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Saudi minister confirms plan for 30% stake in Russian LNG project

(Financial Times; London; Oct. 25) - Saudi Arabia's energy minister said the kingdom aims to acquire 30 percent of Russian gas producer Novatek's second liquefied natural gas project in the Arctic, strengthening ties between Riyadh and Moscow. Speaking to a state television outlet on the sidelines of a major investment conference run by the Saudi sovereign wealth fund on Oct. 25, Khalid Al Falih called Novatek's proposed \$25 billion Arctic LNG-2 "a very ambitious project."

A Russia-Saudi LNG partnership would build on already tested co-operation in the oil market. The world's two largest oil producers have joined forces since 2016 to enact OPEC-led crude oil production cuts, which has worked to shrink a global supply glut after a multiyear downturn in prices. Russian Energy Minister Alexander Novak welcomed Saudi Arabia's intention to buy a stake in the Novatek plant as the first potential large deal between state energy giant Saudi Aramco and a Russian company.

"It is imperative that cost-competitive LNG projects, such as our Arctic LNG-2, get commissioned within the next two years to meet potential supply shortages in the early 2020s," said Mark Gyetvay, Novatek's chief financial officer. Arctic LNG-2 will be a next-door neighbor to the company's \$27 billion Yamal LNG, launched last December and ramping up its production trains ahead of schedule. Full capacity at Yamal will reach 16.5 million tonnes per year; Arctic LNG-2 is planned for 19.8 million tonnes.

Total wants a role in Qatar's LNG expansion

(Reuters; Oct. 26) - French oil-and-gas major Total will be disappointed if it misses out on taking part in Qatar's planned liquefied natural gas expansion, part of its strategy to be a top player in the industry, the company's chief financial officer said Oct. 26. Qatar announced plans in September to boost its LNG production capacity, aiming to raise its output from the giant North Field from 77 million tonnes to 110 million tonnes a year.

"We are very interested in Qatar LNG with the decision made by the Qataris to increase their capacity," Patrick de La Chevardiere told analysts during a call. "We'll be disappointed if we are not part of the Qatar expansion," he said. "We are not the only ones interested on Qatar (but) ... it is our strong intention to be part of this process and it will be part of our new expansion into LNG."

Total is expanding its footprint in LNG with a number of upstream and downstream projects globally. In July it completed a \$1.5 billion acquisition of Engie's LNG business to become the second-largest player in the global market. De La Chevardiere said Total also plans to make final investment decisions on a number of ventures including the \$25 billion Arctic LNG-2 project in Russia, expansion of the 4-year-old Papua New Guinea LNG, and expansion of the Sempra-led terminal in Cameron, Louisiana, where Total holds a 16.6 percent stake in the plant under construction.

B.C. opposition party wants to know terms of LNG project tax deal

(The Province; Vancouver; Oct. 26) - The British Columbia government should make public the details of a tax agreement it has with the companies building the C\$40 billion LNG Canada project in Kitimat, B.C., say the opposition-party Liberals. Finance Minister Carole James said the government is finalizing an "operating performance payment agreement" with the LNG Canada consortium. The agreement has not been made public, and very little about it is publicly known at this time.

The deal centers on the government's agreement to exempt LNG Canada from provincial sales taxes on construction and then recapture that revenue over 20 years in operational payments once the liquified natural gas terminal is online. "Basically, it will just align the payments and pieces they pay back," James said Oct. 25. "We're working through that piece and as we've done ... we'll release all the information."

During questioning in the provincial legislature, the opposition said the government is not being transparent enough about negotiations that could bind future governments to tax exemptions and revenue assumptions. "What promises has the government made that will bind future governments or cost taxpayers in the future?" asked Mike de Jong, a Liberal Party member of the B.C. assembly. The Shell-led LNG project announced Oct. 1 it was proceeding with what will be the largest private-sector project in Canadian history. The consortium will receive more than \$5 billion in provincial tax breaks.

Australian LNG companies boost output to meet Chinese demand

(Nikkei Asian Review; Oct. 26) - Australia's top two energy companies, Woodside and Santos, are boosting their liquefied natural gas production to feed Chinese demand as the world's most populous country seeks cleaner sources of energy. Wheatstone LNG, which Woodside acquired from U.S.-based Apache, is one of three Australian projects where Woodside holds a stake. The first cargo left Wheatstone just 12 months ago, with output ramping up ahead of schedule, according to the company's quarterly report.

LNG accounted for nearly 70 percent of the company's sales of \$3.9 billion last year, and it expects LNG production to climb as much as 15 percent this year to 7.9 million

tonnes. U.S.-China tensions also are offering an opening for the Australians to expand their sales. Australia is China's biggest source of LNG, accounting for more than 40 percent of the country's consumption, followed by Qatar, Malaysia, and Indonesia. The U.S. ranks fifth, but U.S. exports to China have slowed drastically due to the trade war.

Against this backdrop, Woodside is putting its foot on the gas. It acquired ExxonMobil's 50 percent stake in the Scarborough gas field in Australia, expanding its share there to 75 percent. Santo is investing in Australia's Northern Territory and Papua New Guinea, looking to expand LNG production in both, with operations set to begin in 2022 or 2023. Both companies are making investments in anticipation of a global gap in supply next decade. Australia is currently the world's second-largest LNG exporter after Qatar.

Foreign investors sign \$24 billion in preliminary deals in China

(Bloomberg; Oct. 25) - A Chinese archipelago that served as a pirate's den centuries ago is luring the world's energy giants. Saudi Arabian Oil and ExxonMobil were among firms that signed \$24 billion in preliminary deals Oct. 18 at the International Petroleum and Natural Gas Enterprises Conference in Zhoushan — the main island in a group of over 1,300 off China's east coast. The Saudi oil company agreed to buy a stake in a refinery that billionaire Li Shuirong's firm, Rongsheng Petrochemical, is building there.

The high-profile deal illustrated the potential for Zhoushan and the Zhejiang province to play a big role in energy markets. The local government's ambition for a processing, storage, and trading hub is spurring a rush for a piece of the pie. While China is currently engaged in a trade war with the U.S. and its economy has slowed down from the pace of the previous decade, its energy demand is still growing. It overtook America last year as the world's biggest buyer of overseas oil and is now also the top importer of gas.

China has set up several free-trade zones that feature fewer regulatory hurdles, greater transparency over government rules and looser restrictions for foreign investment. One such zone was set up last year at Zhoushan. A total of 25 deals were signed Oct. 18, the provincial government said. Most were framework agreements, subject to changes later. One of the biggest projects is Rongsheng's energy and petrochemical complex, which will take about 400,000 barrels a day and is set to start up by the end of 2018, with plans to double that by 2020. The Saudis will supply oil on a long-term contract.

Louisiana LNG developer reduces buy-in cost for partners

(S&P Global Platts; Oct. 25) - Tellurian is sharply cutting the equity buy-in for potential partners in a bid to make its business model for the proposed Driftwood LNG terminal in Louisiana more attractive. The revised offering in an investor presentation filed with the

U.S. Securities and Exchange Commission on Oct. 25 means partners would pay less up front and the project would take on more debt to make up the difference. Borrowing costs would be passed on to partners, increasing the delivered cost of the LNG.

Tellurian expects that to be inconsequential because under the first offering, partners were responsible for servicing their own debt if they financed their up-front investment. The project, at up to 27.6 million tonnes per year production capacity, is part of the next wave of U.S. liquefaction projects — all targeted for start-up by the mid-2020s. Most are relying on long-term contracts from offtakers to support the cost of construction. Some have had trouble reaching agreements, as buyers seek shorter, more flexible terms.

Tellurian had originally dabbled with the traditional model of long-term contracts but later opted for a new business model, proposing that offtakers pay an up-front fee for an equity interest in Driftwood Holdings which would give them the right to take 1 million tonnes per year of LNG for the life of the terminal at the cost of feed gas only. Originally, the minimum buy-in was \$1,500 per tonne, or \$1.5 billion. In the new investor pitch, that is down to \$500 per tonne. Project debt will increase to about \$20 billion, compared with \$3.5 billion previously, adding \$1.50 per million Btu to the cost of LNG to cover debt. Tellurian hopes to prove commercial viability and make an investment decision in 2019.

LNG developer postpones investment decision on Louisiana project

(Reuters; Oct. 28) - Australian-listed LNG Ltd. said Oct. 29 it is delaying a final decision on its proposed Magnolia LNG project in Louisiana as it has run into problems lining up Chinese customers due to the U.S.-China trade war. Its shares plunged 29 percent. LNG Ltd. had planned to make a final investment decision by the end of 2018 on Magnolia, which is designed to produce 8 million tonnes of year liquefied natural gas.

"We made that statement prior to the trade tensions that have manifested over the past months, which have caused headwinds for LNG transactions," LNG's CEO Greg Vesey said in a quarterly report. The company is now targeting final approval for Magnolia in "the first part of 2019," depending on how talks to line up contracts go, Vesey said. "For us, it's strictly been about marketing to China," he told Reuters in May. That was before China imposed a 10 percent tariff on U.S. LNG in an escalating trade dispute.

The Australian company is working to develop two LNG plants — Magnolia, with a proposed start-up of exports in 2022, and an export terminal in Nova Scotia in Canada. "Regardless of how long the trade dispute lasts, the overall risk profile of U.S. LNG will remain heightened in Chinese LNG buyers' eyes for some time to come," said Saul Kavonic, oil and gas researcher for Credit Suisse in Sydney.

Lack of investment in new LNG carriers presents threat to market

(UPI: Oct. 22) - The rise of major emerging liquified natural gas buyers led by China has created the need for new liquefaction investment and more shipping capacity to avoid price volatility, a report by the Paris-based International Energy Agency said Oct. 22. "The risk of a lack of timely investment in the LNG carrier fleet could pose a threat to market development and security of supply, which could materialize even earlier than the risk of insufficient liquefaction capacity." the IEA said.

"Uncertainties remain for the future evolution of gas markets," which are being reshaped by rising production and exports from the U.S. as well as increasing demand from China, the IEA said. The new buyers have a priority for "short-term supply, usually for prompt execution," which requires market flexibility to serve those needs. The IEA mentioned "China's supply shortfall over the last winter," as well as Europe's fuel needs in response to a string of cold weather events and unplanned gas supply outages.

"These uncertainties could have an impact on price volatility and hurt consumers — especially the most price-sensitive emerging buyers — and cause additional security concerns," the report said. The LNG carrier fleet is expanding to meet the growing demand. As of late April, 22 LNG carriers were delivered since the start of 2018, with 43 more new ships expected during the rest of the year. This would take total capacity to "by far the largest yearly number ever," according to a report from LNG World News.

LNG carrier charter rates climb to 6-year high

(Reuters; Oct. 23) – Charter rates for liquified natural gas carriers in the Pacific and Atlantic basins are up to around \$140,000 to \$150,000 a day for a standard-size, tri-fuel diesel electric vessel, brokers report. That's a six-year high and compares to Atlantic rates of \$75,000 at the end of August and \$95,000 at the end of September. Rates have jumped due to increased supply from new LNG plants, longer distances traveled and anticipation of higher prices prompting shippers to lock in longer-duration contracts.

"Charterers continue to lock in multi-month contracts ahead of the winter and we continue to believe LNG shipping rates will remain strong due to very attractive supply/demand fundamentals in the coming quarters," analysts at investment research firm Jefferies said this week. The high rates have slowed down spot-market LNG deliveries in Asia, said an Asia-based LNG trader, as ship charters at such high prices can account for more than 10 percent of the cost of delivered LNG.

Individual spot deals for shipping LNG have been reported as high as \$200,000 a day in Asia, one broker said. High shipping rates, however, have not deterred cargoes from Northwest Europe, which is receiving an unusually high level of LNG in the run-up to winter. European LNG supplies tend to come from Qatar, Africa, and Russia, with shorter shipping distances than cargoes going to Asia.

High shipping rates cut into profits for U.S. LNG to Asia

(S&P Global Platts; Oct. 24) - Falling spot LNG prices in Asia and record-high shipping rates could deter the movement of U.S. cargoes to the region this winter as offtakers seek more profitable markets for export. On Oct. 24, the benchmark price for spottraded LNG in Northeast Asia slumped to \$10.20 per million Btu, S&P Global Platts data shows. After climbing to a four-year high at over \$12 in September, the contract has since lost more than 15 percent of its value, trading as low as \$9.87 earlier this month.

Weaker prices have come mostly on limited prompt-month buying interest from Northeast Asian end-users in recent weeks. Falling prices for Brent crude, which sank below \$80 per barrel on Oct. 23, have made oil-linked LNG supply contracts cheaper, putting additional pressure on the spot-market. As the prices continues to trend lower, record-high LNG shipping rates are also narrowing the profit margin on U.S. exports.

On Wednesday the Asia-Pacific charter rate climbed to its highest on record at \$170,000 per day. In the Atlantic Basin, the Platts-assessed rate of \$140,000 per day is now at its highest since 2012. In just the past two weeks tightening supply in the spot-shipping market has seen rates in both basins surge from around \$100,000 to current levels. Record shipping costs and falling delivered-cargo prices in Northeast Asia already have begun eroding the profit margin on U.S. LNG exports to the region.

Shipowners can make extra money by 'optimization'

(Bloomberg; Oct. 25) - Forget Asian hunger for energy or where liquefied natural gas costs the most, at the moment it's all about tanker rates. Northwest Europe has seen a boom in LNG imports this month, with cargoes arriving from atypical sources including Peru and Egypt, while the U.S. and Russia also are sending tankers into the most liquid gas market outside of North America. That's come as shipping rates have climbed to near records while the premium Asia pays for the fuel has barely changed.

"We focus on the commodity price, but that spread has closed, and because the shipping rates are up the spread is even lower," said Jean-Christian Heintz, founder of adviser Wideangle LNG in Lugano, Switzerland. "Shipping optimization becomes even more important than the commodity price." Here's how it works: If you're an LNG trader such as Shell, BP, or Total with multiple tankers and supply options, you can make money from shipping to the nearest market and freeing up vessels for charter. With shipping rates near \$150,000 a day, a 10-day voyage could earn about \$1.5 million.

"If I am a BP or Shell and I have a large fleet, I will try to have my fleet less busy and deliver more locally so I can free up one of my vessels for sub-chartering for longer voyages," Heintz said. Russia's Yamal LNG plant exemplifies the trend. That gas is increasingly staying in Northwest Europe, a reversal of the past year when most of the

fuel was transferred from specialized ice-breaking vessels onto cheaper-to-operate conventional tankers to capture higher prices in Asia and South America.

Australia will not impose limits next year on LNG exports

(Reuters; Oct. 24) - Australia's government will not impose controls on exports of liquefied natural gas next year because it does not see any shortages in the domestic gas market, Resources Minister Matt Canavan told Reuters Oct. 23. The country, which is vying to become the world's biggest LNG exporter, enacted a law last year to control LNG exports in reaction to surging domestic gas prices. Not triggering export controls will ease worries among gas buyers including Japan, the world's biggest LNG importer.

"No ... definitely not," Canavan said when asked if he will trigger the mechanism. "Next year is not going to be a shortfall year." Rising gas prices became a political issue in Australia as households and manufacturers complained of the higher costs, especially in the country's more populous East Coast. Yet Australia has an abundance of gas and is a major LNG supplier to Japan, China, and South Korea under long-term contracts.

To deal with the crisis, Australia passed a law to limit exports from any of the three LNG plants on the country's East Coast to beef up local supply. That sparked concern among buyers in Japan. The three plants, operated by Shell, ConocoPhillips, and Australia's Santos, agreed to plug any deficits. "Providing that agreement is met, there will be no need for us to use the formal export controls that are in place now," Canavan said.

Gulf countries need to boost gas supply to meet domestic demand

(S&P Global Platts; Oct. 25) - The countries of the Gulf Cooperation Council need to rethink their natural gas supply strategy in the next decade on the back of rising domestic power demand, the International Energy Agency said in its Outlook for Producer Economies 2018. The council includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. Gas demand among its members is up 150 percent since 2000 on the back of 100 percent power generation growth, the IEA report said.

At the same time, cheap gas previously produced alongside oil is now less available, with the exception of Qatar. The countries need to incentivize domestic non-associated gas production opportunities or increase gas imports, the IEA said. In Saudi Arabia for instance, domestic gas prices rose to \$1.25 per million Btu in 2016 from \$0.75 in 2015, allowing the country to target gas production growth of 100 percent in the next 10 years.

"In our projections, gas production in Saudi Arabia continues to rise strongly," the IEA said. In the United Arab Emirates, gas prices are currently nearing \$3, while they have

been fluctuating around \$1.10 over the past 15 years. Because of the rising demand for power generation, the UAE is planning to raise gas prices to \$5. In this context, the Abu Dhabi National Oil Corp. is planning to develop a giant gas project in the northwest, expected to meet 20 percent of UAE gas demand by the late 2020s.

U.K. LNG terminal accepts first non-Qatari cargo

(Reuters; Oct. 26) - Britain's South Hook liquefied natural gas import terminal is scheduled to receive its first delivery of LNG not supplied by Qatar at the end of this month. Commodities trader Vitol said it would unload LNG into South Hook on Oct. 31. The tanker is coming from the Sabine Pass, Louisiana, LNG terminal operated by Cheniere Energy.

South Hook, in Milford Haven in west Wales, has received LNG only from Qatar since it became operational in 2009. The facility, which can handle 15.6 million tonnes of LNG per year with enough storage capacity to hold the cargoes of five standard-size LNG carriers, can provide more than 20 percent of Britain's annual gas demand. The shareholders in the South Hook terminal are Qatar Petroleum, ExxonMobil and Total. The import terminal was built to take supply from Qatargas 2, an export project that went online in 2009, also owned by Qatar Petroleum, ExxonMobil, and Total.

Canadian government investment in oil-by-rail not a terrible idea

(Calgary Herald columnist; Oct. 24) - First we bought a C\$4.5 billion oil pipeline. Now there are suggestions Canadians, through the federal government, should consider investing in rail cars and locomotives to get oil to market. The whole situation would be laughable, if it wasn't so pitiful. Here we are, in one of the richest oil-producing countries in the world, facing a massive price discount on Canadian crude as a transportation bottleneck causes a painful loss for producers, as well as provincial and federal coffers.

The solution, apparently, is more government investment. After meeting with industry leaders Oct. 22, Alberta Premier Rachel Notley said she wants the federal government to consider investing to increase the number of locomotives and rail cars for moving oil out of the province. The meeting comes as the price discount on Western Canadian Select (WCS) heavy oil to U.S. West Texas Intermediate crude is stuck at around US\$42 a barrel. The discount has spread to light oil prices in Alberta, as well.

The Alberta government pegs the estimated loss to producers, governments and the Canadian economy at \$84 million a day. Desperate times call for desperate measures, such as asking Ottawa to invest in rail to move more oil. It's not a terrible request, as it appears to be one of the few options to shrink the price differential between WCS and

U.S. oil. But just like Ottawa's decision to buy the Trans Mountain oil line to ensure its expansion, it's terrible that the oil transportation situation has come to this woeful state. Oil-by-rail exports have been increasing this year, hitting a record 206,000 barrels per day in July. The industry expects it will reach 300,000 by the end of this year.

U.S. produces more oil and gas at lower cost with fewer workers

(Bloomberg opinion column; Oct. 24) - U.S. oil production is on track this year to blast through the all-time annual record of 3.52 billion barrels set in 1970. Gas production, which broke its 1973 all-time record in 2011, is back on a record-breaking pace as well after a dip in 2016. Employment in the oil and gas industry, however, isn't setting any records at all. It probably peaked back in the early 1980s.

There were 75 percent more jobs in oil and gas extraction in 1983 than there are now, but the Bureau of Labor Statistics doesn't report employment in support activities for oil and gas operations — which is where most of the sector's jobs are — going back that far. In any case, combined employment in the two categories is 20 percent lower than it was four years ago, while oil production is up 25 percent and gas output up 19 percent.

Though technological advances make it possible to produce more with fewer workers, the productivity gains in U.S. oil and gas over the past few years have been something else. The hydraulic fracturing and horizontal drilling techniques that began to unleash riches from shale rock in the 1990s at first required inordinate amounts of capital and labor. Output per hour worked in oil and gas extraction fell 37 percent 2003 to 2012, according to the federal statistics. Since then, per-hour productivity is up 108 percent.

The industry is producing a lot more oil and gas with a lot fewer workers than it was four years ago. Meanwhile, the break-even price per barrel of oil for a new shale well in the Delaware Basin in the Texas and New Mexico Permian oil-producing region has fallen from \$70.95 in 2014 to \$40.01 now, according to BTU Analytics.

<u>Industry needs to spend a lot more for new reserves — but will it?</u>

(Bloomberg; Oct. 24) - Big Oil's big payday has finally arrived. The question now is how to spend the extra cash from rising prices. Investors will be reading third-quarter results to discern whether executives plan to boost dividends and buybacks, hike spending on shiny new mega-projects, or perhaps do both. What they do know is that fresh sources of oil and gas are needed in the coming decades to meet the world's insatiable demand for energy. Spending too much would defy the new-found commitment to financial discipline, while spending too little could choke new supplies and raise crude prices.

"We've certainly seen more discipline in the oil patch than we really ever have," said Burns McKinney, a Dallas-based portfolio manager at Allianz Global Investors. "Management is more wary about which projects they take on. But discipline never lasts forever." Oil companies need to develop the equivalent of 670 billion barrels of crude — about seven times ExxonMobil's total worldwide holdings — by 2040, largely to offset dwindling output from older fields, according to the International Energy Agency.

Even as some in the industry question whether oil demand will peak because of the onset of electric vehicles, companies must still invest to find more crude. The costs will be enormous. The good news is that Big Oil has plenty of cash to invest. The industry will generate \$175 billion in free cash flow this year, about as much as it did over the previous five years combined, according to consultant Rystad Energy. The bad news is oil companies have a history of overspending on ambitious projects and acquisitions during boom times, only to see returns crushed when the commodity cycle turns.

Russian oil tanker completes first voyage fueled by LNG

(Reuters; Oct. 25) - A crude oil tanker owned by Russian state-owned shipping company Sovcomflot has completed its first voyage across the Baltic and North Seas operating on liquefied natural gas, the company said Oct. 24. The Aframax tanker Gagarin Prospect delivered a cargo of 104,815 tonnes of crude oil from Primorsk to Rotterdam, almost 830,000 barrels, the company said. The vessel carried the first export cargo of Russian crude under a long-term charter with Shell.

Sovcomflot said the ship is the world's first Aframax crude oil tanker designed to operate on LNG as its primary fuel. "This is particularly important for ships in high-traffic areas such as the Baltic and North seas where these 'Green Funnel' tankers will primarily operate," the company said. Sovcomflot is gradually switching its conventional tanker fleet from traditional heavy fuel oil to LNG ahead of the 2020 introduction of new international rules on marine fuels that will limit the sulfur content.

There already is a sulfur-emission control area for the Baltic that went into effect in 2005. The company expects to have six LNG-fueled Aframax tankers in operation by the beginning of second quarter of 2019. The Aframax tankers were built to pass through the Panama Canal before the waterway was deepened and widened in 2016.