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Permian gas flaring, venting hits record 750 million cubic feet per day

(Reuters; Nov. 5) - The chief executive of Pioneer Natural Resources, Scott Sheffield, on Nov. 5 called on producers in the top U.S. shale field to limit natural gas flaring and to monitor for methane leaks. Companies are targeting oil in the fast-growing Permian Basin, but gas pipeline construction has lagged, leaving gas as a byproduct to be burned or vented because of a lack of pipeline capacity to profitably move it to market.

Producers should reduce their gas flaring and venting rates to 2 percent or less and not drill wells before pipelines are complete, Sheffield said during a call with analysts a day after releasing quarterly results. "We do not connect any new horizontal wells to production unless the gas line is already in place," Sheffield said. "I think that's something that should be adopted by all producers in the Permian Basin." The average flaring/venting rate for Pioneer's peer group is close to 5 percent of their produced gas.

Sheffield's comments come as several oil and gas companies have pledged to limit leaks of methane, a potent greenhouse gas, and to reduce flaring and venting. Flaring and venting in the Permian in Texas and southeast New Mexico reached a high of 750 million cubic feet per day in the third quarter, according to estimates released Nov. 5 by Rystad Energy, up from 600 million to 650 million during the previous nine months. The upswing is being driven by more drilling and fracking, pipeline bottlenecks, and new gas production in areas that lack gathering lines and processing plants.

LNG projects will be early test of Canada's expanded review process

(National Post; Canada; Nov. 5) - A pair of proposed natural gas projects in British Columbia and Quebec will serve as a test for Canadian Prime Minister Justin Trudeau's new environmental assessment regime, an expanded review process that industry groups claim could hamstring projects. Both projects — smaller liquefied natural gas export terminals — will be subject to the changes. In addition to environmental reviews, both projects face similar commercial challenges in the competitive LNG global market.

The government this summer passed the controversial piece of legislation, expanding the regulatory review process for major projects including anything from seaports to nuclear plants. Industry groups like the Canadian Association of Petroleum Producers claimed the new regime would effectively bar new oil and gas pipelines, adding to frustrations over a decade-long bottleneck that has pinched prices for Canadian crude. Other groups, including the Mining Association of Canada, broadly supported the bill. Both gas projects have been met with opposition from advocacy groups and could meet resistance from some First Nations. Changes under the legislation essentially call for wider environmental or social considerations in project reviews, including whether a project would cause additional greenhouse-gas emissions. While the law does not explicitly force regulators to fit the emissions profile of a project into Canada's broader climate targets, some industry representatives worry that such considerations could help sway Ottawa against approving more emissions-intensive fossil fuel developments.

U.K. gas driller says it will work to get fracking moratorium lifted

(Independent; Nov. 4) – U.K. energy company Cuadrilla said it will work to "address concerns" over fracking so that the moratorium announced by the U.K. government can be lifted. The government imposed the ban after the U.K. Oil and Gas Authority raised concerns over the inability to predict fracking-linked earthquakes. Meanwhile, the government is under pressure to make the ban permanent, amid concerns that the U-turn by ministers, who have previously been supportive of fracking, is an election ploy.

Cuadrilla, which had been fracking for shale gas at its site in Lancashire, was forced to suspend work in August after a series of tremors. It said it would continue to work with the OGA to provide further detailed data, including from its second well "to address concerns so that the moratorium can be lifted and the highly prospective Bowland gas resource further appraised and developed." The government and Cuadrilla continue to say gas will play an important role in providing energy for the U.K. for decades to come.

But with climate change concerns climbing up the agenda amid major scientific studies issuing stark warnings on rising temperatures, Extinction Rebellion protests and school strikes, the environment could play a significant role in the general election in the U.K., set for Dec. 12. Opponents fear fracking of shale gas wells can cause earthquakes, pollute water, lead to damaging development in the countryside and hit house prices, and is not compatible with targets to cut fossil fuel use to tackle climate change.

Tacoma LNG terminal set to open in early 2021

(Q13 TV News; Tacoma, WA; Nov. 5) - The work site bustles with construction equipment. A tall tower stands at the far end of the site. At nearly six stories tall, it will be a first for Washington. The \$310 million facility is where Puget Sound Energy will produce up to half-a-million gallons a day of liquefied natural gas, or LNG, with capacity to store about 8 million gallons of it for use as a marine fuel and to meet peak winter demand for natural gas as a heating fuel.

"This movement is the future of maritime shipping to be cleaner," said Andy Wappler, with Puget Sound Energy. Diesel fuel currently powers most shipping around the world.

While LNG is still a fossil fuel, it produces fewer greenhouse gases and burns much cleaner than diesel. "Shippers around the world are under international regulations that now require them to operate more cleanly," said plant manager Jim Morgan. "LNG will allow the Port of Tacoma to continue to be an operating, thriving port."

The Tacoma plant would be the only one on the U.S. West Coast. But the location has drawn controversy from opponents who believe it will harm water quality and salmon runs. Despite protests, Puget Sound Energy said it's only one permit away from being able to operate. "The [Puget Sound] Clean Air Agency is the final major permit," Wappler said. The plant is set to open in early 2021.

Mozambique is looking to finance nation's share of LNG project costs

(Bloomberg; Nov. 6) - Mozambique will court investors for \$1.5 billion in financing to cover its share of a giant natural gas project run by Total. State oil company Empresa Nacional de Hidrocarbonetos will kick off a funding roadshow in Johannesburg next week before going to London, said CEO Omar Mitha. The project — potentially transforming Mozambique's weak economy — includes development of offshore fields and an onshore liquefied natural gas plant at 12.88 million tonnes annual capacity.

ENH, which has a 15 percent stake in the project, is seeking \$1.5 billion to finance its share of development costs. The company previously resorted to a temporary "backstop option" to have its partners fund the stake, Mitha said in an interview in Cape Town. It "was a kind of bridge funding from our partners with the proviso that ENH would go to the marketplace" to seek better terms and relieve them of the debt, he said. ENH is targeting banks as well as private-equity investors to raise the \$1.5 billion.

France's Total operates the project with a 26.5 percent share, after buying up Anadarko's African assets earlier this year. Mozambique, one of the world's poorest countries, is counting on the \$23 billion development to revive its economy after struggling to service its debt in recent years. The project will generate about \$38 billion of revenue for the government over its lifetime, the Finance Ministry said. That will be supplemented by an even bigger LNG project planned nearby led by ExxonMobil.

Total already looking at expansion for Mozambique LNG

(Reuters; Nov. 5) - French energy major Total is aiming to expand its Mozambique liquefied natural gas project with two additional production trains, a company executive said Nov. 5. "We're starting to look at studies for Train 3 and Train 4, because the resources are clearly there to develop," Mike Sangster, head of Total Exploration and Production for Nigeria, told an oil conference in Cape Town, South Africa.

Total concluded the acquisition of Anadarko's 26.5 percent interest in the Mozambique LNG project for \$3.9 billion in September as part of its takeover of Anadarko's Africa assets that included also projects in Ghana and Algeria. Sangster said the company expects to close its acquisition of Anadarko assets in Ghana and Algeria early next year once regulatory approvals are cleared.

The \$20-billion-plus Mozambique project initially includes construction of a two-train liquefaction plant with a capacity of 12.88 million tonnes per year. Already 90 percent of the plant's initial output is sold under long-term contracts largely indexed to oil prices, Total has said. Work has started at the site with first output expected in 2024.

Higher cost vs. coal a big factor in how much more gas India uses

(S&P Global Platts; Nov. 1) - India needs to bring gas under a stable tax structure to make it cost competitive, and adopt policies to encourage LNG consumption by the power sector in order to raise the share of gas in the energy mix, according to delegates attending a gas summit this week. New Delhi's campaign to boost the share of gas in the country's energy mix from nearly 6 percent to 15 percent by 2030 is an ambitious target, while raising the share to 8 to 10 percent looks more achievable, they said.

"The figures are achievable, but the timelines are not. The number of 15 percent by 2030 is not achievable unless there are sweeping policy changes. I will go with 8 percent gas share by 2040," Manish Tiwari, chief commercial officer of H-Energy, told the Gas Asia Summit. India's share of gas in its energy mix is much lower than the global average of 24 percent. S&P Global Platts Analytics expects the share to rise from 5.76 percent in 2019 to 7.15 percent by 2024, and still to be below 8 percent by 2030.

One issue is cost. Delegates believe that the economic unviability of gas compared with coal would stand in the way of boosting gas consumption at a robust rate. Coal-to-gas switching in India needs to be spurred by governmental policies, since gas would be unable to displace coal on an outright economic basis, they said. Currently coal costs about half the price of the lowest-priced LNG delivered to western India, Platts data showed. Even worse for gas, coal is a third the cost of the highest-priced LNG imports.

Ceremony marks 50th anniversary of first LNG to Japan

(Reuters; Nov. 6) - Japanese gas buyers on Nov. 6 marked the 50th anniversary since the first cargo of liquefied natural gas arrived in the country, now the world's biggest importer of the fuel. The arrival of the cargo from Alaska on Nov. 4, 1969, helped transform Japan's energy system, which had relied on oil, coal, and gas made from coal in an era of high economic growth before nuclear power was developed.

In 1969, the Polar Alaska LNG carrier arrived at Negishi LNG terminal in Yokohama, near Tokyo, jointly operated by Tokyo Electric, now JERA, and Tokyo Gas, transporting gas from the Nikiski, Alaska, plant owned by Phillips Petroleum, now ConocoPhillips, and Marathon. JERA, Tokyo Gas, Mitsubishi, which acted as a buyer's agent 50 years ago, and ConocoPhillips held a ceremony for the 50th anniversary Nov. 6 in Yokohama.

Japan's energy mix now is undergoing huge changes in the wake of the Fukushima nuclear disaster in 2011, which pushed LNG imports to record highs as reactors were closed and the government liberalized the gas and power markets. LNG demand is forecast to decline steadily as more reactors are switched on and renewables backed by government-mandated high prices are developed. Coal has also seen an increase since Fukushima but social pressure on emissions means its use is being questioned.

Comment period under way for LNG export terminal in Quebec

(Kallanish Energy; Oct. 31) - The Impact Assessment Agency of Canada is accepting comments through Nov. 12 on a proposed natural gas pipeline that would terminate at a proposed liquefied natural gas facility in Quebec. The controversial C\$5 billion Gazoduq Project would run 484 miles across Northeast Ontario and Quebec. It would move up to 1.8 billion cubic feet a day of gas from Western Canada for liquefaction and export to Europe, Asia and other markets. A final investment decision is expected in 2021.

Pipeline construction could begin in 2022 and it could be in service by early 2025. The project is in the planning and design stage, said Montreal-based Gazoduq, the company behind the pipeline. The pipeline would connect with TC Energy (formerly TransCanada) lines from Western Canada. The new line would end at Saguenay-Lac-Saint Jean, Quebec. The LNG facility would be built on port-owned land adjacent to Saguenay Fjord that connects to the St. Lawrence River and the Atlantic Ocean.

The LNG production and storage facility, Energie Saguenay, is being developed by GNL Quebec. The C\$7.2 billion LNG project would export 11 million tonnes per year. Environmental groups have said the LNG tanker traffic could harm endangered beluga whales in the fjord and St. Lawrence River.

Low natural gas prices, heavy debt knock down Chesapeake Energy

(Bloomberg; Nov. 5) - Chesapeake Energy — once the epitome of America's shale gas fortunes — warns it may not be able to outlast low prices. Reflecting growing pain across the energy sector, the Oklahoma-based company's shares and bonds fell Nov. 5

after it said it may not be viable as a "going concern" if low oil and gas prices persist. A decade ago Chesapeake was a \$37.5 billion company led by Aubrey McClendon, an outspoken advocate for the gas industry. Now it's worth less than one-tenth of that.

The company's fall comes as shale producers struggle to show they can earn positive cash flow, not just grow at any cost. When times were good, Chesapeake's campus was home to an army of construction cranes as McClendon sought the look of a private university. It had the trappings of a country club with a multistory health center featuring massage therapists and a running track. Chesapeake once was the No. 2 U.S gas producer, but in 2016 McClendon was indicted on conspiring to rig bids for the purchase of oil and gas leases. A day later he was dead after his car ran into a road overpass.

The going-concern warning signals that CEO Doug Lawler's six-year campaign to rescue Chesapeake from the billions of dollars in debts amassed by McClendon may be on the verge of failure. Lawler has long sought to convert the gas giant into an oil company, but to no avail. If oil and gas prices remain low, the company may not be able to comply with its leverage-ratio covenant during the next year, "which raises substantial doubt about our ability to continue as a going concern," Chesapeake said.

Another Alberta producer shuts down, leaving 1,200 wells for cleanup

(CBC News; Nov. 6) – Another Alberta oil and gas company has closed its doors, leaving more than C\$80 million in estimated costs to clean up its remaining wells, pipelines and facilities. Calgary-based Houston Oil & Gas told the Alberta Energy Regulator last month that it was ceasing operations and no longer has any employees, according to court documents. Houston entered receivership last week.

The company is focused primarily in southeastern Alberta and predominantly produces gas, according to its website. Houston has 1,264 wells, 41 facilities and 251 pipelines, according to documents, which say some of the wells have already been transferred to the Orphan Well Association (OWA) to be decommissioned. The OWA is an industry-funded organization that cleans up old oil and gas infrastructure when companies go bankrupt and the assets cannot be sold.

"If all of Houston's wells are ultimately designated as orphans, the orphan inventory of wells requiring [decommissioning] will increase by nearly 30 percent," according to a court submission by the OWA. In that event Alberta regulators estimates the price tag at \$81.5 million. Houston is the latest oil and gas company in Alberta to fail. Last month Bellatrix Exploration entered creditor protection and is still looking for a buyer. Trident Exploration shut down in May and left approximately 3,650 wells without an owner. Companies primarily focused just on gas seem to struggle the most.

Opponents of LNG import project in Ireland say Pope supports them

(Irish Independent; Nov. 1) - Opponents of the Shannon liquefied natural gas import project in Ireland have claimed another high-profile ally after Pope Francis urged them to continue their campaign against the proposal. The pontiff, who famously posed for photographs with an anti-fracking T-shirt, met activist Esteban Servat, who was in Ireland last month for Extinction Rebellion Week. Servat, an Argentinian like the Pope, updated the Pope on the situation in his home country where fracking is controversial.

"We talked about what is happening in Argentina and he signed our campaign leaflet with the message against fracking," Servat said. "Then we talked about the situation with the importing of fracked gas into Europe and how Ireland will be the most important entry point for imports if the Shannon LNG project goes ahead. ... He said to me, 'Keep going, you have my full support,'" Servant said.

The Pope's show of support follows interventions by U.S. actor and climate activist Mark Ruffalo, who has urged the Irish government to block the LNG project. The Vatican press office said it could not comment on the conversation between Pope Francis and Servat, which was private, but indicated it was consistent with concerns the Pope has expressed on several occasions. The Irish government has come under criticism for backing the Shannon LNG terminal in a European Union list of priority energy projects.

Developer confident of legal victory in Atlantic Coast gas line

(S&P Global Platts; Nov. 1) - Despite ongoing environmental litigation, Dominion Energy expects to complete its Atlantic Coast Pipeline on time, with full construction to resume by the end of 2020 and full commissioning in early 2022, company officials said Nov. 1. CEO Thomas Farrell also said in Dominion's third-quarter earnings conference call that the company does not anticipate the court cases will add to the estimated \$7.3 billion to \$7.8 billion cost of the 600-mile, 1.5-billion-cubic-feet-per-day gas line.

Intended to move Appalachian gas to mid-Atlantic markets, the project faces several legal challenges from environmental groups, including one involving the U.S. Fish and Wildlife Service environmental permits that is currently pending in the U.S. Court of Appeals for the 4th Circuit, as well as a case involving the U.S. Forest Service over the pipeline's proposed crossing of the Appalachian Trail.

In a sign that further legal challenges are possible, environmental litigants have recently warned the Fish and Wildlife Service not to rush out a new version of endangered species act authorizations struck down by the 4th Circuit. Earlier this month the U.S. Supreme Court agreed to hear appeals of the Appalachian Trail case filed by Dominion and the U.S. Justice Department. Farrell said he is confident the company will win in the Supreme Court and the project timeline assumes a legal victory.

Jones Act to blame for Russian LNG in Boston, Puerto Rico

(Wall Street Journal editorial; Nov. 3) - Russian liquefied natural gas is again being delivered by ship to an American port. Bloomberg reports the tanker Catalunya Spirit, carrying fuel from thousands of miles away, was set to arrive in Puerto Rico last week. Such a transaction makes little sense, as the U.S. is the world's largest gas producer. What explains the mystery is the federal Merchant Marine Act of 1920 — the Jones Act.

The law says ships carrying cargo between U.S. ports must be built, owned, and crewed by Americans. This inflates prices for compliant vessels and domestic shipping overall. It's a particular problem for LNG, since there are zero LNG tankers that meet Jones Act rules. That means Puerto Rico effectively is barred from importing gas from terminals in Georgia or Louisiana. As a result it apparently turned to Siberia. The same happened two winters ago in New England, where gas is short due to a lack of pipeline capacity.

Earlier this year President Trump considered a Jones Act waiver to let foreign LNG tankers bring U.S. gas to the Northeast and Puerto Rico. Republicans in shipbuilding states reportedly talked him out of it, yet the economic gains from paring back the Jones Act would benefit all Americans — the law is shortsighted protectionism. With the economy slowing, easing trade among stateside ports is an easy pro-growth win. Trump should let Puerto Rico and Boston send their dollars to Americans instead of Russians.

LNG import developer in Australia faces shortage of customers

(Reuters; Nov. 4) - Plans for a Japanese-backed project to import liquefied natural gas to Australia have hit a hurdle as the group struggles to lock in customers. Potential buyers are holding off signing contracts after a drop in local natural gas prices, industry observers and sources said, leaving the A\$250 million (\$171 million) project well behind its initial schedule of delivering gas in late 2020.

The delay risks Australian Industrial Energy's plan to open a gas terminal in New South Wales ahead of a rival project, while both projects are racing to meet an anticipated domestic gas shortage as the country moves into the top spot among the world's LNG exporters. AIE, backed by Japan's JERA, the world's biggest LNG buyer, trading house Marubeni and Australian mining billionaire Andrew Forrest's Squadron Energy, is one of five projects aiming to bring gas to southeast Australia.

As of June the project had lined up the country's No. 3 gas retailer as its first customer, booked a floating LNG storage and regasification unit and booked contractors to build wharf facilities. However, since then it has failed to lock down 12 industrial users that expressed interest in 2018. Sources said manufacturers don't want to commit to AIE as

a global LNG glut has spurred gas exporters in Queensland — Shell and APLNG, led by ConocoPhillips — to offer more gas into the local market, driving down prices.

World's largest miner may switch to LNG-fueled ore carriers

(Reuters; Nov. 4) - BHP, the world's biggest publicly traded miner, aims to decide early next year who will win the contract to provide LNG-fueled marine transport services to move up to 27 million tonnes, or about 10 percent, of its annual iron ore output in order to cut emissions by a quarter, an executive said. Miners are under pressure to become less polluting as society worries about the environment and investors increasingly regard a compelling sustainability strategy as an indication of a well-run company.

BHP is the biggest producer of coking coal and a major shipper of iron ore. Both minerals generate huge amounts of carbon dioxide and other emissions as they are shipped around the world and then used to make steel. The company said it has a responsibility to address emissions. In July, BHP decided a tender was the best way to assess the available expertise on engineering, liquefied natural gas onboard storage tanks and refueling in its quest to shift to LNG from conventional marine fuel.

BHP is considering 17 proposals from established companies to start-ups and hopes to award the tender in the first quarter of next year. Switching to liquefied natural gas could cut carbon emissions by around 25 percent, as well as eliminate nitrogen oxide, sulfur oxide, and some of the particulate matter from using conventional shipping fuel. LNG-fueled tankers could be carrying iron ore by late 2021. New standards set by the U.N. International Maritime Organization take effect in January to cut sulfur emissions.

Deal signed for first ice-class carrier for Arctic LNG-2 in Russia

(The Barents Observer; Norway; Nov. 5) – Zvezda, Russia's newest shipyard, signed a deal Nov. 2 with shipping company Sovcomflot and state national development bank VEB to build the first tanker for the Arctic LNG-2 project. The vessel, an ice-breaking Arc7 liquefied natural gas carrier, will be capable of operating autonomously in the icy waters of the Kara Sea and Gulf of Ob delivering gas to Asian and European buyers.

It will be powerful enough to break through ice more than 6 feet thick. Russian oil company Rosneft was the lead in developing the Zvezda yard, which is located in the Far East city of Vladivostok. The initial vessel is likely to be the first in a fleet of 15 carriers that will serve the LNG project, which could start operations by 2023. VEB has approved financing for all 15 carriers, the bank said.

Sovcomflot said the carriers in the new series will all sail under Russian flag. The ships will be a crucial part of the LNG project currently under development on the eastern

banks of the Ob Bay. Gas producer Novatek is the lead partner in the venture that is developing Arctic LNG-2, just as it took the lead in building the nearby Yamal LNG terminal that started operations two years ago. Arctic LNG-2, at 19.8 million tonnes annual capacity, will be larger than Yamal's 16.5 million tonnes.

Alberta will let companies boost oil production if they ship by rail

(CBC Canada; Oct. 31) - The Alberta government is creating a loophole for oil producers to circumvent oil curtailment limits that were designed to reduce transport bottlenecks. Operators will be allowed to exceed their provincially imposed output caps if they can ship those extra barrels by rail, Energy Minister Sonya Savage announced in a news release Oct. 31. Alberta oil producers are currently shipping 310,000 barrels per day by rail, but the system can handle 500,000 to 600,000 barrels a day by rail.

Companies are capable of producing more oil and the exemption will help them cope with pipeline capacity constraints, Savage said. The new production allowance takes effect in December. Savage called it a "short-term approach." Industry had approached government officials with the proposal to ship more crude by rail in exchange for relief from the government-ordered curtailment. Alberta ordered the output cutback last year as a supply glut exacerbated by pipeline constraints had depressed Canadian oil prices.

Savage said the province will work with operators to set the new production allowance for individual companies through a monthly application process. The announcement comes as the province works to cancel the previous government's C\$3.7 billion crude-by-rail contract and divest those contracts to the private sector, which is where the new government believes the responsibility belongs. The crude-by-rail contract would have added an estimated 120,000 barrels per day in takeaway capacity from Alberta.