

Oil and Gas News Briefs

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Oil-price crash leads Alberta to pile on more debt; now US\$91 billion

(Calgary Herald; Feb. 25) - Alberta Finance Minister Travis Toews said the country's largest oil-producing province would consider new sources of revenue "down the road," after last year's oil-price collapse caused Alberta's debt to balloon to C\$115.8 billion (US\$91 billion). The budget deficit next fiscal year is expected to reach C\$18.2 billion (US\$14.5 billion), slightly better than C\$20.2 billion in the fiscal year ending March 31.

Alberta, which celebrated being debt free in 2004, has now borrowed so much money that debt-servicing costs currently exceed non-renewable resource revenues, including bitumen royalties and corporate income taxes, which is leading to a fresh debate about whether Alberta can afford to be the only Canadian province without a sales tax. "I believe that it would be very appropriate and important to appoint a revenue panel to test the efficiency and appropriateness of our revenue structure, but right now we're focused on the job at hand," Toews told reporters during a briefing.

"Right now is not a time to even be considering major revenue adjustments or tax increases," Toews said, adding a change in the province's tax structure could affect the province's economic recovery. Annual debt-servicing costs rose to just under \$2.4 billion after the pandemic and the unprecedented fall in oil prices caused a collapse in Alberta's revenues. Debt costs are now the fifth-most expensive provincial government expense item after health care, education, advanced education, and social services.

Alberta budget deficit narrows a little — to US\$14.5 billion

(Reuters; Feb. 25) - The Canadian oil-producing province of Alberta on Feb. 25 estimated its 2021/22 budget deficit will shrink to C\$18.2 billion (US\$14.5 billion), as its economy starts to recover from the damage caused by the coronavirus pandemic and oil prices recover. Alberta's 2020/21 deficit was C\$20.2 billion. The province in August had projected a 2021/22 deficit of C\$24.2 billion, before oil prices started to rebuild.

Still, the deficit is larger than the historical trend, reflecting the impact of pandemic spending. Finance Minister Travis Toews said Alberta will set aside C\$1.25 billion in contingency funding to fight COVID-19. The province also plans to invest nearly C\$21 billion over three years in construction to create jobs and support economic recovery.

Alberta is the center of Canada's fossil fuel industry, and oil and gas revenues generate much of its economic activity and revenues. The industry was battered last year by a

collapse in global fuel demand due to COVID-19, although commodity prices are picking up as vaccines are rolled out globally. Revenue for the 2021/22 fiscal year is estimated at C\$43.7 billion. Alberta has forecast U.S. crude to average \$46 per barrel in 2021/22.

Oil markets await OPEC+ decisions at Thursday meeting

(Bloomberg; Feb. 28) - From trading houses in Geneva to Wall Street banks, much of the oil world agrees that global markets could use some more barrels. The big question is whether OPEC+ will provide enough of them. A crude glut that piled up during the pandemic is vanishing fast. Global inventories are plunging at the steepest rate in two decades, according to Morgan Stanley. Prices have rallied to pre-virus levels, while U.S. output has taken a hit from freezing storms. Speculation ranges from \$70 to \$100 oil.

With the need for more supply evident, traders expect OPEC+, led by Saudi Arabia and Russia, will agree to increase production when it meets March 4, reversing some of the output cuts made last year. But it's unclear if the group will act vigorously enough to forestall a further price run-up. If the alliance agrees to an output hike that falls short of what the market wants, it could trigger a price surge — with unwelcome consequences. Wary of the pandemic's persisting threat to demand, however, Saudi Energy Minister Prince Abdulaziz bin Salman has urged producers to remain "extremely cautious."

"It's already super tight, and if OPEC just focuses on keeping prices up, that's going to eventually provoke supplies from their rivals," said Bill Farren-Price, at research firm Enverus. The 23-nation OPEC+ coalition is idling about 7 million barrels of daily output — about 7% of global supply — and will decide whether to revive 500,000 barrels a day in April. In addition, the Saudis will confirm whether the 1 million barrels they took offline for February and March will return as planned. Saudi Arabia, in a cautious tone, urges its colleagues to recall the "scars" of last year's price crash when oil flooded the market.

U.S. oil output fell in 2020; first time in four years

(Bloomberg; Feb. 26) - U.S. crude production decreased for the first time in four years in 2020 as the pandemic crushed global oil demand. American crude output averaged 11.313 million barrels a day last year, down nearly 8% from the year prior, according to U.S. Energy Information Administration. That's the lowest production rate since 2018 and it marked the biggest year-over-year percentage decline since 1949.

Drillers laid down rigs in oil fields across the country after the health crisis sapped demand for gasoline, diesel and jet fuel derived from crude. Last year America's shale oil engine, Texas, saw output fall more than 200,000 barrels a day compared with 2019,

EIA data show. Production in the Gulf of Mexico slumped to 1.654 million barrels a day last year, from 1.896 million in 2019, because of a record hurricane season.

Other producing nations may benefit from oil loss during Texas freeze

(CNBC; Feb. 26) - The shock winter storm in Texas that left millions without power and took dozens of lives also froze a major local commodity: The state's oil output, slashing some 4 million barrels per day. The consequence will be a boost in revenue and potentially increased exports by rival oil-producing nations, commodities experts say.

Analysts estimate the total volume of oil lost to Texas' production freeze at anywhere between 18 million and 40 million barrels, and roughly one-fifth of U.S. refining capacity was shut in. And while temperatures are moving upward again and production is expected to mostly recover by the end of this week, the impact of the deficit on oil markets is already visible in the recent jump in crude prices.

International benchmark Brent crude is up more than \$6 per barrel since the storm began hitting Texas production facilities in mid-February. U.S. benchmark West Texas Intermediate is up about \$3 per barrel. "The Texas storm helps Saudi and its partners tremendously because it accelerates the path to inventory normalization," Peter Sutherland, president of Houston-based energy investment firm Henrietta Resources.

This could influence decision making at the March 4 OPEC+ meeting. While member nations had prioritized production cuts during much of the pandemic to help prices, the more promising outlook for demand — and gradually normalizing global supply — provides incentive to speed up the rate at which the members will increase production.

China's oil stockpiles climb to 100 million barrels

(Bloomberg; Feb. 26) - China's oil stockpiles have risen to around 100 days' worth of net imports, making it increasingly challenging to find extra storage tanks and facilities to hold supplies, two people with knowledge of supply levels said. The build-up follows a push by Beijing to buy up crude for its reserves last year when prices crashed due to the coronavirus pandemic. The figure represents government and commercial stocks, said the people who asked not to be identified because the information isn't public.

The reserves fluctuate but have consistently been at or above 100 days' worth of imports and rose as high as 120 days recently, one of the people said. Beijing set a goal of increasing government stockpiles to hold at least 90 days of net imports, Bloomberg reported in April last year. That target did not include commercial inventories. As the world's largest oil importer, a sufficient level of reserves is critical for economic resilience to potential supply shocks such as a war in the Middle East.

“In terms of crude stockpiling, we believe China’s goal will not stop at 100 or 120 days of reserves,” said Mia Geng, an analyst at industry consultancy FGE. “National security is among the priorities for the coming years and this will sustain continuous stock-builds.” Unlike the U.S., where data about the nation’s strategic petroleum reserves are updated publicly and regularly, the size of China’s stockpiles are shrouded in mystery. There’s also less of a distinction between government reserves and commercial stockpiles, with many of the country’s biggest energy companies being state-owned.

Oil industry will emerge from downturn stronger, Wood Mac says

(Houston Chronicle; Feb. 25) - The world’s largest oil companies are poised for a sharp recovery from the worst oil bust in decades, according to a new report. Global energy consulting firm Wood Mackenzie said 40 of the largest oil companies are emerging from the downturn caused by the pandemic more resilient to low crude prices after slashing budgets and focusing on low-cost, high-return projects. On average, it says, the large oil companies can break even when West Texas Intermediate, the U.S. crude benchmark, is priced at \$38 per barrel, down from \$54 per barrel before the pandemic.

If U.S. crude prices this year average around \$55 per barrel, oil majors are estimated to have total revenue of about \$140 billion, more revenue than during any year since 2006. If the average price rises to \$70 after the pandemic ends, as some experts predict, revenue could rocket to \$400 billion, Wood Mackenzie said.

“The record annual losses being announced in the fourth quarter earnings season serve as a stark reminder that 2020 was one of the toughest years in the industry’s history, but international oil companies emerged from the crisis far more resilient to lower prices,” said Tom Ellacott, Wood Mackenzie’s senior vice president of corporate analysis. Instead of reinvesting in new oil and gas projects, large oil companies are expected to shore up balance sheets, pay down debt, and sell lower-margin assets, Ellacott said.

Angola’s oil production has declined one-third since 2015

(Bloomberg; Feb. 26) - The decline of Angola from being Africa’s top crude producer five years ago to barely pumping more than war-torn Libya today shows the toll of a slump in oil-industry investment. The nation’s production has fallen by more than a third since 2015, when international oil companies started slashing investment in response to a plunge in prices. Despite government efforts to stimulate activity, just a few drilling rigs now work in the deep Atlantic waters that hold the country’s greatest resources.

The situation could worsen as Big Oil makes another round of deep spending cuts, raising the possibility that Nigeria — another key OPEC member — could also suffer Angola’s fate. That would have consequences for the market, which needs more supply

from the cartel in the years ahead, and the economic stability of a region dependent on oil. “It’s a struggle for West Africa to compete” when investment is scarce, said Gail Anderson, principal analyst for West Africa upstream oil and gas at Wood Mackenzie.

Angola’s oil production figures tell a bleak picture, especially for an economy that’s heavily dependent on petroleum exports. Crude output has held at a 15-year low of just below 1.2 million barrels a day since November, according to data compiled by Bloomberg. “Exploration investments in Angola had been on decline since the 2014 (price) downfall,” said Siva Prasad, senior upstream analyst at Rystad Energy.

Angola has tried to slow the decline through a broad effort including auctions of new drilling areas and restructuring of state-owned oil company Sonangol. But, so far, it has not worked. Angola is largely dependent on deep-water fields, where the natural decline in output is typically faster than onshore. Without constant investment to improve oil-recovery rates or tap additional reservoirs, production can drop rapidly.

Canadian oil pipeline wants to protect identify of its insurers

(Reuters; Feb. 24) - Trans Mountain, a company that operates an oil pipeline that is under expansion and is owned by the Canadian government, has asked a regulator to keep the identities of its insurers private as activists push them to drop coverage. Environmental activists have stepped up pressure on banks and insurers to drop financing and insurance for fossil fuel companies, leading to European companies like AXA and Zurich pulling back from underwriting coal and oil sands projects.

Trans Mountain is nearly tripling capacity of the line to carry 890,000 barrels of crude and refined products per day from Alberta to the British Columbia coast. Much of the oil comes from Alberta’s oil sands — a particular focus of protests by environmentalists due to their high carbon emissions. The expansion has also raised fears among green groups about spills. The pipeline’s importance to Canada’s oil industry increased after President Joe Biden revoked a permit for the Keystone XL oil sands pipeline last month.

Disclosing Trans Mountain’s insurers publicly may result in pressure that shrinks its pool of potential insurers and raises premiums for the pipeline and its shippers, the corporation said in a submission on Feb. 22 to the Canada Energy Regulator. Trans Mountain said it incurred higher costs last year due to dwindling insurance options. The firm, which must submit an updated plan on its financial resources to the regulator by April 30, asked the regulator to keep its insurers’ identities confidential.

Shell forecasts global LNG demand to almost double by 2040

(Reuters; Feb. 25) - Global liquefied natural gas demand is expected to almost double to 700 million tonnes by 2040, Shell said in its annual LNG market outlook. Demand was 360 million tonnes last year, up slightly from 2019's 358 million tonnes, despite volatility caused by lockdowns during the coronavirus pandemic. Global LNG prices hit a record low early in 2020 but ended the year at a six-year high as demand in parts of Asia recovered and winter buying increased amid tightened supply, Shell said.

Asia is expected to drive nearly 75% of LNG demand growth to 2040 as domestic gas production declines and LNG substitutes for higher-emission energy sources. Last year China and India led the recovery in demand for LNG following the outbreak of the pandemic. China increased its LNG imports by 7 million tonnes to 67 million tonnes in 2020, an 11% increase from the year before. China's target to become carbon neutral by 2060 is expected to continue driving up its LNG demand.

India also increased imports by 11% in 2020 as it took advantage of lower-priced LNG to augment its domestic gas production. A gap between global LNG supply and demand is expected to open in the middle of this decade with less new production coming on stream than previously projected, Shell said. Only 3 million tonnes of new LNG production capacity was announced in 2020, down from an expected 60 million tonnes.

Louisiana LNG project moves toward late 2021 start-up

(Reuters; Feb. 26) - Liquefied natural gas project developer Venture Global LNG put out a tender seeking vessels that could pick up commissioning or test cargoes from its Calcasieu Pass LNG terminal, which is under construction in Louisiana, sources said Feb. 25. The tender seeks vessels as soon as October, but sources say they still do not expect the first train at Calcasieu to produce LNG until December. That, however, is way ahead of the autumn 2022 date Venture Global has posted on its website.

LNG plants usually start producing test or commissioning cargoes about three months before they officially enter service or are commissioned. Calcasieu is one the first big projects to use modular liquefaction trains — Venture Global is installing 18 trains at the plant. If the plant enters service so far ahead of its autumn 2022 schedule, sources said it would show that modular construction can save time and money. Venture Global CEO Mike Sabel said in December that the project's modular approach allowed it to proceed despite the pandemic and a hyperactive hurricane season.

Calcasieu is expected to produce about 10 million tonnes per year of LNG. Analysts estimate the plant will cost about \$4.5 billion. When it is operational, the terminal would become the seventh LNG export facility in the United States, which has grown in recent years to become a world leader in LNG production. In addition to Calcasieu, Venture

Global is working on developing three other LNG projects in Louisiana, including one that could double or triple the capacity at the Calcasieu site.

Developer unable to give start date for troubled Oregon LNG project

(Reuters; Feb. 26) – Calgary-based Pembina Pipeline said it could no longer specify a future start date for the proposed Jordan Cove liquefied natural gas export plant in Oregon. Pembina said Feb. 25 in its fourth-quarter earnings report that it recognized a C\$1.6 billion impairment in the value of certain assets, including a petrochemical project, investments in the Wyoming-to-Oregon Ruby gas pipeline and Jordan Cove.

"We believe the time for these projects may come; however, we can sadly no longer predict with certainty when that time will be," the company said. The US\$8 billion Jordan Cove LNG project is one of several major energy projects that received strong support from former President Trump but have failed to move ahead. Federal energy regulators approved construction a year ago, but the project failed to receive state water permits amid vocal opposition from Native American tribes and environmental and local groups.

Supporters emphasized that its position on the U.S. West Coast puts it closer to fast-growing Asian markets than Gulf Coast terminals, which have to send LNG through the Panama Canal. They had hoped the project would be operational by 2025. Jordan Cove is designed to produce almost 8 million tonnes of LNG per year. It is one of more than 36 LNG ventures under development in the U.S., Canada, and Mexico. Analysts, however, expect only a handful of those projects to enter service over the next decade.

Cheniere will provide LNG buyers with 'cargo emissions tags'

(S&P Global Platts; Feb. 24) - Cheniere will give its LNG customers emissions data associated with each cargo it produces at its two U.S. export terminals in a bid to make its environmental footprint more transparent at a time of increasing pressure on buyers to reduce their shale gas consumption. As the biggest U.S. LNG exporter, Cheniere is a major buyer of gas. Much of the gas is drilled in shale basins stretching from the U.S. Gulf Coast to the Northeast to Western Canada.

Amid the global energy transition to greater use of renewables and cleaner-burning fuels, France's Engie said in November 2020 that it had halted talks with NextDecade about a supply deal tied to the developer's proposed Rio Grande LNG facility in Texas. With strict carbon emissions goals, European utilities are being pressured to shy away from signing new deals for importing U.S. shale gas.

While Engie's decision did not drive the initiative that Cheniere announced Feb. 24, Cheniere's effort is aligned with Europe's goals, Chief Commercial Officer Anatol Feygin said. Cheniere operates liquefaction terminals at Sabine Pass in Louisiana and near Corpus Christi in Texas. It plans to provide customers with emissions tags associated with each LNG cargo from the terminals. The tags are designed to quantify the estimated greenhouse gas emissions of LNG cargoes from the wellhead to the cargo delivery point. Cheniere expects to begin providing the data to customers in 2022.

State-owned Chinese firm buys LNG from new Russian Arctic project

(Reuters; Feb. 25) - Russia's top producer of liquefied natural gas, Novatek, said on Feb. 25 that it had signed a long-term deal to supply the fuel to Chinese state-owned firm Shenergy Group Co. Novatek said it will supply Shenergy more than 3 million tonnes of LNG over 15 years. That would be about three LNG cargoes per year. Novatek said the supply would come from its Arctic LNG-2 project, a \$21 billion development under construction and scheduled to start production in 2023.

Shenergy is the leading gas supplier to China's financial hub of Shanghai, meeting 55% of its gas consumption in 2020, the Shanghai Petroleum and Natural Gas Exchange said this week. Backed by the Shanghai municipal government, Shenergy was the first state-run firm outside China's dominant state energy giants to own and run an LNG import terminal. It signed a long-term LNG contract with Centrica last year and has also signed a heads of agreement pact with Malaysia's Petronas for LNG.

Securing long-term deals for the Arctic LNG-2 project had been challenging amid volatile gas prices, which had worried buyers, Novatek's Chief Financial Officer Mark Gyetvay told investors late last year. During a colder than expected winter, spot Asian LNG prices spiked last month to a record high of \$32.50 per million Btu, versus a record low below \$2 last May when coronavirus lockdowns hit Asian demand.

Gazprom does not want LNG competition in Europe

(Reuters; Feb. 25) - Russia should ensure its natural gas and LNG supplies do not compete in international markets, Gazprom said Feb. 25, amid signs a local LNG rival is becoming increasingly important in the European market traditionally dominated by Gazprom. Moscow has for years said its pipeline gas, which only Gazprom has a right to export, and liquefied natural gas would never compete with its LNG targeting mainly Asia and parts of Europe not served by natural gas pipelines.

However, Yamal LNG, led by Russia's top privately owned gas producer Novatek, sent 33.5 million tonnes of LNG to Europe between 2018 and 2020, Refinitiv Eikon data showed, compared with 8.8 million tonnes sent to Asia. Russia, home to the world's

biggest gas reserves and the second-largest gas producer globally after the United States, aims to boost LNG output nearly threefold to 140 million tonnes in 15 years.

Some in the industry hope its LNG may come in handy as Europe aims to reduce greenhouse gas emissions in the years to come with a reduction in coal-fired power with Novatek, oil producer Rosneft and Gazprom all planning to build new LNG plants later this decade. “Gazprom supports development of the LNG sector in Russia to diversify sales’ markets ... provided there is no competition between Russian gas suppliers externally,” it told Reuters. Gazprom’s new LNG facility to be built by the Baltic Sea in Ust-Luga will not target pipeline gas buyers, the company said this month.

Winter spikes push Asian LNG buyers to look at new price indexing

(Independent Commodity Intelligence Services; Feb. 25) - A range of Northeast Asian LNG buyers are reconsidering price-benchmark options after a huge jump in spot-price volatility this winter. Several buyers and traders said they are seeking other forms of pricing indexing for Asian LNG spot buys to enhance their risk management strategies. Sources are considering using hybrid formulas for spot buying that could comprise of a blend of a Northeast Asian price marker with the more liquid Dutch gas benchmark.

The Dutch price has less volatility compared with Asian spot LNG prices due to much higher trading liquidity at the Dutch gas hub. And some companies are considering blending Asian spot LNG indices from different price reporting agencies with a view to producing a hybrid benchmark that could offer lower price volatility. LNG spot prices surged in the winter of early 2021 when a cold wave hit Northeast Asia, boosting LNG demand for winter heating and temporarily driving prices to record highs.

Chinese, Australian lenders fill gap in Asian oil finance market

(Reuters; Feb. 24) - Chinese national banks and Australia’s Macquarie are quietly filling some of the multibillion-dollar gap in Asian oil financing after the withdrawal of traditional European lenders, hurt by a raft of defaults and fraud allegations. Established financiers still taking on oil transactions, such as France’s BNP Paribas and Singapore’s OCBC, have raised compliance standards and are shying away from higher-risk small traders and refiners, according to interviews with over a dozen trading and banking executives.

Beijing-controlled Bank of China, ICBC Standard and Agricultural Bank of China are among the few institutions that are expanding credit in the sector, mostly as customers activate dormant lending facilities set up previously but unused as they were viewed as too expensive or restrictive. Long-time commodity financiers like the Netherlands’ ABN Amro and ING Group, France’s Natixis and Societe Generale, and regional players DBS

and CIMB have all slashed commodity lending in Asia after last year's coronavirus-led oil-price crash triggered a string of defaults that rattled the global oil trading community.

Australia's Macquarie, largely unscathed by the default turmoil, is one of the few established players to expand commodity credit in Asia and has grabbed market share left by retreating European rivals, oil executives said. But the cutbacks have left lower-tier players — small traders and refiners that are critical links in Asia's fragmented and opaque oil markets — starved of credit just as hopes rise that vaccines will revive global fuel demand. Even Macquarie's oil finance team is "doubling the time spent on due diligence on each client and each transaction," said a source close to the bank.

French-Japanese partnership plans liquid hydrogen plant

(Nikkei Asia; Feb. 25) - Japanese trading house Itochu has partnered with Air Liquide, a French industrial gas supplier, to develop a liquid hydrogen plant in central Japan which will be one of the world's largest when complete. The plant, which is scheduled for completion in the mid-2020s, is aimed at accelerating the adoption of hydrogen as a clean form of energy in Japan. The plant will produce liquid hydrogen out of liquefied natural gas, offering it as fuel for power generation and fuel-cell vehicles, sources said.

The move is in step with the energy strategy set out by Prime Minister Yoshihide Suga's government, which is promoting hydrogen as an important substitute for conventional fuels. The strategy calls for as much as 3 million tons of hydrogen to be produced annually by 2030, and underlines the need for more production capacity. Output of liquid hydrogen in Japan totals about 44 tons a day, of which Iwatani, a gas wholesaler, produces 70%. The new plant will be on par with Iwatani in terms of capacity.

The size of the investment will be finalized next year, though the plant is expected to be about the same size as the one Air Liquide is building in Nevada at a cost of about \$187 million. The Nevada plant, when completed, will be the world's largest such plant. At present, hydrogen costs around \$32 per 1,000 cubic feet to produce. The Japanese government aims to bring that down to under \$8 by 2030. Hydrogen has not been widely used as a fuel up to now due mainly to its high cost.

Russian miner will try LNG for quarry trucks

(LNG Industry; Feb. 23) - Nornickel's management has decided to develop a project to produce liquefied natural gas on the site of the company's shuttered nickel smelter in the Murmansk region of the Russian Arctic. Using the LNG, the company would shift its heavy mining equipment in the region to dual-fuel consumption, such as diesel and LNG. Nornickel is currently developing the technical scope of the LNG plant.

A pilot project to equip dump trucks for dual-fuel operation using LNG is underway. Trials have been scheduled for the second half of this year. The engines on the mining trucks will be upgraded to operate on diesel and LNG. The trucks would be tested at the open pit Zapolyarny mine at the Medvezhy Ruchey enterprise, both part of Nor Nickel.

The trials have been designed to identify whether it is possible to replace 40% of diesel fuel with LNG. The switch could significantly reduce emissions of carbon monoxide and dioxide, nitrogen oxides, sulfur oxide and dioxide, as well as carbon. Consequently, levels of gas accumulation in the quarry would decrease. Following the outcome of the small trial, the decision will be made whether to reequip the entire fleet of dump trucks used in the quarry. The LNG plant would be built in 2022-2023.

LNG will cut into bunker fuel market share in maritime industry

(Reuters; Feb. 26) - Global demand for oil-based marine fuels is set to fall in the next three decades as stricter carbon-emissions rules for the shipping industry kick in and alternative fuel use climbs, consultancy Wood Mackenzie said Feb. 25. The U.N.'s International Maritime Organization (IMO) is set to formally adopt energy-efficiency regulations in June that aim to reduce the carbon footprint of new and existing ships by 40% by 2030 compared with 2008 levels. By 2050, the IMO aims to reduce the overall greenhouse gas emissions from ships by 50% from 2008 levels.

Adoption of the upcoming efficiency rules would cause a decline in global bunker fuel, Iain Mowat, a principal analyst at Wood Mackenzie, told Reuters. For example, ships running on liquefied natural gas are expected to displace nearly 700,000 barrels per day of oil bunkers by 2030, Wood Mackenzie said in its report. But with LNG's carbon content still high relative to low-carbon alternatives, demand growth for LNG as a shipping fuel will also slow after 2040 as zero-carbon fuels, such as methanol and ammonia produced from green hydrogen, become more prevalent, Mowat said.