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It looks more likely that U.S. LNG exports will head to Europe

(Bloomberg; Dec. 21) - For years, U.S. energy companies looking to export liquefied natural gas dreamed of a booming Asia. Now, with demand there falling and the first U.S. Gulf Coast shipment weeks away, Europe has emerged as the unlikely savior of American LNG. European gas production is down and countries there want to get more of the heating and power plant fuel from places other than Russia — a major supplier, but one that's brought plenty of headaches.

"It's going to make a lot more sense for the U.S. gas to flow into the European market," said Jason Bordoff, director of Columbia University's center on global energy policy. "European energy security" comes from having a diversity of supply, he said. It's the latest twist in the shale gas boom, which is turning the U.S. toward gas exports. Five LNG export projects are being built with a combined capacity to ship 7.76 billion cubic feet of gas a day by 2019, according to an analysis by Bloomberg. That's enough to put the U.S. in the company of Russia and Qatar, the world's largest gas exporters.

Meanwhile, Asian demand for gas is slowing down. China will accept only 77 percent of its contracted cargoes in 2015 amid the country's slowest economic growth since 1990, according to industry consultant IHS Inc. And at today's LNG spot-market prices in Asia, around \$7 per million Btu, there is less incentive to ship U.S. gas halfway around the world. "A lot of this LNG is going to have to go to Europe," said Massimo Di Odoardo, research director for European gas at Wood Mackenzie. Europe will probably double its LNG imports between 2014 and 2020, the International Energy Agency projects.

Gas can succeed if companies keep costs down, columnist says

(Reuters' columnist; Dec. 22) - "Big Oil" is becoming "Big Gas." It's common sense: Gas is generally more accessible than the black stuff, and it's also a cleaner-burning fuel than oil or coal. Shell has already made the transition with its \$70 billion purchase of gas-heavy BG Group. French major Total's production was 52 percent gas last year, up from 35 percent in 2005. Meanwhile, BP says it hopes gas will expand to as much as 60 percent of its fossil fuel production by the end of the decade, from about half today.

Companies are making a virtue out of a necessity. Most of the world's oil reserves are tied up in difficult-to-access countries. North America's bountiful shale oil is dominated by smaller independents. Meanwhile, gas is plentiful, and large-scale projects tend to have longer lifespans than oily ones. The International Energy Agency predicts gas will

enjoy the highest growth in demand for fossil fuels to 2040, thanks to China and the Mideast. Liquefied natural gas might increasingly be used as marine and transport fuels.

But gas still faces two challenges. The first is competition from increasingly efficient renewable energy. That feeds into a second challenge. Big gas projects, particularly LNG, require huge upfront capital, and projects are often dogged by cost overruns. The plunging price of oil and other commodities mean that while gas is abundant, capital isn't. The formation of gaseous corporate giants should mean companies can apply economies of scale to bring down those costs over time. If that goes according to plan, there is every reason to believe gas will float to the top of the energy agenda.

Still a lot to negotiate for LNG project in Mozambique

(Interfax Natural Gas Daily; Dec. 22) - The slumping oil price has made it a slow year for most major gas developments in sub-Saharan Africa. In Mozambique, low oil prices and dwindling LNG demand from the Far East have left Anadarko struggling to firm up binding sales agreements for its 12-million-metric-ton plant. The company is still negotiating with the government over several major aspects of the project, such as who will have control of the marine infrastructure, who will operate the drilling logistics base, and the price Anadarko will accept to carry state oil company ENH's 15 percent stake.

The resettlement of the Quitupo village, site of the proposed liquefied natural gas plant, is also moving slowly. Anadarko has presented a \$180 million resettlement plan, but groups argue it fails on several key points and are threatening legal action if the issues are not addressed. Work continues on a gas set-aside for the domestic market, though there is no urgency to conclude any negotiations until firm offtake contracts are in place.

However, there was some headway. Anadarko picked a consortium of Chiyoda, CB&I and Saipem for engineering, procurement and construction work, and announced in December it had reached a unitization deal with Eni for the giant reservoir complex that straddles the blocks held by Eni and Anadarko. The agreement allows access to far bigger gas resources, and Eni and Anadarko could look for ways to work together.

Final investment decision for LNG projects in Mozambique could come in 2016, while neighboring Tanzania's hopes for LNG investment look to be at least two years away.

Australian LNG project developer hedges against low prices

(Sydney Morning Herald; Dec. 22) – Australia's Origin Energy has acted to protect itself from a further dive in crude oil prices by paying \$82 million for "put" options for oil and forward selling cargoes from its soon-to-open \$24.7 billion liquefied natural gas project in Queensland. Managing director Grant King said Origin has taken steps to reduce the

risk of potentially having to make additional payments for the Australia Pacific LNG project. Its partners in the LNG development are ConocoPhillips and Sinopec.

The hedging contracts allow Origin to sell 15 million barrels of oil at \$55 a barrel and some at \$40. Origin said the contracts "represented a reasonable balance between risk reduction and the costs involved in achieving it." The company has been hit hard by the collapse in oil prices, coinciding with a period of high spending to complete the LNG project. The options allow Origin to profit if oil stays below the \$55 and \$40 thresholds, helping to make up for some of the pain from the low prices it will earn for its LNG.

The LNG project's cash flows will be much lower than originally anticipated because of the drop in oil prices, given that LNG prices are directly linked to oil. Origin was forced to raise \$2.5 billion in equity in October to cut debt and maintain its credit rating, and has slashed dividends and capital spending. At current Australian dollar oil prices of around \$50 a barrel, APLNG is not covering its operating and financing costs, according to information from the company. APLNG needs \$54 to \$57 a barrel before it yields any distributions for Origin above operating and financing costs, the company said.

Chevron signs up another buyer for LNG from Australia projects

(Platts; Dec. 22) - Chevron will have firm sales contracts for more than 80 percent of the LNG it will produce at its Gorgon and Wheatstone projects in Australia once it converts its latest heads of agreement to sell gas to China Huadian Green Energy, Chevron said Dec. 22. Chevron has signed a nonbinding agreement to supply the Chinese company with up to 1 million metric tons of LNG per year for 10 years starting in 2020. China Huadian Green Energy is a subsidiary of a state-owned power generation company.

Chevron already has 85 percent of its Wheatstone LNG committed in long-term sales agreements. Prior to the deal with China Huadian, Chevron had indicated that more than 75 percent of its equity gas from Gorgon would be committed to customers in Asia for five years from 2017. Chevron is locking in sales against a backdrop of short- to medium-term surplus in LNG markets, as almost 90 million tons a year of new capacity comes online. Bernstein Research forecasts that oversupply is likely to put downward pressure on prices over the next two to three years, before markets rebalance in 2018.

Chevron is currently commissioning its Gorgon project on Barrow Island off Western Australia, with a capacity of 15.6 million tons per year. Chevron holds a 47.3 percent stake, alongside ExxonMobil and Shell with 25 percent each, and Osaka Gas (1.25 percent), Tokyo Gas (1 percent) and Chubu Electric Power (0.417 percent). Gorgon is expected to ship its first cargo in early 2016. Chevron is aiming for first LNG from Wheatstone before the end of 2016. Chevron owns 64.14 percent of the project.

Work continues on Shell's 1,600-foot LNG production ship

(Upstream; Dec. 16) - Shell is nearing completion of its closely watched Prelude floating liquefied natural gas production and storage vessel, which will be the first of its kind once it takes its position off Western Australia, perhaps in 2017. The 1,600-foot-long 600,000-tonne ship — the world's largest floating offshore facility — is under construction at the Samsung Heavy Industries shipyard in Geoje, South Korea. Topsides have been installed and early commissioning is under way.

Shell took the investment decision for the project in May 2011. It will be moored in the Browse basin in 820 feet of water. The plan is for it to remain there for between 20 and 25 years, producing and storing LNG for carriers to come alongside and load up the fuel for delivery to buyers. Prelude will have a capacity to produce 3.6 million metric tons of LNG per year (about 170 billion cubic feet of natural gas). The liquids-rich field will also yield an estimated 12 million barrels a year of gas condensate.

Shell has not yet confirmed a timeframe for first production, but observers widely expect the facility to be operational sometime in 2017. The company has not provided a precise cost for the project, though industry observers say it could be up to \$12 billion. (The link in the headline above includes a 6-minute Shell video of Prelude's construction.)

Low charter rates likely to drive consolidation among LNG shippers

(Reuters; Dec. 21) - Shippers that deliver liquefied natural gas in massive tankers are likely to face a wave of consolidation and asset sales, with freight rates plunging as a growing fleet clashes with tepid demand. Companies that manage to weather the shakeout in one of the key sectors in the global shipping industry should be in a prime position, however, to benefit from a string of new LNG projects expected to start trickling online by the end of next year.

LNG transportation was once considered a bright spot in a global shipping industry that has been in its worst downturn in 30 years. But freight rates have halved since 2014 as appetite for LNG wavers in the face of stuttering economies in key markets such as China and South Korea, while the global tanker fleet is expected to grow nearly 10 percent a year from 2015 to 2017 as ships ordered earlier are completed.

Spot-charter rates are currently around \$32,000 per day, down from \$72,000 in 2014 and over \$100,000 in 2013, according to data from British shipping services firm Clarkson. LNG tankers need to earn \$60,000 to \$80,000 a day to cover capital and operating costs, shipping experts said. To make it through the downturn, analysts and industry officials predict that some shippers will merge, while others will look to offload assets or join together in operating ventures.

LNG for February delivery in Asia down to \$7

(Reuters; Dec. 18) - Asian liquefied natural gas prices slipped this week as two companies emerged as the front-runners to supply Pakistan with 120 cargoes between 2016 and 2020. The price of Asian spot cargoes for February delivery was pegged at between \$6.90 to \$7 per million Btu, down from around \$7.10 last week. Shell and trading house Gunvor are on course to supply Pakistan with 120 cargoes over five years after the companies submitted the lowest bids in two highly sought after tenders.

French company assists India to move into LNG shipbuilding

(The Hindu; India; Dec. 21) – India's Cochin Shipyard has received certification to build liquefied natural gas carriers, making it the first shipyard in the country to get the nod, joining the league of South Korea, Japan and China. "This opens a new chapter in shipbuilding technology in India and marks a big step for Make in India," said Petroleum and Natural Gas Minister Dharmendra Pradhan. India has wanted to break into the business of building LNG carriers, especially for gas deliveries under its own purchases.

The French company providing the certification, Gaztransport et Technigaz, is a leader in design and engineering for LNG carriers. "The most critical part of an LNG ship is its cryogenic containment and handling system," said Minister of Shipping, Road Transport and Highways Nitin Gadkari. Cochin Shipyard is now authorized to use GTT's technologies for LNG carrier construction.

Cochin has linked up with South Korea's Samsung to bid for the shipbuilding contract being offered by state gas utility GAIL India, which needs LNG carriers for the cargoes it has contracted to take from the Cheniere Energy export terminal under construction at Sabine Pass, La. The Indian government wants one-third of the ships to be constructed at domestic shipyards. GAIL extended the bid deadline to Feb. 29, 2016, to allow for an Indian shipyard to obtain the technology and partners needed to compete for the work.

ConocoPhillips leaves Russia after more than 25 years

(Financial Times; London; Dec. 22) - ConocoPhillips, one of the pioneers of foreign investment in Russia's oil and gas industry, has completed a full retreat from the country by selling out of its Polar Lights joint-venture with Rosneft. Conoco's decision to leave Russia after more than 25 years highlights the challenges facing investors in the country's energy sector, which has been hit by political tensions and falling oil prices.

Western oil majors have been attempting to gain access to Russia's enormous oil reserves since the break-up of the Soviet Union, but have often found themselves

stymied by local oligarchs and domestic politics. ConocoPhillips confirmed it has sold its 50 percent stake in Polar Lights, which is focused on far northwest Russia. Rosneft, the Russian state oil company, also sold its stake in the asset last week.

Conoco's withdrawal was the result of a string of disappointing investments as well as the growing pull of investment in the shale oil boom at home in the U.S., analysts said. "None of their investments in Russia ever worked out very well," said Matthew Sagers, senior director of Russia & Caspian Energy at IHS. Most recently, western groups struck a series of deals with Russian companies hoping to help develop potentially vast but technically challenging resources in the Arctic and in shale rock. But those projects have largely been frozen amid a combination of western sanctions and falling oil prices.

New England utility looks to build 85-foot-high wall around LNG tank

(Providence Journal; Rhode Island; Dec. 21) - As it moves forward with a plan to install equipment to liquefy natural gas near its existing LNG storage tank on the Providence, R.I., waterfront, National Grid is preparing to file a proposal with federal regulators to build a giant wall around the steel tank as protection from spills. The 85-foot-high concrete wall would be half the height of the storage tank, and would extend around it in a full circle.

National Grid said the wall is not required under federal or state laws, calling it a "voluntary safety enhancement." The project is in the early stages of engineering, and National Grid has yet to finalize a cost estimate or calculate how much ratepayers would pay for the proposed wall. The tank stores LNG for customers in Rhode Island and Massachusetts, and the utility wants to build a \$100 million liquefaction plant at the site to ensure a dependable supply of gas during peak winter demand.

The storage tank is currently supplied by truck deliveries of LNG imported from overseas. If the liquefaction plant is built, National Grid would make its own LNG using gas delivered through an existing pipeline. But the proposal has met with opposition from groups that include the Environmental Justice League of Rhode and Fighting Against Natural Gas. Opponents have objected to increasing the area's reliance on gas from shale fields in Pennsylvania and beyond using hydraulic fracturing.