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China invests billions in floating LNG projects offshore Africa

(Reuters; June 26) - China plans to pour almost \$7 billion into floating liquefied natural gas projects in Africa, betting on a largely untested technology in the hope that energy markets will recover by the time the facilities could start production in the early 2020s. Western banks are wary due to the depressed state of the shipping and LNG markets, as well as the technical difficulties of pumping gas extracted from below the ocean floor, chilling it into liquid form on a floating platform and transferring it into tankers for export.

China, however, is making a strategic push into floating LNG, aiming to become the lowest-cost seller of the complex offshore plants and looking to lead the global roll-out of a technique that remains in its infancy with only one project in commercial production so far (in Malaysia). China needs gas as a cleaner alternative to coal under a drive to improve air quality in its cities, and has already lent \$12 billion to Russia's Yamal LNG project in the Arctic as U.S. sanctions scared away Western banks.

China has lent or committed almost \$4 billion to three floating LNG ventures in the African nations of Equatorial Guinea, Mozambique and Cameroon. It plans not only to provide funding but also build the production platforms for two more projects totaling \$3 billion. The projects are attractive to resource-rich but debt-burdened African countries. The facilities can sail into place, drop anchor, and begin exporting for much less than the cost of onshore plants. That, at least, is the theory. The reality is that the technology remains complex — challenges include tight quarters, wave motion and ocean currents.

China's gas production and import total up 9% from last year

(Reuters' columnist; June 28) - China is boosting both imports and domestic production of natural gas, with the combined rate of growth running well ahead of the government's target for increasing use of the cleaner-burning fuel. Official data for domestic output, pipelines imports and liquefied natural gas imports show the total amount of gas available in China in the first five months of the year was the equivalent of 72.01 million tonnes of LNG — up 9 percent (5.94 million tonnes) from the first five months last year.

China has set a target of increasing the share of gas in its overall energy consumption from 5.9 percent in 2015 to 10 percent in 2020. So far this year, China's output and imports of the fuel are running at more than double the annual rate needed to reach the target. The biggest gainer has been LNG imports, which are up 38.4 percent in the first

five months of 2017 to 12.86 million tonnes, while pipeline imports slipped 4.4 percent to 12.65 million tonnes. Domestic output has been a strong gainer, rising almost 7 percent in January to May to 2.22 trillion cubic feet, equivalent to 46.5 million tonnes of LNG.

The jump in LNG imports shows how it is becoming more competitive with pipeline gas imports from Central Asia. Customs data from May shows that the average landed cost of LNG was \$7.28 per million Btu, which was higher than the \$5.25 cost for pipeline gas imports. However, the price excludes pipeline and distribution costs in China, meaning imports from Central Asia still have to pay to get from the border to demand centers. In contrast, much of the LNG is consumed near to where it is offloaded and regasified and doesn't incur the additional costs associated with the pipeline imports.

Japan rules new LNG contracts cannot include resale restrictions

(Reuters; June 28) - Japan's anti-monopoly regulator ruled June 28 that all new contracts for liquefied natural gas imports should not include restrictions on reselling cargoes of the fuel, adding momentum to a push to liberalize the LNG market. The decision by Japan's Fair Trade Commission — in line with growing market practice — is likely to lead to more trading of LNG cargoes by buyers in Japan, the world's biggest importer of the fuel, and could see challenges to similar restrictions elsewhere in Asia.

Asian LNG buyers have long complained that having destination clauses in LNG contracts unfairly restricts trading of the fuel at times when it would make more economic sense for buyers to sell supplies they don't need to other markets. Japan's ruling comes as new LNG exports projects have boosted supply and many producers have already relented on the issue, offering contracts without resale or destination restrictions.

"It is not unexpected ... this is very much consistent with Japan's efforts to liberalize the gas market," said Neil Beveridge, oil and gas analyst at AB Bernstein in Hong Kong. "By removing the destination clauses, the idea is to increase liquidity in the market which is going to be a key step toward market liberalization and development of a pricing hub," he said. Japan is in a strong position to renegotiate supply terms, given it spent about \$30 billion to import nearly 85 million tonnes of LNG in the past year.

Industry trade group calls for halt to new U.S. LNG export approvals

(GreenWire; June 28) - An industry group that represents large domestic consumers of natural gas is calling on the Trump administration to halt further export approvals while developing new criteria for shipments to nations that lack free-trade deals with the U.S. In a June 28 letter to Energy Secretary Rick Perry and Commerce Secretary Wilbur

Ross, the Industrial Energy Consumers of America said the Energy Department should establish a moratorium on new liquefied natural gas exports to non-free trade partners.

"Excessive LNG export approvals by (the Department of Energy) to countries with which the U.S. does not have a free-trade agreement is inconsistent with President Trump's 'America First' and 'fair-trade' policies, and poses a significant long-term threat to energy-intensive, trade-exposed industries' competitiveness and jobs," wrote IECA President Paul Cicio.

The industry group argues that the Energy Department should adopt five new criteria for meeting its legal obligations to weigh whether more exports to non-free trade nations are in the public interest. Exports to nations that have trade deals with the United States automatically qualify for approval. The moratorium would allow already approved exports to "become operational and determine if the natural gas industry has the capability to increase production, pipeline transportation, and storage capacity without price increases and/or supply shortages that damage the U.S. economy."

Korea Gas talking with Cheniere about taking more U.S. LNG

(Platts; June 26) - Korea Gas, the largest natural gas buyer in South Korea, is talking to Cheniere Energy about the possibility of acquiring additional capacity from the U.S. LNG exporter that would move Cheniere to proceed with construction of two additional liquefaction trains for which it has permits but has not yet made a final decision to build, CEO Seung-Hun Lee said on June 25. He made the comments at Cheniere's Sabine Pass, La., terminal to mark the start of a 20-year sales-and-purchase agreement with KOGAS.

Cheniere is seeking offtakers for Train 6 at Sabine Pass and Train 3 at its Corpus Christi, Texas, terminal before deciding whether to move forward with the investments. Cheniere has three trains operating at Sabine Pass, a fourth being commissioned and a fifth under construction. It also is building two trains at Corpus Christi. KOGAS has an agreement with Cheniere for 3.5 million tonnes a year of liquefaction capacity at the Sabine plant, representing more than 10 percent of South Korea's annual gas demand.

"There is a strong possibility," Lee said of KOGAS securing additional capacity from the two Cheniere trains that have yet to be commercialized. "But at this moment we are just talking about the possibility." KOGAS currently has offtake contracts with a number of LNG producers that are mostly located in the Asia Pacific and the Middle East.

Cheniere looks to capital markets to finance next LNG projects

(Bloomberg; June 26) - Sixteen months after sending the first cargo of U.S. shale gas overseas, Cheniere Energy is already preparing to be at the forefront of the next wave of liquefied natural gas export projects. The company is exploring new ways to finance additional terminals that superchill gas to a liquid and ship it across the globe, including skipping the banks and going to other capital sources, Jack Fusco, chief executive officer, said during an interview at the company's headquarters in Houston on June 26.

Cheniere has room to grow: It has leased additional acres at its Sabine Pass terminal in Louisiana, which started up in February 2016, and has the option to purchase more land at its Corpus Christi site in Texas, where it is building the company's second LNG export terminal. However, LNG cargoes from new projects in the U.S. to Australia are flooding the global market, adding to a supply glut and prompting investors to slow down on new export facilities to the slowest pace since 1999.

But there is growing speculation that the investment slowdown will lead to a post-2020 construction boom to meet demand, benefiting low-cost producers offering flexible contracts. "Our goal is to leverage the existing infrastructure to build whatever the next round requires," Fusco said. "We can do a better job financing and getting our financing costs down in the capital markets. We're evaluating all those things to try to get ourselves much more competitive."

Trump says U.S. LNG will go to India; but it already does

(Bloomberg; June 27) - In promoting trade with India, President Donald Trump suggested June 26 that the U.S. is on the verge of signing long-term agreements to send liquefied natural gas to the Asian country. There's just one thing: India already has long-term agreements for U.S. LNG. And it's received at least seven cargoes of the fuel since the U.S. started liquefying its shale gas at a Louisiana terminal and sending it overseas last year, according to ship-tracking data compiled by Bloomberg.

After a meeting with Indian Prime Minister Narendra Modi, Trump said the U.S. will sign long-term contracts to supply India with American gas, adding that it's "trying to get the price up a little bit" first. However, Indian companies have already secured agreements for supplies from Cheniere Energy's Sabine Pass LNG terminal in Louisiana; Dominion Energy's Cove Point LNG plant under construction in Maryland; and Sempra Energy's Cameron LNG project under construction in Louisiana, company filings show.

Such long-term gas contracts between the U.S. and India are "not new," said Anastacia Dialynas, an energy analyst at Bloomberg New Energy Finance. "We've already had 24 billion cubic feet since we started exporting last year and that will likely increase." The White House didn't immediately respond to a request for comment on existing contracts

with India. Since the first LNG tanker set sail from Sabine Pass last February, U.S. gas has landed in more than 20 countries including India, South Korea, Mexico and Japan.

Poland looks forward to Trump visit and more U.S. LNG

(Reuters; June 23) - Poland hopes a visit from U.S. President Donald Trump next month will pave the way for liquefied natural gas deals with U.S. producers, a Polish government energy official said. Poland opened its first LNG import terminal a year ago in the Baltic city of Swinoujscie, near the German border, as part of an effort to cut its dependence on Russian pipeline gas, and has ambitions to become a regional gas hub.

State-run Polish gas firm PGNiG received its first and only U.S. spot delivery of LNG from Cheniere Energy's Sabine Pass, La., terminal earlier this month. Trump is likely to lay the groundwork for new deals to sell LNG to Poland and possibly elsewhere in Europe during a visit to Warsaw next month, a senior Polish official said. "The issue of energy cooperation will be discussed. In particular, this will concern the possibility of LNG supplies perhaps even to Europe, and definitely to Poland and the region," said Piotr Naimski, the government official responsible for key energy infrastructure.

Trump will visit Poland on July 6 on his way to a G20 summit in Germany. Military and energy security are expected to be the main topics of talks in Warsaw. The only long-term deal that PGNiG has signed for LNG supplies is with Qatargas, which in March agreed to double its deliveries to Poland to 2 million tonnes per year.

Lithuania will buy LNG from Cheniere's Louisiana export plant

(Reuters; June 26) - Lithuania's state-owned gas trader Lietuvos Duju Tiekimas said June 26 it had signed a deal to buy liquefied natural gas from a U.S. supplier for the first time and expects to receive a delivery in the second half of August. The deal is with a unit of Cheniere Energy, which operates an LNG export terminal in Sabine Pass, La., and is part Lithuania's efforts to diversify its gas suppliers and reduce its reliance on Russia's Gazprom.

"It will be the first time Lithuania imports gas from the U.S.," said an official with the Lithuanian company. "We opted for delivery from Cheniere after evaluating several offers for LNG." The import terminal at Lithuania's Klaipeda port broke Russia's Gazprom gas supply monopoly in the Baltic States when it came online in 2014 and now provides Lithuania with roughly half of its gas. Gazprom supplies the rest, but can no longer charge monopoly prices.

Shell steps up effort to promote and sell LNG in India

(Bloomberg; June 27) – Shell is turning to India's textile, cement and steel factories as it seeks to expand demand for its gas. The company has set up a team of executives to identify small businesses that use dirtier fuels like coal and convince them to switch, said Ajay Shah, a vice president with the company's Asia unit. Shell, which will import the fuel as liquefied natural gas, is betting these users will account for a significant part of India's gas demand growth, which it estimates will expand fivefold in 15 years.

"Historically, we have targeted big customers," Shah said June 21. "Now is the time of having more relations with the end customer. There is a significant market opportunity." The push toward smaller users comes as Prime Minister Narendra Modi promotes gas over dirtier alternatives such as pet coke and furnace oil and seeks to slash emissions by a third by 2030. The government is building gas pipelines and new LNG import facilities as it seeks to more than double the share of gas in its energy mix by 2020.

Shell is studying how it might convert coal users in Surat, a major textile hub, said Nitin Prasad, a chairman with the company's India unit. Shell also is exploring installing LNG-refueling stations at its retail fuel outlets to help promote LNG as a transportation fuel for moving goods. In a joint-venture with French energy company Total, Shell operates an LNG import terminal that accounts for about a quarter of India's imports of the fuel. India is the world's fourth-largest buyer of LNG and imported 18.99 million tonnes in 2016.

Thailand continues move toward more reliance on LNG imports

(Platts; June 28) - Thailand is moving forward with plans to expand its LNG import capacity by adding terminals and ramp up overseas upstream investment to prevent a potential natural gas shortage. The problem is growing consumption is not being met by a growth in supply, hit by falling domestic production and uncertain pipeline gas imports. Domestic gas production fell for a second consecutive year in 2016.

Gas demand is forecast to see ample growth over the next 20 years, driven by a growing population, an expanding economy, increased use of gas in transport, as petrochemical feedstock, and for power generation where it accounts for more than 60 percent of fuel consumption. With declining domestic output due to dwindling upstream reserves, and uncertain pipeline gas imports as neighboring Myanmar diverts more of its gas to a growing domestic market, LNG imports look to fill the supply-demand gap.

Thailand is forecast to import more than 20 million metric tons per year of LNG by 2025 and 34 million tons by 2036, up from 2.9 million tons in 2016, according to government data. In comparison, the world's largest LNG importer Japan received 79.8 million tons in 2016. Thailand already has long-term LNG supply contracts with BP, Malaysia's Petronas and Qatargas, while a long-term deal with Shell is pending.

Bangladesh signs with Qatar for first LNG imports

(The Financial Express; Bangladesh; June 25) - Bangladesh has finalized governmentto-government negotiations with Qatar's RasGas to import about 2.5 million tonnes of liquefied natural gas annually for over 15 years, starting in early 2018. An initial agreement with RasGas is expected to be inked early July when a delegation from the company will visit the Bangladesh capital, state-run Petrobangla's Chairman Abul Mansur Md Faizullah said.

The final sales-and-purchase agreement with Qatar's state-owned firm is expected to be signed in August after approval from Bangladesh's cabinet committee on government purchase, Faizullah said. It would be the country's first-ever deal to import LNG to meet growing demand for gas against a backdrop of depleting domestic gas reserves. A high-powered Bangladeshi delegation visited Qatar last week to finalize negotiations over the LNG terms. The imports will be off-loaded at floating storage and regasification units.

The import facilities could handle three times the volume of the initial agreement. "The quantity could be increased later as the deal would be flexible," Faizullah said. The contract with RasGas is expected to be priced against international oil benchmarks. Whatever the price, Petrobangla is counting on government subsidies to help pay for the LNG, officials said. Petrobangla has requested a \$1.4 billion subsidy, almost 80 percent of the total cost, to help pay the import bill for 2018. Subsidies will be aimed at bridging the wide gap between international LNG prices and domestic gas prices.

Shale production fuels strong growth in U.S. petrochemical industry

(Wall Street Journal; June 25) - When new parents in Rio de Janeiro buy baby food in plastic containers, they are bringing home a little piece of the U.S. shale revolution. That boom in drilling has expanded the output of oil and gas in the U.S. more than 57 percent in the past decade, lowering prices for the primary ingredients that Dow Chemical uses to make tiny plastic pellets. Some of the pellets are exported to Brazil, where they are reshaped into the plastic pouches filled with pureed fruits and vegetables.

Tons more will be shipping soon as Dow completes \$8 billion in new and expanded U.S. petrochemical facilities mostly along the Gulf Coast over the next year. The scale of the sector's investment is staggering: \$185 billion in new U.S. petrochemical projects are in construction or planning stages, according to the American Chemistry Council. Integrated oil firms including ExxonMobil and Shell are racing to take advantage of the cheap byproducts of the oil and gas being unlocked by shale drilling.

The companies are expanding petrochemical units that produce the materials eventually used to make car fenders, smartphones, shampoo bottles and other plastic stuff. The

investments will establish the U.S. as a major exporter of plastic. Petrochemical companies are betting the price of hydrocarbon feedstocks — their most costly expense — will remain low for years due to shale drilling. As a result, net U.S. petrochemical exports, which include plastics as well as fertilizer, adhesives and solvents, will grow to \$110 billion a year by 2027 from \$17 billion last year, according to IHS Markit.

Permit application for fracking raises protests in Illinois

(EnergyWire; June 26) - A company has applied for the first high-volume hydraulic fracturing permit in Illinois, prompting protests from environmentalists. Woolsey Operating Co., based in Wichita, Kan., filed the application in May. At one point, Woolsey had leased 260,000 acres in southern Illinois in an effort to develop the New Albany Shale field. But the company has faced years of delays as the Legislature and state Department of Natural Resources worked on new regulations to govern fracking.

"It's the most difficult place I've ever worked in my life," said Wayne Woolsey, chairman of Woolsey Operating. The Natural Resources Department has already delayed the permit because Woolsey did not include details about several subjects, including the storage tanks it plans to use and a traffic management plan for trucks at its site 290 miles south of Chicago. Environmentalists have already sued the state once over its fracking regulations and are preparing to challenge Woolsey's permit application.

"We're very concerned about this permit, in particular, and what would appear to be the beginning of fracking in Illinois," said Jack Darin, director of the Illinois chapter of the Sierra Club. Geologists believe the New Albany, like other shale formations, will require a combination of horizontal drilling and hydraulic fracturing to release oil and gas trapped in the rock's pores. Shale drilling requires a constant cycle of drilling and fracking, leading to complaints about noise, dust, truck traffic and other side effects.

Quakes prompt the Netherlands to scale back production at gas field

(Wall Street Journal; June 26) - For decades, the giant Groningen gas field beneath the farmland in the north of the Netherlands counted among the greatest prizes for ExxonMobil and Shell. Then the earthquakes started. The exploitation of Groningen — the biggest gas field in Europe — has been causing tremors for over two decades, rattling a bucolic province with no previous history of quakes and exposing two of the world's biggest energy companies to a criminal probe and rising reconstruction bills.

Amid a public outcry, the government has imposed increasingly strict limits that have more than halved production since 2013 and now is proposing another 10 percent cut in hopes of further reducing earthquakes. And a Dutch prosecutor is preparing to open a criminal investigation into responsibility for the quakes. Shell and Exxon are pushing back, saying that cutting output even more is "out of proportion and not effective" and would create uncertainty about the legal framework for their operations. The companies said June 28 they will appeal the latest cutback to 773 billion cubic feet a year. Output was 1.9 trillion cubic feet in 2013, before the first government order.

Groningen was expected to be one of the world's largest gas producers for decades. Last year, it supplied almost 10 percent of both Exxon and Shell's total gas production globally and its reserves are among the companies' largest undeveloped resources. Moreover, the field has been lucrative for the Dutch government, which collects taxes and is a 40 percent stakeholder in the field. Since start-up, the field has generated almost \$335 billion for Dutch coffers. A large majority of the temblors registered low magnitudes between 1.5 and 2, and were dismissed as little more than a nuisance. But the public and authorities paid attention in 2012 when a 3.6 quake shook Groningen.

U.S. drillers could cut back spending if weak oil prices continue

(Reuters; June 27) - U.S. shale oil producers plan to keep drilling new wells despite this month's price drop but expect to revisit spending should prices stay under \$45 a barrel for several months. "We will not drill into oblivion," Tim Dove, CEO of Pioneer Natural Resources, told investors June 27 at a J.P. Morgan conference in New York. Pioneer, one of the biggest operators in the Permian Basin, the largest U.S. oil field, is confident that OPEC leader Saudi Arabia will not let prices remain near current levels for too long.

Improved operating efficiencies allow Pioneer to continue to drill more, Dove said. But if prices remain down for a longer term "we can pare away and still be a growth company even in a \$45 (per barrel) environment." For shale producers that set their 2017 capital budgets when oil was selling at \$50 or more a barrel, the recent drop has threatened ambitions to generate enough cash flow to justify higher capital spending. West Texas Intermediate, the U.S. benchmark, for August delivery closed at \$44.71 on June 28.

Many are still not earning enough to cover their higher 2017 budgets and oil's latest decline is causing angst among some investors. WPX Energy, a growing Permian and Bakken shale producer, next year plans to add between one and three drilling rigs to its existing 10-rig plan for 2017. It could reduce that plan to between zero to three additional rigs if weak pricing holds, said Clay Gaspar, WPX's chief operating officer.