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Lack of storage could force 20% of global oil production to shut in

(Bloomberg; April 26) - The global oil market is on track to test storage capacity limits in as little as three weeks, requiring the shut-in of nearly 20% of global production, according to analysts at Goldman Sachs. The world has reached an inflection phase in the pandemic where rebalancing is starting to occur, but it will likely take four to eight weeks for commodity markets to carve out a bottom in demand, Goldman analysts including Jeff Currie said in an April 24 report.

With crude oil building up in storage tanks at record levels, that means global storage capacity will be tested in the next three to four weeks. Once there's nowhere left to put oil, drillers will have to shut enough supply to match the demand loss, which Goldman estimates to be about 18 million barrels a day in mid-May. That "will likely create substantial volatility with more spikes to the downside until supply finally equals demand," Currie said.

Supply shut-ins, including about 10 million barrels a day of cuts from OPEC and its allies, can't be undone quickly, meaning the global oil market could be in a supply deficit by June, though plentiful stockpiles could fill any needs. Prices will likely only slowly recover, though, until mid-2021, when there's a potential for a tight market again.

Saudis, other OPEC nations start cutting oil output ahead of May 1

(Bloomberg; April 24) - Saudi Aramco began reducing its oil production earlier this week ahead of the May 1 start date for OPEC+ output cuts, according to a Saudi industry official familiar with the matter. Aramco has begun to curtail production from about 12 million barrels a day to achieve the agreed level of 8.5 million barrels a day, the person said, asking not to be named discussing private information. The country joins fellow OPEC members Kuwait, Algeria, and Nigeria in starting their share of the cuts early.

The Organization of Petroleum Exporting Countries and its allies — 23 nations in all, including Russia — agreed earlier this month to slash global supply by 10% in an effort to balance a market roiled by the coronavirus crisis and collapsing demand for crude. Although the cuts will amount to an unprecedented 9.7 million barrels a day, prices have continued to slide as government-ordered lockdowns worldwide wipe out demand.

Kuwait said two days ago it had started cutting oil output early as it "felt responsibility to respond to market conditions." Algeria also said this week that its cuts would start

immediately. Meanwhile, Nigeria said it plans to cut output regardless of the May 1 start date because it has no more storage space available, according to news reports.

At least 35 tankers full of oil parked off the Pacific coast

(The Wall Street Journal; April 24) - An enormous glut of oil sparked by the coronavirus pandemic and the resulting collapse in demand has overwhelmed the global distribution system. The world normally produces 100 million barrels of oil a day. With much of the industrialized world in lockdown to combat the pandemic, daily demand could fall as low as 70 million. Global onshore storage facilities totaling 4.4 billion barrels are about 65% full, said Antoine Halff, chief analyst at commodities-analysis company Kayrros. But as of early April they were filling at a "monster rate" of 10 million barrels a day, he said.

"It's like when there's a fire and everyone is rushing through the exit door," Halff said. "At current rates, storage could be full within 100 days." With few storage places on dry land available, producers, traders, and buyers are turning to the sea. A cluster of ships brimming with crude sits in the waters off Malta in the middle of the Mediterranean this week. Others float in South Africa's coastal waters. That adds to the financial burden. The cost of renting a supertanker is about \$4.50 a barrel per month, according to data from Rystad Energy, or \$9 million for a very large crude carrier holding 2 million barrels.

Homeless oil is turning up in places like Seal Beach, California, famous for its long wooden pier and prime surfing spots. The armada of about 20 tankers lining the horizon south of Los Angeles are among at least 35 idled along the U.S. Pacific Coast, according to ship-tracking firm FleetMon. As Los Angeles, the nation's second-largest metro area, entered lockdown in response to the pandemic, people left their cars in the garage. Marathon Petroleum's nearby refinery in Martinez, California, temporarily closed. Others, including Chevron's El Segundo refinery, cut back on crude processing.

One in 10 supertankers being used for storage, Saudis say

(The Wall Street Journal; April 22) - Saudi Arabia's oil-price war with Russia flooded the market with crude. Now, with demand having dried up and buyers hard to find, the kingdom is resorting to storing much of its oil at sea. At least one in 10 supertankers around the world is serving as a floating oil storage facility, Saudi oil officials said, with many of those vessels filled with Saudi crude.

Faced with dwindling storage capacity, OPEC producers are debating deep production cuts that would go beyond the historic pact they agreed to with Russia little more than a week ago. About 80 supertankers out of 750 worldwide are now used to store oil rather than transport it, according to Saudi officials. The amount of oil in storage at sea rose

by 21 million barrels to 147.6 million in the week to April 19, according to commoditiesdata provider Kpler.

"The kingdom is now facing a situation where they may have to shut in parts of their production ... because they don't have buyers," said a senior Saudi Aramco executive. "The fact is buyers don't have storage, so regardless of whatever level of output you want there won't be storage for it," he said. At least 18 Saudi-hired supertankers are due to arrive next month in the U.S. By the time they arrive in the U.S., however, the ships "are looking increasingly ripe to be rerouted and will likely park as floating storage until a buyer emerges," Canadian broker RBC said in a note April 20.

Fitch estimates 18% loan default rate among U.S. energy companies

(Reuters; April 22) - U.S. shale producers, refiners and pipeline companies are scrambling for cash and face likely restructuring as they struggle under heavy debt loads and a dual supply/demand shock in the worst crisis the oil industry has faced. Fuel demand has tumbled roughly 30% worldwide due to the coronavirus pandemic while the industry was already struggling to satisfy investors unhappy with weak returns.

About half of the top 60 independent U.S. oil producers will likely need to review options for securing more liquidity, said energy lawyers at Haynes and Boone. "Reverberations from this price collapse will be felt throughout the industry and by everyone who provides services to the industry," said Buddy Clark, a Houston-based partner. Numerous midstream companies backed by private equity are in danger of bankruptcy, according to industry and financial sources, while large banks are preparing to become owners of oil and gas fields as they seize assets.

More shale producers are expected to seek bankruptcy in the coming weeks, industry and banking sources said. The forecast loan default rate for 2020 among energy companies is 18%, according to Fitch Ratings, while nearly 20% of all energy corporate bonds are trading below 70 cents on the dollar, indicating distress, according to data from MarketAxess. Privately held pipeline operators are considered the most vulnerable among midstream companies, bankers said. As shale producers hit bankruptcy, they're expected to go to court to exit pipeline contracts, said lawyers with Haynes and Boone.

Texas shale oil boom 'fast evaporating'

(Houston Chronicle; April 24) - Kyle McGraw climbed into his hail-beaten Chevy Suburban on April 22 to make the two-hour drive from Midland, Texas, to a small oil field he and his sons bought seven weeks ago. As he drove across the broad expanse of West Texas with his two sons, McGraw, 60, said he couldn't help but feel nostalgic, recalling how his father had drilled his first well not far from where they were headed. But this trip was not meant for drilling wells; McGraw would begin shutting them down.

"Talk about changing your way of thinking. All my career has been about how do you make more, and now I'm saying we better shut in," McGraw, the president of Trinidad Energy, said. "This boom we've been on for the past seven years is fast evaporating." From the Permian Basin in the west to the Haynesville Shale in the east to the Eagle Ford in the south, drilling rigs are getting pulled, wells are getting plugged and layoff notices are going out fast, bringing an abrupt halt to one of the world's great oil booms.

The shale revolution revived oil production in Texas, increasing it five-fold to a record 5.4 million barrels a day in January. Shutting down a well is not an easy decision for oil companies. It cuts off their sole source of revenue and could send them into a death spiral. As long as oil is coming out of ground, they are usually generating some cash. But that cash flow stops when wells are shut-in, and it reverberates through their workers, creditors, suppliers, and contractors. And when prices do rebound, wells that have been shut in can take months to resume normal production, if they get there at all.

Active U.S. oil rig count down more than half from a year ago

(Reuters; April 24) - U.S. energy firms parked the most oil rigs in a month in April since 2015 with oil prices down over 70% since the start of the year as steps to curb the coronavirus pandemic cut global crude demand faster than producers can shut wells, causing storage tanks to fill rapidly. Drillers cut 60 oil rigs in the week to April 24, bringing the total count down to 378, the lowest since July 2016, energy services firm Baker Hughes said in its closely followed report April 24.

The oil rig count, an early indicator of future output, is down 53% from the same week a year ago when 805 oil rigs were active. More than half of all U.S. oil rigs are in the Permian Basin in West Texas and eastern New Mexico, where active units dropped by 37 this week to 246, the lowest since December 2016. Analysts at Raymond James projected total U.S. oil and gas rigs would collapse to around 200 at the end of 2020. The investment bank forecast the rig count would average a mere 225 rigs in 2021.

U.S. oil producers quickly cut production 900,000 barrels a day

(CNBC; April 22) - The U.S. oil industry reacted to cratering oil prices by cutting production by 900,000 barrels a day in just four weeks in what appears to be the biggest one-month decline since the Great Recession. U.S. government data shows that U.S. production fell to 12.2 million barrels a day last week. That's down from a record high of 13.1 million barrels a day just a month ago.

"The U.S. oil industry is in full retrenchment, and this is just the beginning of what will likely be steep cuts," said John Kilduff, a partner with Again Capital. The 7% one-month decline appears to be the largest since oil production plunged 16% between August and September 2008, when U.S. output was one-third of what it was at the start of 2020.

But with demand continuing to fall, U.S. stockpiles rose by 15 million barrels to 518.6 million. At closely watched Cushing, Oklahoma, oil in storage rose by about 10% in a week to 59.7 million barrels, about 25 million shy of capacity. "They have to keep cutting because if you keep filling all of the oil storage and tankers, you'll just be forced to shut in because there will be no place to go," said Andrew Lipow, of Lipow Oil Associates. For instance, U.S. drivers typically use about 10% of the global oil supply each day, but gasoline demand is now at 5.3 million barrels a day, well below a normal 9.6 million.

North Dakota's largest oil company stops most production

(Reuters; April 23) - The largest oil producer in North Dakota has halted most of its production and notified some customers it will not supply crude after prices dived into negative territory this week, people familiar with the matter said. Continental Resources, the company controlled by billionaire Harold Hamm, stopped all drilling and shut in most of its wells in the state's Bakken shale field, three people familiar with production in the state said April 23. The company started the year at about 150,000 barrels per day.

Global oil prices have plunged because of excess supplies and tumbling demand due to the coronavirus crisis. U.S. crude prices plunged into negative territory this week — meaning suppliers had to pay people to take oil — due to lack of storage space, prompting moves by operators to halt output. Shut-ins have been particularly swift in North Dakota, which produced more than 1.4 million barrels per day of oil in 2019, making it the second-largest U.S. producing state after Texas.

State officials said production has already dropped by about 300,000 barrels per day. This month North Dakota operator Whiting Petroleum became the first major shale producer to file for bankruptcy. Hamm, an early supporter and informal adviser to President Donald Trump, has advocated heavy government intervention in the oil markets in response to Saudi Arabia's decision to flood markets with supply last month.

States respond to oil-price collapse by allowing temporary shut-ins

(Natural Gas Intelligence; April 24) - Oil and gas regulators in some of the biggest producing states are seeking to ease the pain of a historic collapse in oil demand as operators struggle to stay afloat amid plummeting prices. Stephanie Garcia Richard,

New Mexico Land Commissioner, issued an emergency rule April 21 allowing operators to apply to temporarily shut-in wells on state land for at least 30 days without penalty. Longer-term relief is on the way through a statutory rule change process, she said.

The Oklahoma Corporation Commission on April 22 approved a relief measure allowing operators to shut-in production without losing their lease rights. The commission agreed with a request that oil production at current prices may constitute "economic waste," and ordered that companies could shut in or curtail output from wells that are uneconomic at current prices. The action "gives those operators the freedom and flexibility they need to respond to market forces and decide what actions to take to survive," the order said.

Texas regulators, meanwhile, are set May 5 to consider mandatory production limits. The North Dakota Industrial Commission held an emergency meeting April 21 to discuss regulatory relief for oil and gas companies, but deferred action to a later date.

U.S. petroleum product demand lowest since early 1990s

(U.S. Energy Information Administration; April 23) - U.S. consumption of petroleum products has fallen to its lowest level in almost three decades because of travel limits and the general economic slowdown induced by mitigation efforts for the coronavirus. As outlined in the U.S. Energy Information Administration's weekly report April 22, total petroleum demand averaged 13.8 million barrels per day in the previous week — the lowest level in EIA's data series, which dates back to the early 1990s.

The mid-April demand is almost one-third lower than the average from January through mid-March, before many of the travel restrictions began. Total petroleum demand consists mostly of gasoline (45% of the 2019 total), distillate fuel oil (20%), jet fuel (9%), and chemical feedstocks and other fuels (26%). Gasoline has declined the most. Before many businesses were shut down and stay-at-home orders issued, gasoline products averaged almost 9 million barrels per day, based on 2020 data through March 13. Since then, gasoline has fallen 40% to 5.3 million barrels a day as of the week ending April 17.

Asian nations look to stock up on cheap oil for reserves

(The Wall Street Journal; April 23) - Like shoppers encountering a bargain on toilet paper at a warehouse store, Asia's oil consumers are beginning to stock up on oil at rock-bottom prices for their national reserves. Their only problem is finding more closet space. China, India, South Korea, and Australia are taking steps to boost their national stockpiles of oil used to safeguard domestic industries during times of crisis. Since those nations collectively have hundreds of millions of barrels of spare capacity, analysts say their demand could help stabilize the oil market in coming months. In China, state-owned oil companies won approval this month from the Shanghai International Energy Exchange for seven expansion projects capable of holding a combined 26 million barrels. They were the first such applications since October 2019, suggesting a rush to increase capacity in response to the plunging oil price.

"Now is a golden opportunity for large consuming nations in Asia that have always been intent on increasing their petroleum reserves," said Sushant Gupta, a director at energy researcher Wood Mackenzie. "The oil floating around in the market today is very likely to find its way into strategic petroleum reserves in Asia," Gupta said. China, however, is beginning to near its limits. Wood Mackenzie estimates the country's strategic reserves will hit 90% of capacity, or about 1.15 billion barrels, by the end of this year. That is enough to cover 80 days of demand based a forecast by Platts Analytics.

BP-led project in Azerbaijan required to cut production

(Reuters; April 23) - Azerbaijan's BP-led Azeri-Chirag-Guneshli (ACG) project will have to cut output sharply in May for the first time ever as the country acts to meet its commitment under a global deal to trim production, four sources told Reuters on April 23. Oil majors operating large production-sharing deals in the ex-Soviet states of Azerbaijan and Kazakhstan have been previously excluded from any governmentimposed production decisions because such foreign investment is highly prized.

But the scale of the coronavirus-driven oil crisis has made it impossible for Azerbaijan to cut output without imposing restrictions on BP and its partner shareholders, which include Hungary's MOL, ExxonMobil, Norway's Equinor, and Japan's Inpex. The development will be closely watched in countries such as OPEC members Nigeria, Angola, and Iraq and non-members like Kazakhstan and Russia, where oil majors have long escaped making such cuts, citing contract agreements.

Azerbaijan is not a member of OPEC but is a part of a wider group known as OPEC+, which led by Saudi Arabia on the OPEC side and Russia for producers outside the organization. Azerbaijan will cut its oil output by a 164,000 barrels per day to 554,000 for two months starting in May under the OPEC+ deal sealed April 12. Of this, the giant offshore ACG fields in the Caspian Sea will be required to cut some 75,000 to 80,000 barrels per day, sources told Reuters. This accounts for about 15% of ACG's output.

Oil could get back to \$50-\$60 when demand recovers, analyst says

(CNN Business; April 22) - Oil demand is collapsing while supply is shrinking — but not nearly fast enough. The world is literally running out of room to store unneeded barrels

of oil piling up during the coronavirus pandemic. The crash is forcing a reckoning in the oil industry — a painful one. Many shale oil producers have canceled drilling plans. Others have been forced to shut down active wells. Some frackers won't survive at all.

But the rebalancing in the oil market might be so overdone that it will set the stage for a spike in prices. When and if demand recovers, there might not be enough supply. "We are in an epic bust. As hard as it may be to believe, the next step is a boom," said Pavel Molchanov, an energy analyst at Raymond James. Some 3.6 billion people are living under lockdowns, Molchanov estimates. Passenger flights are grounded. Many factories are dark. But that won't last forever. At some point, the world will thirst for oil again.

"When demand returns to something close to normal levels, it's quite possible there will be a shortage situation in 2021," Molchanov said. Oil could hit \$50 to \$60 next year and "potentially higher than that," Molchanov said. The cumulative deep production cuts worldwide could be "setting the stage for higher prices once demand gradually recovers," Goldman Sachs analyst Damien Courvalin wrote.

Lack of investment could cut into world's future oil supply

(Reuters; April 24) - Global oil supplies may be 6% less than expected by 2030 because of energy company investments delays in response to falling crude prices amid the coronavirus crisis, data from Rystad energy analysts showed. Oil and gas companies across the world have slashed investment budgets, exiting projects or delaying bringing them onstream to counter a fall in crude prices to record lows due to a supply glut as the coronavirus outbreak has destroyed demand.

Delayed final investment decisions for projects which take years to come on stream are expected to shrink global supply of oil and gas by 5.6% by 2025, with the majority of the revisions coming from shale oil, mostly in the U.S., Rystad said. All this leaves the global oil and gas supply on track to drop off by 6.3% by 2030 compared with what was expected before the price crash, the Rystad data showed.

It estimates \$195 billion worth of non-shale projects are being delayed, most of which are gas and gas condensate developments. Geographically, the biggest slump is in the Middle East. Excluding the North American shale sector, energy analysts at Wood Mackenzie estimate only 10 to 15 large upstream projects have a "reasonable chance" of receiving an investment green light this year, a level last seen during the post-2014 oil price crash. That compares with around 50 projects that had been penciled in for a final investment decision this year before oil prices plummeted.

Analysts use satellites to track oil storage

(CNBC; April 24) - In order for oil prices to stabilize, U.S. producers have to further cut their production or be forced to curb it because they are out of places to store it. Energy analysts, looking at global oil storage by way of satellite data, say that while storage capacity is filling up, it's not near its limit yet. Even though recent production cuts are "historic," Ursa Space Systems analyst Geoffrey Craig said the supply cuts are "a fraction of the decline in demand."

"The next catalyst will be inventories hitting capacity limits. The way you will know that is through satellite imagery, because the data isn't available outside the U.S.," Craig said. Ursa Space Systems, Kayrros, and Orbital Insight are three firms that specialize in applications for satellite data, especially for clients in the oil and gas industry. "We're looking every week using satellite imagery at tanks all over the world," Craig said. "What we see in storage matches really well with what you see in price action."

There are about 3.2 billion barrels of crude oil in global inventories, according to Orbital Insight, a record high. The majority of land-based storage is in the form of floating-roof tanks (FRT). Orbital Insight said the world's FRT storage is at 55.6% capacity, leaving about 2 billion barrels of capacity available. And there are other alternatives, such as fixed-roof tanks, salt caverns, or even more expensive storage tankers at sea. Ursa said recent estimates put sea-based tanker storage at about 160 million barrels. The lower price of oil drops, the more producers look to expensive types of storage as viable.

List is growing of banks that say no to Arctic oil and gas

(Bloomberg; April 24) - The latest front in the war against drilling for oil in Alaska's Arctic National Wildlife Refuge is Wall Street. Activists trying to keep rigs out of ANWR are focused on choking off the flow of money needed for development. As big as South Carolina, ANWR is home to caribou and grizzlies, and possibly billions of barrels of oil. The strategy is paying off. Morgan Stanley just ruled out financing Arctic oil and gas. It's the fifth major U.S. bank to announce it will no longer support drilling in the region.

That followed similar moves from Citigroup earlier this week and from Goldman Sachs Group, JPMorgan Chase, and Wells Fargo in the past four months. Bank of America is the only major U.S. holdout. Lending restrictions pose another obstacle to companies hunting for the next big U.S. oil field. The Interior Department is preparing to sell drilling rights in ANWR's coastal plain, though its remoteness and limited infrastructure drive up the cost of finding and producing oil there, making it less attractive in this economy.

The banks' decisions underscore the peril for companies with ties to controversial fossil fuel projects amid growing public concern about climate change. The pressure will only increase on banks and other lenders to strengthen existing policies to keep fossil fuel

projects off-limits. Arctic oil opponents are already beginning to target asset managers like BlackRock and insurance companies such as Liberty Mutual Group.

There's a limit to the bank vows, which generally only rule out financing tied to individual projects — such as underwriting a specific Arctic venture. The pledges would not get in the way of a bank providing broad financing to companies that operate mostly in Alaska or the Arctic. The strategy is most effective at limiting independent oil companies — such as Hilcorp and Oil Search — which are more likely to require external funding.

North Dakota producers flared almost 20% of gas output in 2019

(U.S. Energy Information Administration; April 22) - Gross natural gas production in North Dakota averaged 2.9 billion cubic feet per day in 2019, an 827% increase from the 2010 level of 300 million cubic feet per day. The increase came primarily from associated gas recovered from oil wells in the Bakken and Three Forks formations, according to the North Dakota Oil and Gas Division's February 2020 report. Of that 2.9 bcf a day in 2019, producers flared almost 20%, or 0.56 bcf per day.

Flaring occurs when gas is burned at the wellhead for lack of pipelines to move the gas to market, or lack of an economically viable market. North Dakota implemented gascapture goals in 2014 to limit flaring. The gas-capture rate started at a 75% requirement, then moved up in November 2018 to 88%, which producers have not met, according to the state's figures. The rate is set to increase in November 2020 to 91%.

Insufficient gas processing capacity and lack of pipeline infrastructure have resulted in lower compliance with the state's gas-capture goals since 2018, according to the U.S. Energy Information Administration. The state target has not been met in any month since March 2018. An additional 0.9 bcf per day of gas processing capacity is expected to enter service in 2020 and 2021, according to the North Dakota Pipeline Authority.

New report finds 3.7% of Permian gas leaked into atmosphere

(CBS News; April 25) - Oil and gas operations in the Permian Basin, the largest oilproducing area in the U.S., are spewing more than twice the amount of methane emissions into the atmosphere than previously thought — enough wasted energy to power 7 million households in Texas for a year. That's the result of a new study by researchers at Harvard University and the Environmental Defense Fund.

The Permian stretches across a 250-mile-wide swath of West Texas and southeastern New Mexico, and produced more than one-third of U.S. oil and 10% of the gas. The study, published this week in the journal Science Advances, also found that the rate of methane leakage equals 3.7% of all the gas extracted in the basin, about 60% higher than the national average. The study blames the high leakage rate on extensive venting and flaring, resulting from insufficient infrastructure to process and move gas to market.

"These are the highest emissions ever measured from a major U.S. oil and gas basin," said study co-author Steven Hamburg, chief scientist at the Environmental Defense Fund. To map the methane emissions, the team employed a space-borne sensor on a European Space Agency satellite called the Tropospheric Monitoring Instrument from May 2018 to March 2019. Methane is an extremely powerful heat-trapping greenhouse gas, much more potent than its more well-known counterpart, carbon dioxide.

Spot-market LNG price in Asia falls below \$2, Platts says

(Reuters; April 23) - The Japan Korea Marker price for liquefied natural gas in Asia, assessed by S&P Global Platts, fell to a record low \$1.938 per million Btu on April 23. The drop means that the price is now almost at parity with the Henry Hub benchmark gas price in the United States, discouraging spot-cargo LNG deliveries from the United States to Asia. The coronavirus pandemic has dampened global gas demand in an already heavily oversupplied market.

"The major driver for the price drop in the last week has been a wave of supply tenders for May and June delivery. This has further flooded an already-underwater spot market," said Ciaran Roe, head of LNG pricing at S&P Global Platts, adding that the Asia price hit a new low every day this week. The Japan Korea Marker price is increasingly becoming the benchmark for Asian spot cargoes.