbia University's Center on Global Energy Policy. "Predicting demand is much more difficult."

As for demand, the IEA foresees worldwide demand rising from 260 million tonnes in 2016 to 340 million tonnes in 2022. It anticipates imports shrinking in Japan, South Korea, and Europe, but rising in China and India. More demand is also expected from smaller importing countries, totaling about 20 percent of the global LNG trade in 2022. Yet demand depends on indicators that are hard to predict, including policies on coal, nuclear and renewables. Losz said a lack of investment decisions on new LNG projects could mean that supply might come up short of projected demand by the early 2020s.

China's environmental push could boost U.S. petrochemical industry

(Houston Chronicle; Feb. 19) - China's moves to clear smog from its skylines and shake its reputation as the "world's garbage dump" is opening a door to the world's largest market for Houston-based producers of natural gas, plastics and petrochemicals. China recently stopped importing scrap plastic, which it recycled to feed domestic demand for bottles, packaging and consumer goods, while launching an environmental crackdown that has curtailed the use of coal and shut down industrial polluters.

Already, U.S. Gulf Coast liquefied natural gas exporter Cheniere Energy has signed a deal with a subsidiary of state-owned China National Petroleum Corp. to ship 1.2 million tonnes of LNG a year under contracts that extend to 2043. Petrochemical companies have their eye on China, too, as they expand plants and production to capitalize on the stream of cheap gas, a petrochemical feedstock, flowing from Texas shale fields.

China's ban on scrap plastic could boost global demand for ethylene, a building block of most plastics, said Hassen Ahmed, a petrochemical analyst with Alembic Global Advisors. All along the Gulf Coast, companies are completing massive projects that could increase the output of ethylene and polyethylene — the most common plastic — by millions of tons each year. China was importing, sorting and recycling more than half of the world's scrap plastic to meet as much as 40 percent of its domestic demand until it halted imports of scrap plastic on Jan. 1, creating a substantial supply gap.

China on path to overtake U.S. in nuclear power capacity

(MarketWatch; Feb. 21) - China is set to more than triple its nuclear energy capacity over the next 20 years, overtaking the U.S. to become the world's largest nuclear power producer, according to the International Energy Agency. IEA Executive Director Fatih Birol expressed concerns at a conference in London on Feb. 21 that the U.S. and Europe aren't investing enough in nuclear power, while China is charging ahead.

"China is coming back strong. Today there are about 60 nuclear power plants under construction and more than one third of them are in China," he said. "China is growing, and as a result we'll soon see China overtaking the U.S. as the No. 1 nuclear power in the world." Birol noted that the U.S. has been the global leader in nuclear power since the 1960s, but two trends are threatening to knock the country out of the top spot: Very few additions to nuclear capacity and no lifetime extensions for existing power plants.

"If it continues like that, the U.S. nuclear capacity will go from 20 percent [of overall power supply] to 7 percent," Birol said. "This has many implications in terms of energy. I can tell you that what is happening is the same story as we've seen in solar. [China] is learning by doing, bringing costs down and therefore [they] are now ready to export [their] technology and are much more cost effective than others. And [they] challenge the established exporters such as the U.S., Japan, Korea, and European countries."

Task force report recommends Japan boost renewable energy

(Reuters; Feb. 20) - An energy task force advising Japan's foreign minister has proposed boosting renewable energy and shifting away from coal and nuclear power at home, arguing the country's energy policies are outdated and undermine its global competitiveness. The advice comes in a report commissioned by minister Taro Kono, a

maverick lawmaker with prime ministerial ambitions, and echoes his own convictions, pitting him against Japan's powerful Ministry of Economy, Trade, and Industry. The ministry urges using coal at home and financing coal-powered projects abroad.

The task force report, presented Feb. 19, argues nuclear power has lost economic competitiveness. It said the world's third-biggest economy should cut reliance on atomic energy to as little as possible, and instead boost use of renewables. "If Japan focuses on renewable energy rooted in its abundant natural resources and reduces dependence on imported fossil fuels and uranium, this will contribute to its energy security and make possible a new domestic economy," the task force said in the report.

The report comes as the ministry, a proponent of nuclear power, is reviewing Japan's energy policy. Thermal coal imports rose to a record last year, while liquefied natural gas imports were near record highs, as both fuels filled the gap in power generation left by the country's slow restart of nuclear power plants closed after the 2011 Fukushima disaster. Japanese companies are planning to build more than 40 new coal plants.

Natural gas grabs more of oil's limelight at industry conference

(The Financial Times; London; Feb. 19) - Oil executives are usually the big draw at the annual International Petroleum Week conference. But this week, it could be the leaders in natural gas that steal the limelight. For years, scant attention was paid to the gas sector at major industry gatherings, with gas viewed as a second-string market lacking international intrigue or global clout. Oil is bigger than all the other commodity markets combined, and the industry has always carried itself with an almost dismissive swagger.

Now there is a clear shift under way. As the electric car revolution takes hold and governments turn to greener fuels, gas and renewable energy are increasingly challenging oil as the headline act. IP Week has long attracted thousands of oil traders, executives and government officials to a whirlwind of events in London. This year it has given over a full day — out of three — for gas and cleaner-fuel experts, in a trend at industry events that many see as a reflection of a broader shift within the energy sector.

Keun-Wook Paik, of the Oxford Institute for Energy Studies and an adviser to the conference, said they responded to feedback from an oil industry grappling with its long-term future, including threats from rival fuels. "In 2013, the idea of a separate gas program did not even exist," he said. "Planners never thought that it was important. Now this year it is core content." The industry is embracing gas like never before. Majors like Shell and BP are committing more of their spending plans to gas and renewables.

Partners in offshore-Israel gas field sign 10-year deal to supply Egypt

(Bloomberg; Feb. 19) - The lead partners in Israel's largest gas fields said they have signed a \$15 billion export deal with Egypt, adding an economic dimension to the relationship between two former rivals. Houston-based Noble Energy and Israel's Delek Drilling said they plan to supply about 2.26 trillion cubic feet of natural gas over 10 years to Egypt's Dolphinus Holdings from Israel's Tamar and Leviathan offshore reservoirs. The deal needs regulatory and government approvals in Israel and Egypt, they said.

The deal with Egypt follows an agreement with Jordan in 2016, putting Noble and its partners on track to become regional exporters. Substantial obstacles still remain, but the agreement suggests Israel and its neighbors are bolstering ties as they seek to benefit from large gas discoveries in recent years. Leviathan was discovered in 2010 and is scheduled to start producing by the end of 2019. Exports from Tamar, which began production in 2013, are expected to start under the deal in 2020 or 2021.

It's not clear how the deal fits into Egypt's plans to export gas from its giant Zohr field. Discovered by Italy's Eni in August 2015, Zohr has a target to pump 2.7 billion cubic feet of gas per day by end-2019. Russia's Rosneft last fall acquired 30 percent of the field, and BP bought a 10 percent stake last year. Egypt wants to direct some of the Zohr gas to reopening its liquefied natural gas export industry, which shut down a few years ago due to lack of supply. Egypt has been importing LNG to meet domestic needs.

U.S. LNG exports could affect pipeline approvals, attorney says

(Houston Chronicle; Feb. 19) - Pipeline companies point to the necessity of ensuring adequate supplies of natural gas when they ask federal regulators for permits to build new interstate gas pipelines. The government-issued permits give pipeline companies the right to force ranchers, farmers, and homeowners to sell their private property for utility-related projects deemed to be in the public interest. But what if the natural gas is going to China, India, or other nations outside the United States?

As more pipelines and liquefied natural gas plants are built in the U.S. to export the gas, energy industry arguments that the new pipelines are in the public interest will be tested, especially when the projects involve landowners who don't want to sell their land. The five-member Federal Energy Regulatory Commission recently added four new members and the energy industry is watching to see how the new Trumpnominated commissioners will handle contested gas pipeline certificates.

Emily Mallen, an energy lawyer in Washington, D.C., said FERC will have to grapple with the policy implications of taking land for energy that won't stay in the U.S. "They may put more scrutiny on it," said Mallen, who represents pipeline companies. One possible outcome is that landowners may get paid more for their land as pipeline opposition mounts. Another is that commissioners may give landowners who don't want

to sell more of a say about the projects. In any event, FERC will look more favorably on projects when pipelines come to the table with permission from landowners, she said.

Changes are needed to bring U.S. natural gas to Northeast

(The Hill column; Feb. 19) - The winter of 2017-2018 has been one of the coldest in recent memory, especially in the Northeast. Homeowners and businesses are literally screaming about heating and electric bills. Making matters worse, New England and New York are using imported liquefied natural gas, which is much more expensive than domestic gas, to satisfy nearly 20 percent of their heating and electric power needs.

Some of this imported gas has come from Russia. The irony is that America has been the world's largest producer of gas since 2009 and is slated to become a net exporter this year. We're currently exporting 3.5 billion cubic of LNG per day, and that's projected to double by the end of 2018. So why does the Northeast import LNG to meet its needs when the nation's largest gas play is next door in Pennsylvania and West Virginia?

There are two villains in this drama. The first is the Jones Act, a little-known piece of legislation that Congress passed in 1920. It requires that any ship carrying goods or commodities between U.S. ports must be built, registered, owned, and crewed by U.S. citizens or permanent residents. Intended to improve the nation's maritime security, today the Jones Act is simply a form of protectionism for U.S. shippers and unions.

The second villain responsible for the Northeast boasting the highest natural gas prices in the continental U.S. is the coterie of politicians and environmentalists who fight new gas pipelines because of their opposition to fossil fuels. A dose of reality is in order.

Australia's bans on gas production hurt market balance, says IEA

(Platts; Feb. 22) - Moratoria and bans on both unconventional and conventional gas by Australian states and territory governments are exacerbating the fundamental imbalance of Australia's east coast gas market, according to industry sources, analysts and policy advisers. Australia needs to act quickly to ensure it is both adequately supplied with gas and able to meet its liquefied natural gas export commitments, the International Energy Agency said in its 2018 review of Australia on Feb. 22.

"Increasing LNG exports have created a tight supply in Australia's eastern market, which is characterized by weak regulation, poor transparency and low liquidity," the IEA said. "Market inefficiencies need to be addressed swiftly and transparency improved rapidly for domestic consumption and LNG exports to successfully coexist." The

Australian Petroleum Production and Exploration Association welcomed the remarks, highlighting the "urgent need" to remove the bans and restrictions on exploration.

A mining and energy analyst with the Commonwealth Bank of Australia, Vivek Dhar, said moratoria stifles exploration and delays investment. The Australian Domestic Gas Security Mechanism, which was introduced last year and gives the government the power to restrict LNG exports when local supplies are tight, could bring uncertainty to the industry and undermine investments in new gas supply, the IEA said. "The security mechanism should therefore be considered as a last resort, and on a longer term be replaced with more market-based supply-and-demand measures," the report said.

Argentina wants to boost gas production and renegotiate imports

(Reuters; Feb. 19) - Argentina wants to change the terms of a key natural gas import contract with neighboring Bolivia and boost its own domestic gas production, which also would allow it to reduce or even eliminate costly liquefied natural gas imports from other suppliers, an Argentine official said Feb. 19. But Bolivia earns most of its export revenues from pipeline gas sales, and contract renegotiations with Argentina and Brazil threaten its dominance at a time when its own production and reserves are falling.

Daniel Redondo, secretary of energy planning in Argentina's Energy and Mining Ministry, said the government wants to modify the take-or-pay contract with Bolivia, which expires in 2026, to permit seasonal shifts that also could drastically reduce costly LNG imports in the winter. Argentina, once a net energy exporter, currently imports about 20 percent of its gas needs. Most comes from Bolivia, while the rest comes from about 70 shipments of LNG per year and some regasified LNG piped in from Chile.

That could all change. Rising gas output in its Belgium-sized Vaca Muerta shale play could let Argentina export excess gas. "We think that because of the development of Vaca Muerta, Argentina will be able to supply 100 percent of the country's demand in 2021 except in the winter," Redondo said. But investment in the play has remained well below the \$10 billion per year needed, he said, leaving Argentina — home to the world's second-largest shale gas reserves — unable to cover growing local demand for the fuel.

B.C. requests help in resolving wine vs. oil dispute with Alberta

(The Canadian Press; Feb. 19) - The British Columbia government has launched a formal challenge against Alberta's ban on its wines. The West Coast province said Feb. 19 it has notified Alberta that it is formally requesting consultations under the Canadian free trade agreement's dispute settlement process. B.C. Trade Minister Bruce Ralston said Alberta's actions threaten the livelihood of the families that have worked to build British Columbia's wine industry.

"These actions are inconsistent with Alberta's obligations under the (trade agreement) and we will protect our reputation and the interests of British Columbians," Ralston said. The wine ban is part of a dispute between B.C. and Alberta over the Trans Mountain pipeline expansion. The fight began shortly after B.C. Premier John Horgan announced a proposal to limit oil pipeline volumes while it studies the environmental impact of a potential spill. The Trans Mountain line runs from Alberta's oil sands to the B.C. coast.

Alberta Trade Minister Deron Bilous said his government's wine boycott is in response to B.C.'s actions. "British Columbia is taking direct aim at the jobs and economic security of hundreds of thousands of Canadians, including tens of thousands of British Columbians, by threatening to limit what can go inside a pipeline — which they don't have the authority to do." Under the trade agreement, a dispute can be referred to binding arbitration after all other means to resolve the problem have been taken.

BP forecasts electric vehicles will cut into oil demand

(Reuters; Feb. 20) - The emergence of self-driving electric cars and travel sharing are on track to dent oil consumption by 2040, oil and gas giant BP said, forecasting a peak in demand for the first time. In its benchmark annual Energy Outlook, BP forecast a 100-fold growth in electric vehicles by 2040, with chief economist Spencer Dale painting a world in which we travel much more, but instead of using private cars we increasingly share trips in autonomous vehicles.

While travel demand more than doubles over the period as economies in countries such as China and India grow, higher oil demand will be more than offset by higher engine-efficiency standards as well as the larger number of electric vehicles and shared travel. Unlike many other forecasts, including previous BP Energy Outlooks, which looked solely at the growing share of EVs in the car fleet, BP this year focused on the share of vehicle miles powered by electricity.

Under BP's Evolving Transition scenario, some 30 percent of car miles are powered by electricity by 2040, up from almost zero in 2016. At the same time, the number of EVs is set to increase from 3 million today to over 320 million by 2040, representing roughly 15 percent out of a total car fleet of 2 billion. As a result, fuel demand from the car fleet is forecast to dip to 18.6 million barrels per day in 2040 from 18.7 million in 2016, when it represented around one fifth of total oil demand. London-based BP has joined other oil companies such as Shell in forecasting a peak for oil demand in the late 2030s.

Canadian oil and gas industry losing ground to U.S.

(Calgary Herald columnist; Feb. 21) – The Canadian oil patch has a full plate of problems to grapple with this year — from steep price discounts for heavy crude and

natural gas to the ongoing pipeline conundrum. But another issue also lurks on the investment horizon: The lure of booming U.S. shale oil plays south of the border, explosive growth opportunities and tax reform are all making the U.S. an attractive place for producers to invest — and could make Canada a less-lucrative option.

Drillers and oil field services companies that operate on both sides of the border say these trend lines are already lining up. Calgary-based Precision Drilling, Canada's largest driller, noted last week that the number of active rigs in the U.S. had increased about one-third from the same point last year, while the Canadian count had dropped about 8 percent. Calgary-based players have been moving rigs to the Lower 48 states, hoping to take advantage of the prospect of more work and higher rates for services.

The prospects for the energy sector in Canada and the U.S. are diverging. As enticing shale oil plays such as the Permian Basin in Texas pull more spending into their orbit, production keeps growing. U.S. oil output recently hit 10 million barrels a day for the first time since 1970 and is heading even higher this year. Analyst Andrew Bradford with Raymond James said the disparity for natural gas is being driven by particularly weak Western Canadian prices amid surging output, pipeline bottlenecks and maintenance.

OPEC looks at new target to measure global oil supply

(Bloomberg; Feb. 16) - After a year of production cuts, OPEC and Russia are finally near their goal of shrinking the world's swollen oil inventories. So why are they planning to change their target? The answer lies somewhere between the murky and incomplete nature of oil data and the competing interests within the producers' group. The 24-country alliance wants to reduce oil stockpiles to their five-year average, a goal that is almost at hand, according to figures from the International Energy Agency.

Yet Saudi Arabia and Russia now say that metric is flawed — distorted by years of excessively high supplies and patchy data outside developed economies. Choosing a different measure of success could further reinforce the need for supply curbs to continue for the whole of 2018. Saudi Arabia Energy Minister Khalid al-Falih has said that, rather than just comparing inventory levels to their five-year average, OPEC should consider how quickly they're likely to be consumed.

This gauge measures inventories in the number of days they will last. There are good reasons for considering that measure — it better reflects how consumption has grown. Inventories in developed economies equaled about 60.6 days of demand in December, according to IEA data, already back in line with the five-year average. But there is little reliable data outside the 34 countries of the Organization for Economic Cooperation and Development, making it hard to compile a truly global picture and making it difficult to pick a new target that does not mess up the Saudis' hope to keep production in line.