Oil and Gas News Briefs Compiled by Larry Persily August 31, 2020

Alberta forecasts \$24 billion budget deficit

(Calgary Herald; Aug. 27) - Alberta's estimated budget deficit this year could mark a record for the province and could emerge as the largest deficit in percentage terms for any province in Canada over the past 35 years. Alberta's government presented a fiscal update Aug. 27 showing an expected budget deficit of \$24.2 billion, which is 230%, or \$16.8 billion, higher than the budget estimate for 2020/21 announced back in February.

The coronavirus pandemic, the collapse in oil prices and sharp drop in tourism have hit Alberta's economy particularly hard, Bank of Montreal chief economist Doug Porter said Aug. 27. "Let's face it, every single budget deficit number (within Canada and beyond) that we're seeing tends to be shocking because they're all numbers we've never seen before," Porter said. The deficit represents about a 40% shortfall in Alberta's budget.

Alberta's \$24.2 billion budget deficit is equivalent to 8.1% of the province's GDP, making it the largest shortfall in the province dating back to the 1980s, according to BMO Capital Markets research. As a result of multiple years of budget deficits and an expectation of further deficits, Alberta's overall debt is rising at a concerning rate, said Jack Mintz, University of Calgary School of Public Policy president's fellow.

"Nearly all of government's revenue streams have been negatively impacted by the COVID-19 pandemic and the global oil-price crash, with total revenue forecast to be \$38.4 billion, \$11.5 billion lower than estimated," Alberta Finance Minister Travis Toews said. Oil and gas receipts will be particularly hard hit. The province had budgeted for \$5 billion this year but is now forecasting a 76% drop in those revenues to just \$1.2 billion.

Oil-rebound optimists sound a lot like coal industry did

(Houston Chronicle commentary; Aug. 28) - Nine years ago, Exxon Mobil was the most valuable corporation in the world. Last week Dow Jones removed the stock from its industrial index that is supposed to represent the U.S. economy. Exxon's market capitalization has dropped from \$400 billion in 2011 to just \$175 billion today, and the oil business is no longer as important to the U.S. economy.

Oil executives talk a lot about how their industry will bounce back after the coronavirus pandemic passes, but the truth is their business is in long-term, secular decline. No

matter who wins November's elections, Texas needs to find new businesses to replace the oil and gas industry to avoid economic decay. The coronavirus has undoubtedly sped up a process set in motion by the fight against climate change. Travel restrictions and work-from-home orders have decimated demand for oil, and most analysts don't see a return to previous consumption levels until a vaccine is widely available.

Old timers like to say the oil business has seen bad times before, and that every bust is followed by a boom. Just wait until the current oil glut gets used up. Or give OPEC time to get greedy again. Once the price of crude jumps, Texas will be rolling in money. You know who used to talk that way? Coal company executives. Coal's energy density, ease of transportation and the huge amount invested in power plants guaranteed the black rock's prosperous future. Doesn't that sound a lot like the oil industry's talking points?

Exxon's departure from Dow Jones average reflects the future

(Bloomberg commentary; Aug. 30) - From Monday there will be just one oil company in the Dow Jones Industrial Average — Chevron. The removal of ExxonMobil from the index after an uninterrupted presence since 1928 shouldn't come as a surprise. It's not the end of Big Oil, but it may signal the start of the beginning of the end. Despite record production levels, oil and gas extraction contributed a mere 1% of U.S. gross domestic product last year, according to the Bureau of Economic Analysis.

Oil just isn't what it was to the U.S. economy and, with much of the shale boom driven by small independent oil and gas companies, Big Oil is even less important. It is not just in the U.S. that Big Oil faces headwinds. Its opportunities and reputation are in decline worldwide. The oil majors operate in a world where they are often denied access to prime prospects. They're kept from investing in key areas of low-cost production, such as Saudi Arabia, Iran, Venezuela, and Russia, by local laws or the risk of U.S. sanctions.

It's not just the lack of opportunities to discover and develop big, new oil fields. The companies are facing the need to reinvent themselves in a world where their product is coming under increasing pressure for its impact on climate change and pollution. And the long, hard slog of trying to turn themselves into producers of sustainable energy has only just begun. Exxon's removal from the Dow may not signal the end of Big Oil, or even that its end is near, but it is reflective of the industry's failure so far to adapt.

Total CEO expects world to reach peak oil production in 2030-2040

(S&P Global Platts; Aug. 31) - Global oil production is set to peak by 2030 or 2040 with more energy supplied from solar, wind and carbon capture while storage solutions are

developed, Total CEO Patrick Pouyanne said Aug. 31. In a video presentation for the ONS Digital Conference, Pouyanne said oil won't disappear because it's still the most efficient source of energy, it's easy to transport and it's relatively inexpensive, noting that a liter of crude oil costs less than a liter of water.

By 2050, "we think that we'll have something like 40 million barrels of oil per day, but it's not zero," the Total CEO said. "It is much less than 100 million per day which is the actual consumption. Clearly, we will face a peak in oil production around 2030-2040, which will begin to decline. But we will still require oil." 2020 may be the turning point for the energy world, International Energy Agency Executive Director Fatih Birol said later in the video. Costs are declining for alternative energy such as solar and there is a "growing determination" of governments to curb carbon emissions, he said.

Companies are changing strategies to address climate change and "major coal phaseouts" are being discussed, Birol said. Affordability also needs attention — it is as important as environmental matters — as it will cost "trillions of dollars" to transform the world energy system, Pouyanne said. In France, 3 million people are heating their homes with oil. Incentives are being provided to encourage homeowners to switch from oil to natural gas or electricity produced from low-carbon sources such as renewables.

Africa's richest man building world-class oil refinery in Nigeria

(Bloomberg; Aug. 28) - On a peninsula east of Lagos, 30,000 workers are employed on a project that holds out the promise of transforming Nigeria's economic fortunes. It's here that Aliko Dangote, Africa's richest man, plans to spend more than his net worth of \$13.5 billion building one of the world's biggest oil refineries. If he succeeds, he could end the irony of Africa's biggest oil producer importing \$7 billion of refined fuel a year, and instead see Nigeria meeting its own needs and supplying neighboring nations.

The collapse in oil prices and Nigeria's woeful track record on industrial projects are significant risk factors. Yet Dangote's bet has the potential to revolutionize Nigeria's economy, with its operations adding \$13 billion, or 2.3% to gross domestic product, according to a 2018 estimate by Renaissance Capital. "Yes, the risks are high, the challenges are high," said Devakumar Edwin, CEO of the refinery complex, who's worked with the billionaire for about three decades. "But the rewards are also high."

The site is stacked with superlatives. Nigeria's largest-ever industrial project, the 650,000 barrel-per-day refinery is part of a \$15 billion petrochemical complex that will also house a gas processor and the world's biggest plant for making ammonia and urea, which is used in making plastics and fertilizer. Still, Nigeria's previous attempts at motor fuel self-sufficiency have come to nothing. Its four state-owned refineries, opened in the 1970s, ran at a fraction of capacity before they closed in January for a revamp.

Earlier efforts to use industrial development as a way of cutting Nigeria's dependence on oil have mostly fallen short. The country has sunk at least \$5 billion into a steel mill on the Niger River since 1979, and it still isn't in production. Nigeria needs all the help it can get. It's reeling from the impact of the CVOID-19 pandemic and the record plunge in oil, which accounts for more than 90% of its foreign exchange earnings.

Angola looks for heavy foreign investment to find new discoveries

(Reuters; Aug. 27)- Africa's second-biggest oil exporter, Angola, has unveiled a 2020-2025 energy roadmap which foresees oil discoveries of up to 57 billion barrels of crude oil and 27 trillion cubic feet of gas, the state news agency reported. The plans involve \$679 million in foreign investment and \$188 million by the Angolan state, the agency reported Aug. 26, part of an effort to reverse years of declining oil output and boost revenue for an economic-reform drive.

Angola's proven oil reserves currently stand at just seven billion barrels, according to the new Hydrocarbon Exploration Strategy cited in the report. A study published earlier this week by the state hydrocarbon body, the Agencia Nacional de Petroleo, Gas e Biocombustiveis, projected a sharp decline in crude production from existing fields that began in 2008 and is set to accelerate to almost nothing by 2040.

Under new leadership since 2017, Angola has sought to root out corruption, streamline laws to ease foreign investment and privatize key pieces of its oil-dependent economy. But cratering oil prices wrought by the coronavirus pandemic saw oil drilling by majors like Total, Eni, and BP grind to a halt this year. Total announced this month that its exploration activity had resumed with one drill ship, and the entrance of Qatar Petroleum into an exploration agreement with Total and state oil company Sonangol may signal renewed international interest in Angola's challenging offshore fields.

Exxon pushes Guyana to make decision on offshore oil project

(Reuters; Aug. 27) - ExxonMobil is pressing Guyana's newly installed government for approval of its third offshore oil project, which has been under a months-long review that coincided with political turmoil in the South American country. Exxon, which operates the Stabroek block as part of a consortium with Hess Corp. and China's CNOOC, has discovered more than 8 billion barrels of recoverable resource of Guyana's coast. It had planned to make a final investment decision on the Payara project around September.

After taking office in early August after a months-long recount of a disputed March election, Guyanese President Irfaan Ali appointed a team of Canadian consultants, including former Alberta Premier Alison Redford, to review Exxon's proposal to develop the field. "The timely approval of additional proposed projects, including Payara, will

ensure that the local workforce and the utilization of local suppliers will continue to grow," Exxon's new country head in Guyana, Alistair Routledge, said in Aug. 26.

Exxon initially planned for the project to come online in 2023 but has warned it could be delayed. During the campaign, Ali criticized the production-sharing agreement his predecessor signed with Exxon — which included a 2% royalty and 50% profit share — as too generous to the company. He has pledged to enact stricter rules requiring the company to use more local content and hire more Guyanese labor. "There has to be a comprehensive review," Ali said. "We have to look at international best practices."

Arctic shipping along Russia's Northern Sea Route up 58% 2016-2019

(Reuters; Aug. 27) - As melting sea ice opens the Arctic to navigation, more ships are plying the loosely regulated waters, bringing increasing amounts of climate-warming pollution, a Reuters analysis of shipping and fuel-consumption data shows. Traffic through the icy region's busiest lane along Russia's Siberian coast increased 58% between 2016 and 2019. Last year ships made 2,694 voyages on the Northern Sea Route, according to data collected by researchers from the Centre for High North Logistics at Norway's Nord University.

The trade is driven by commodities producers — mainly in Russia, China, and Canada — sending iron ore, oil, liquefied natural gas, and other fuels through arctic waters. Even the COVID-19 pandemic, which has significantly slowed shipping worldwide as supply chains have been disrupted, has not prevented traffic increasing on the arctic artery. Ships made 935 voyages in the first half of 2020, compared with 855 in the same period last year, the data shows.

The increase in shipping is a worry for the environment. As those heavy ships burn fuel, they release climate-warming carbon dioxide as well as black soot. That soot blankets ice and snow, absorbing solar radiation rather than reflecting it out of the atmosphere, exacerbating warming in the region. The Arctic has already warmed at least twice as fast as the rest of the world the past three decades. With the warming rate increasing in recent years, governments are gearing up for a future of open arctic waters.

Cheap LNG pushes Uzbekistan pipeline gas out of China market

(Reuters; Aug. 28) - Russia's second biggest oil producer Lukoil has suspended natural gas exports to China from its projects in Uzbekistan due to weak demand, a company official told a conference call on Aug. 28. Blocked from exporting gas from Russia, Lukoil has been betting on its gas projects in neighboring Uzbekistan, where it has invested as much as \$10 billion in the hope of making money from exports to China.

But the COVID-19 pandemic has hit demand and gas prices, making liquefied natural gas imports cheaper than gas brought into China by pipelines, where prices are often fixed.

As a result, Lukoil has had to suspend gas exports from its projects in Uzbekistan to China and redirect as much as 175 billion cubic feet of gas to the domestic Uzbek market, Pavel Zhdanov, vice president at Lukoil, told the conference call. "Everything depends on when the demand will start to recover," he said. "LNG became cheaper than the pipeline gas, including from Uzbekistan, and we hope that it will again become the opposite at some point."

Zhdanov did not forecast when that might happen, but said there were signs of demand recovering in China, the world's top energy consumer, and his company was continuing talks to resume supplies. Lukoil is barred from exporting the gas it produces in Russia, so it sells the bulk of it to state gas company Gazprom, which exports it.

European natural gas storage 91% full; holding down prices

(Reuters; Aug. 28) - Brimming storage tanks and ample supplies mean European natural gas wholesale prices are unlikely to rise significantly over the peak demand winter months unless the weather is abnormally harsh. In the first half of this year, European gas prices touched record lows after a glut of liquefied natural gas came to Europe and coronavirus lockdowns and reduced industrial output crushed demand.

Dutch gas prices (the European benchmark) fell to an all-time low of around 2 euros (\$2.40) per megawatt hour in May, while British gas prices were at the lowest since futures started trading in 1997. Although prices have tripled since, they are still seasonally low because of swollen inventories. During the northern hemisphere winter gas season, which runs from October to the end of March, prices are typically much higher as cold weather fuels demand for heating.

European gas storage is 91.2% full, near last year's record seasonal high, Gas Infrastructure Europe said. Typically, gas is injected into storage in the summer when demand and prices are lower and then withdrawn for use in the winter when demand is high. "By the start of the winter, there should be some 104 billion to 105 billion cubic meters of gas (more than 3.5 trillion cubic feet) in storage — which is a lot for the European market. That is obviously leaving Europe well-supplied going into the winter," said Trevor Sikorski at consultancy Energy Aspects.

Vietnam could be growth market for U.S. LNG

(S&P Global Platts; Aug. 27) - Vietnam's lineup of LNG-fueled power plants has seen a flurry of interest from U.S. liquefied natural gas exporters, with several projects with preliminary agreements signed to date, which could turn the Southeast Asian country into a major destination for U.S. natural gas if things go as planned. The recent rush is timed to make it into the country's National Power Development Plan VIII, which the energy ministry expects to submit to the prime minister by October for approval.

There is also the realization that Southeast Asia is a growth opportunity for new LNG demand amid worsening U.S.-China tensions that makes the China market harder to tap. Vietnam's declining domestic gas production and offshore exploration challenges in the South China Sea amid territorial disagreements with Beijing also make U.S. LNG an energy security hedge. In addition to supplying LNG, U.S. companies also could help in financing and power plant construction.

Power demand in Vietnam is increasing by roughly 10% each year. Vietnam plans to replace part of its coal-fueled power generation with LNG; the country's first import and regasification terminal is expected in 2021. A researcher with Vietnam Petroleum Institute, which advises PetroVietnam and the government, cited three reasons for U.S. interest in Vietnam; U.S. LNG needs to show it can compete with exporters like Qatar and Australia; Vietnam's demand growth potential; and the U.S.-Vietnam trade deficit.

Several LNG import terminals line up to supply the Philippines

(Reuters; Aug. 27) - Four LNG import terminal projects in the Philippines are in various stages of approvals and financial closures, still on track despite "minor delays" caused by the coronavirus restrictions, the country's energy chief said Aug. 27. The Southeast Asian country will soon rely on imported liquefied natural gas to feed some of its power plants currently supplied from its Malampaya gas field in western Philippine waters. The field is expected to dry up within the next few years.

Energy Secretary Alfonso Cusi said he is closely monitoring the activities of four proponents of LNG import and storage facilities to ensure that they meet commissioning targets in two or three years. "These projects are moving in varying stages of permitting from other government agencies, and/or financial closing prior to filing an application for the permit to construct," he said.

The projects of First Gen, U.S.-based Excelerate Energy, Batangas Clean Energy and Australia-listed Energy World are still in the pipeline. First Gen has had talks with Tokyo Gas to build an LNG terminal in Batangas province, near its four 2,100-megawatt gas-fired units. Excelerate plans a floating LNG terminal, while Batangas Clean Energy has proposed a 1,100-megawatt power plant alongside an LNG import terminal. Energy World aims to bring a 650-MW LNG-fueled plant online next year in Quezon province.

PG&E says gas-fueled power is an option in fire emergencies

(Natural Gas Intelligence; Aug. 27) - California has basically ruled out longer-term natural gas use as an option for back-up power at utility substations during planned outages, but Pacific Gas and Electric still plans to rely on the fossil fuel when necessary. A virtual workshop held Aug. 25 by the California Public Utilities Commission and California Energy Commission provided an overview of alternatives to diesel generation to back up generation when public safety power shutoffs are required.

Jason Regan, director of electric transmission and emergency management at PG&E, said "anything is potentially an option" for back-up power when forest fires prompt safety shutdowns. Options include truck deliveries of liquefied natural gas and compressed natural gas if a pipeline source is not readily available. Unlike the past two fire seasons, PG&E this year has "ample opportunity" to provide back-up power solutions with temporary generation at key substations. All 62 substations now equipped with temporary generation capacity were shut down because of fires last year.

PG&E Senior Vice President Fong Wan, who heads energy policy and procurement, outlined plans for 470 megawatts of temporary generation at selected substations this year, followed by a two-year effort to install permanent generation at some of them. "In 2021, we're looking to build a completely non-fossil fuel portfolio," said Wan. PG&E's power mix is 33% renewables. "I'm very optimistic that with the market's help, we can build a clean solution for the future," he said.

FERC wants equal say in bankruptcies that affect pipeline contracts

(Reuters; Aug. 29) - Federal energy regulators have sided with pipeline operator Energy Transfer in a challenge to bankrupt oil and gas producer Chesapeake Energy's request to cancel a nearly \$300 million contract, according to court filings. Chesapeake ignited a fight when it asked the U.S. Bankruptcy Court in Houston to approve breaking pipeline contracts, including with Energy Transfer and Crestwood Equity Partners.

The Federal Energy Regulatory Commission in a filing this week argued that it should have equal say with the bankruptcy court over regulated pipeline contracts. Energy Transfer wants to retain its contract with Chespeake, insisting it is more complex than many canceled in bankruptcy courts in the past. Chesapeake, the largest oil and gas producer to file for protection from creditors in at least five years, wants to rid itself of \$7 billion in debt and expenses, including pipeline contracts.

In a similar case, pipeline operator Tallgrass Energy has sought to prevent bankrupt Ultra Petroleum from cancelling a contract. It has asked FERC to intervene. "It fundamentally comes down to an argument that these contracts have unique aspects and that FERC is the one that can tell the difference," said Rick Smead, managing director for advisory services at RBN Energy. The Ultra Petroleum decision is expected to land first and could have implications for other contract rejection legal disputes.

Scientists continue searching for oil-spill cleanup tools

(The Wall Street Journal; Aug. 29) – Recent oil spills in Russia and Mauritius show that the industry still needs better methods for cleaning up accidents. Researchers are working on some unlikely solutions, including oil-absorbing wood chips, a solar-powered robot and a reusable sponge. The oil industry is controlled by large companies and their suppliers, which together have often been the cause of spills, but university researchers and small firms are playing a key role in promoting new ways to clean up the oil.

University scientists have developed a reusable sponge coated in a mixture containing iron and carbon that can absorb 30 times its weight in oil. The sponge, similar to sponges in everyday items such as furniture cushions, has attracted interest for further testing from several major oil companies, according to the researchers.

Researchers at Dresden Technical University and Leipzig University in Germany have developed a cleanup protocol using oil-absorbing wood chips that are dumped into the sea by plane, helicopter, or ship following an oil spill. The wood chips can be recovered — which sets them apart from most existing solvents — and if that is impossible because of bad weather, they biodegrade in the water.

The wood chips can work in shallow water or in bad weather, situations when many standard methods are ineffective. But they need to be in place beforehand, and locals need to be trained on how to deploy them, said Holger Unbehaun, a scientist at Dresden Technical University who developed the chips.