Energy Intelligence

PETROLEUM INTELLIGENCE WEEKLY®

Vol. 61, No. 32 www.energyintel.com August 11, 2022

Russia Rethinks Plans in Import Replacement Push

Russia is shifting the ambitions of its crucial import-replacement strategy in response to Western efforts to isolate the country following its invasion of Ukraine. With foreign majors and leading oil-field service giants withdrawing, Moscow has shifted its goals from simply replacing Western technologies to developing entirely new ones. The success of the new approach will be a crucial factor to determine the country's future as a top global energy exporter. Over the past six months, Russian officials and companies moved from denial to acceptance that there is little choice but to develop domestic technology options as Western sanctions expanded and intensified in areas including LNG and refining technologies. In mid-June, President Vladimir Putin said Russia's goals needed to change from "constantly catching up" to creating the country's "own competitive technologies, products and services that can become new world standards." Despite Western sanctions stretching back to 2014, Russian energy majors still relied heavily on Western solutions and technologies. They were seen as the most sophisticated options but also as faster to deploy, cheaper and more reliable than domestic alternatives. In the short term, companies are focused on finding alternatives to technology and equipment imports from "friendly" countries, re-engineering existing equipment and exploiting sanctions loopholes. But import-substitution efforts have intensified with crucial support provided by the state to develop domestic technologies and equipment.

Russia has notched some success in developing upstream and downstream import alternatives. But many industry players agree the country's high dependance on Western software still remains

(Please turn to p.4)

How Fast Could Iran Boost Oil Exports?

Crude market players are zeroing in on Iran's ability to increase oil exports, driven by whisperings of progress in talks to revive the 2015 nuclear agreement. Leaders in Tehran and Washington are scrutinizing the text for a deal put on the table by EU mediator Josep Borrell that could allow Iran to return to global oil markets. At a time of tight supplies and high prices, Iranian barrels would be welcomed by most consumers. The outcome remains uncertain as rumors of a rapprochement have ebbed and flowed for months. But, if allowed, Energy Intelligence sees the potential for the country to raise crude production and exports swiftly, as it did in 2016 when it surprised most analysts with its rapid rebound. Under its "Breakthrough" scenario the Energy Intelligence Research & Advisory unit sees Iran's output rising to 2.95 million barrels per day in December before slowly increasing to 3.7 million b/d by June next year, assuming a deal is struck in August. This scenario would result in exports rising to between 1.25 million b/d and 2 million b/d, respectively, up from an estimate of just below 1 million b/d in August. For this scenario to come to fruition, Iran would have to experience limited technical constraints. The main drag on exports in this case would be the time it takes the US to verify Iran's nuclear compliance and for Tehran to verify Washington's promises to let its oil flow freely. That verification process would impact whether buyers still fear risks from US sanctions not related to the so-called Joint Comprehensive Plan of Action (JCPOA) and whether banks are willing to re-establish payment channels.

Chairman: Raja W. Sidawi. Vice Chairman: Marcel van Poecke. Chief Strategy Officer & Chairman Executive Committee: Lara Sidawi Moore. President: Alex Schindelar. Editor-in-Chief: David Pike. Executive Editor: Noah Brenner. Contact Us: New York: Tel: +1 212 532 1112. London: +44 (0)20 7518 2200. Sales: sales@energyintel.com. Customer Service: customerservice@energyintel. com. Bureaus: Beirut: +961 3 301278. Dubai: Tel: +971 4 364 2607/2608. Houston: Tel: +1 713 222 9700. Moscow: Tel: +7 495 604 8279/78/77. Singapore: Tel: +65 6538 0363. Washington: Tel: +1 202 662 0700. Other publications: *EI New Energy, Energy Compass, Energy Intelligence Finance, International Oil Daily, Jet Fuel Intelligence, Natural Gas Week, Nefte Compass, NGW's Gas Market Reconaissance, Nuclear Intelligence Weekly, Oil Daily, Oil Markets Briefing, Oil Market Intelligence, World Gas Intelligence.* www.energyintel.com

If US sanctions outside the JCPOA create a messy and uncertain market for Iranian crude, the rise in output may be more modest, Energy Intelligence estimates. Under a "Slow-Going" scenario, Iran's production rises to 2.74 million b/d and its exports to around 1.04 million b/d by year's end — from 2.62 million b/d and a lower August export level of 920,000 b/d. Should talks collapse, the "No-Deal" scenario forecasts a decline in exports, assuming a crackdown by the US results in an even more onerous sanctions campaign. Such an outcome would make it harder for the country to sell its crude and choke its oil industry. Even sales to China could decline if buyers become more cautious, robbing Iran of its only real customer. Under such a scenario, Iranian exports may drop as low as 500,000 b/d — as happened in 2019 after the Trump administration's withdrawal from the JCPOA in 2018. A no-deal scenario would likely see Iran's production remain relatively flat, depending on the tenacity of US sanctions enforcement and the country's domestic demand.

The view of Iran's industry from inside the country is more optimistic than even the highest Energy Intelligence estimates. Iran presently produces 2.5 million-2.6 million b/d of crude, according to one Iranian oil official, while exports range between 600,000-900,000 b/d. But the export figure is likely to include not only crude but up to 200,000 b/d of condensate, the official told Energy Intelligence. But even Iran's own technocrats are unsure as crude sales are now handled by the powerful Revolutionary Guard. In case of a return to the nuclear deal, Opec's former No. 2 producer should be able to boost output to 3.8 million b/d within three months and to 4 million b/d soon after, the official said — similar to Iran's ramp-up in early 2016 when the nuclear deal came into force. This would add around 1.3 million-1.5 million b/d of crude exports within three months. The figure varies depending on the level of domestic oil consumption, which can run between 1.8 million and 2 million b/d. Iran should then be able to add another 200,000 b/d in crude exports once it hits its maximum production capacity of 4 million b/d, the official estimated. But the greatest challenge for the country won't be raising oil production or exports — it will be finding countries other than China willing to buy it, the official admitted.

Policy Push Sees US Poised to Lead On Carbon Tech

Landmark legislation could make the US the undisputed global leader in carbon capture and storage (CCS) and accelerate adoption of CO2-removal technology worldwide. CCS and direct air capture (DAC) were major winners in the Inflation Reduction Act (IRA), for which final approval is expected soon. It will direct billions of dollars into tax incentives to deploy carbon-removal technologies and fund new research and development projects. The carbon-removal sector has been pleading in recent years for additional policy support to enable it to scale up. Assuming the IRA becomes law, the US industry will have some of the world's most supportive governmental policies, not to mention more geologic storage capacity than any other single country. Matt Bright, policy manager for carbon capture at the Clean Air Task Force, says the IRA will be "transformative" for the deployment of carbon capture technologies and will have "a profound ripple effect on the rest of the globe." By demonstrating the viability of carbon removal in the US — economically and technically — and attempting to fast-track innovation, the US can be a model for other countries looking to "seize the opportunity to decarbonize" even hard-to-abate industries like steel and cement, Bright says. Chris Kendall, CEO of CO2-management specialist Denbury, says carbon capture "now has the necessary public policy support to incentivize rapid development of capture projects."

In a bill full of carrots to decarbonize at both the corporate and consumer level, the carbon-removal community has been served a feast. The version passed by the US Senate features substantially increased tax credits for CCS and DAC, including for enhanced oil recovery (EOR), plus a "direct pay" and credit monetization option for companies with smaller tax burdens — changes the sector has long coveted. The bill would also greatly expand project eligibility. The deadline to begin construction on projects would be extended by seven years to the end of 2032, while the threshold for projects to qualify for the credit would fall sharply, from 100,000 tons per year of CO2 currently to 12,500 ton/yr for point source CCS and 1,000 ton/yr for DAC. The current 45Q credit of $50/ton is enough to get many projects off the ground, primarily those attached to more "pure" streams of CO2 emitted from things like ethanol facilities and natural-gas-processing plants. At the proposed $85/ton for point source, heavier industrial facilities like power generation and some steel and cement manufacturing become economic CCS projects, analysts say. DAC projects get an even bigger boost, with a tax credit of $180/ton. That's not quite enough to break even at today's DAC costs, which bottom out roughly around $200/ton. But the revenue certainty and extended timeline give operators the ability to accelerate developments with confidence, which can "reduce those costs quicker" and "create a sustainable business sooner," says Richard Jackson, Occidental Petroleum's head of US onshore and carbon management operations.

Experts expect the IRA to unlock CCS and DAC deployment in the US. Researchers at Princeton University say policies in the bill could increase the use of carbon capture 13-fold by 2030 to around 200 million ton/yr of CO2 captured for storage, or as high as 450 million ton/yr by 2035, assuming sufficient investment in transport networks and storage basins. Chris Davis, senior vice president of newly formed CCS developer Milestone Carbon, says proposed changes to 45Q could open an addressable market in the US of more than 1 billion ton/yr of CO2. That means many more potential customers to sign CO2-offtake agreements, particularly on the US Gulf Coast, where project developers need to secure "anchor emitters" before they can move forward. Companies like Denbury and Talos Energy have already laid groundwork for several different capture and storage projects and will likely benefit from being early movers in the sector. California Resources Corp. this month announced a joint venture with Brookfield Renewable that will see the Canadian player invest at least $500 million initially for CCS projects in the Golden State. And while carbon-removal players got nearly everything they could have hoped for with the IRA, permitting remains an obstacle. Class VI injection permits can take years to get approved by the federal government. States like Texas, Louisiana and New Mexico have applied to takeover and speed the process.

High Prices Drive Chinese NOC Transitions

Surging upstream profits are giving Chinese national oil companies (NOCs) an opportunity to boost transition spending and flesh out decarbonization goals. But China's energy security remains their primary mission and in the near term this means continued growth in domestic fossil fuel production. China's plans to peak carbon emissions by 2025 and become carbon neutral by 2060 pushed its NOCs to come up with transition goals. But a flurry of initial pledges lacked detailed plans. With crude prices averaging $108 per barrel this year, their highest since 2013, China's NOCs have the cash they need to progress their green plans. "With high oil prices, companies can do it all — fund their E&P, pay dividends, service debt and still have spare financial capacity to develop energy transition projects," Wood Mackenzie's corporate research director Kavita Jadhav told Energy Intelligence. Upstream-focused China National Offshore Oil Corp. (CNOOC) Ltd. expects first-half 2022 profits to more than double from last year to as much as 71.5 billion yuan ($10.6 billion). Parent company CNOOC has pledge to boost clean energy investments to 10%-15% of total capital expenditure from the 2026-30 period, up from the current 5%-10%. The plan would make the company a leader among NOCs in terms of green energy spending and exceed the transition spending guidance of Exxon Mobil and Chevron as a percentage of capex.

As Chinese NOCs refine their energy transition plans, carbon capture, utilization and storage (CCUS) and hydrogen solutions are gaining traction. Both leverage existing company expertise but open up fierce competition between China's state champions. China National Petroleum Corp. and Sinopec operate respectively 18% and 14% of China's CCUS projects, energy consultancy Rystad Energy's senior CCUS analyst Sohini Chatterjee told Energy Intelligence. "About 95% of the oil CCUS projects in China are enhanced oil recovery projects. Companies are not leaving their legacy behind," she said. CNOOC completed last month the country's first offshore carbon capture and storage (CCS) project in southern China, capable of sequestering 300,000 tons per year from its Enping 15-1 oil cluster. The company also signed a memorandum of understanding with Exxon and Shell to study a 10 million ton/yr CCS project at the Daya Bay petrochemicals hub. In June, PetroChina released its first interim targets to reduce Scope 3 emissions. The company plans to increase its CCUS capacity from 3.7 million tons by 2025 to 100 million tons by 2050 and to capture 30% of the domestic hydrogen market by 2050. The initiative will pit China's two largest refiners, PetroChina and Sinopec, against each other for market share. Sinopec, keen to capitalize on its almost 31,000 petrol retail stations, was an early mover on hydrogen. It hopes to have have 1 million tons/yr of green hydrogen capacity ready by 2025.

But no matter how detailed and ambitious, Chinese NOCs' transition plans continue to take a back seat to ensuring the country's safe and sufficient oil and gas supplies. Rising geopolitical tensions have made growing China's domestic oil and gas output a priority. PetroChina, Sinopec Corp.

and CNOOC Ltd., the Hong Kong-listed arms of China's Three Sisters, plan to spend at least two-thirds — or 352.7 billion yuan ($52.2 billion) of their cumulative 2022 capex — on their upstream oil and gas, with most directed to domestic production. The NOCs are particularly interested in gas to help bridge China's transition through 2040. The companies' efforts appear to be panning out. Gas output rose by 4.9% to 109.6 billion cubic meters in the first half of this year. But reaching the country's target of 230 Bcm by 2025 will require the NOCs to tap into expensive unconventional gas. For PetroChina and Sinopec this means shale, whereas CNOOC will target onshore coalbed methane deposits. "If oil prices fall, Chinese NOCs' capital allocation to new energy will be constrained," Woodmac's Jadhav said, as the companies will have to prioritize oil and gas developments.

Russia Rethinks Plans in Import Replacement Push

(Continued from p.1)
a key concern. Oil majors are trying to move quickly to address the deficit. In late June, Russia's oil and gas majors formed an oil and gas industrial competence center to help identify crucial software that needs to be replaced with domestic alternatives. The goal is to have a work plan by October. Moscow is trying to replicate the model in other industries, with the hope that solutions in one sector — like energy — might help fill gaps in another and vice versa. But beyond state-led efforts, success will also depend on shifting the mindset of industry executives. Sharing risk and aggregating demand across different industries could accelerate development but has not traditionally been the norm. Energy giants will also have to become more comfortable working with domestic start-ups to help finance, test and scale up new solutions. Industry players say companies will have to find proper cooperation models if they want import replacement to take a step forward.

The acceleration of Russian import-replacement efforts is being driven by a continued exodus of Western companies and the constant layering of additional Western sanctions. Major producers like Exxon Mobil, Shell and BP have signaled their resolve to exit. Oil-field service firms have largely followed suit — with some notable exceptions. The US, EU and UK have constantly expanded restrictions, but avenues remain for Russian companies to use Western services and equipment. Baker Hughes recently announced the sale of its Russian unit to a local management team. Halliburton advised that its Russian assets are up for sale. But Schlumberger, which has the largest exposure to Russia, is staying provided its operations are in "full compliance with international sanctions," CEO Olivier Le Peuch told investors. Sources at Russian oil companies confirm that Schlumberger is providing services under existing contracts as are some other foreign firms. Certain loopholes in sanctions allow Russian producers to continue to access foreign technologies, sources tell Energy Intelligence. Sanctions ban the provision of new technology and equipment, but Russian companies can continue to use both under existing licenses, although without the same technical support. Exemptions exist for services required for safe operations of equipment. Privately, industry players say some foreign companies still appear unwilling to leave Russia entirely, and unofficially, some Western executives say that they will be ready to return if and when restrictions are lifted.

Producers Look For Greater Voice At COP27

Egypt has a tricky path to navigate as the host of the upcoming COP27 climate conference where it will look to balance its place as a producing nation in the Global South with calls for aggressive climate action. Producers will be hoping Cairo proves more sympathetic after their experience in Glasgow at the last COP26 conference where Shell's Ben Van Beurden lamented the oil and gas industries "were told we were not welcome." Big Oil may be more visible this time round but may not necessarily translate into friendly policy direction. Egypt itself will be under pressure to provide further climate action, fully aware of its vulnerabilities to the impacts of climate change. Egypt's COP27 presidency outlined four pillars of the conference; mitigation, adaptation, finance and collaboration. Within that framework, hydrocarbon-rich developing nations will look to reassert their right to pump their oil and gas and perhaps to loosen restrictions on western lending to help do it. In June, the African Union underlined the continent's "differentiated path towards the goal of universal access to energy, ensuring energy security for our continent" that acknowledges global climate goals. Natural gas, green and low carbon hydrogen and nuclear energy, the union argued, will be expected to play a crucial role in expanding access in the short term.

Finding space for producer states themselves in a just transition could prove to be a legacy of COP27. Formal inclusion of private oil and gas companies would be a marked shift from COP26 in Glasgow. **"(Oil producers) have to be included … and they have to be part of the solution," Egyptian**

Petroleum Minister Tarek el-Molla, a former Chevron executive, said late last year. But focus should rest on the influence of producing nations and their national oil companies to carve out important caveats in policies around natural gas, the role of carbon capture and offsets and fossil fuel finance. The narrative of no industry participation at the last COP can be misleading. National oil company executives peppered country-level delegations and as such have direct access to negotiations. Some in the industry are optimistic. "We've heard positive comments on the role of industry in supporting the global goal on adaptation to strengthen resilience to climate change," says Brian Sullivan, executive director at global oil and gas association Ipieca.

At the same time, Cairo will be hoping to avoid the fate of the 2009 COP15 in Copenhagen that was seen as a failure for its lack of firm progress on climate commitments. Here the country will push for a leveling of the playing field among developed and developing nations. Progress on the pledge for $100 billion per year in financing to help climate-related mitigation and adaptation will be a focus but there the outlook is growing more difficult by the day. The war in Ukraine has aggravated the slowdown in the global economy and with a weak growth outlook, securing firm financial commitments from developed markets may prove challenging. Egypt's own 2030 emissions reductions targets covering oil and gas, electricity and transport are conditional on financial support from developed countries – to the tune of $246 billion. Investment bank HSBC characterized the funding need as a "tall order". While natural gas and hydrogen remain at the center of its decarbonization strategy Egypt has set itself ambitious targets and is home to some of the largest renewables projects in the region. Cairo plans to use more than 35% of renewable energy for electricity by 2040 and over 60% by 2045 and has been heading the energy transition in North Africa — alongside Morocco — in recent years.

Pundits See Rising Prices But Recession Risk Looms

Tension between physical supply shortages and recession fears could send oil prices on a roller coaster for the rest of this year. A survey of price forecasts shows pundits believe oil prices will climb from current levels through the third quarter before dipping in the fourth. Energy Intelligence sees a similar trend, with Brent forecast to trade at $108.50 in the third quarter but fall to $93 in the fourth. Near term, supply worries on multiple fronts are driving bullish sentiment. Western efforts to isolate Russia following its invasion of Ukraine present the biggest upside risk. But recession worries loom by year's end. The EU has pledged to halt purchases of seaborne Russian crude by December and products by February. The US and Canada have already stopped their much smaller imports. Refiners are now scrambling to find replacement barrels, providing support for prices. Traders and brokers say an EU ban on insuring and financing tankers carrying Russian oil will further — albeit artificially — tighten the market. Such transport bottlenecks could severely limit Russia's ability to export some 3 million barrels per day of crude and 2 million b/d of products.

Russia is not the only supply factor giving bulls a boost. The market is facing deeply strained spare capacity among Opec and its allies. Massive releases from the US Strategic Petroleum Reserve (SPR) that are adding 1 million b/d to the market will wind down in October. The Opec-plus group raised quotas by just 130,000 b/d at its August meeting. The bloc itself noted "severely limited availability of excess capacity" and suggested little more will arrive until 2024. That dynamic will support premiums for light, sweet crude, which is already in high demand, analysts with Bank of America said. Refiners are cutting sulfur to meet market demand for cleaner products but desulfurization requires natural gas, which has seen its own price surge. Instead, buyers are seeking lighter, sweeter barrels, supporting prices for both Brent and US crudes.

Analysts acknowledge the macroeconomic environment is less supportive for prices. The US has experienced two straight quarters of negative growth. Globally, inflation remains high, and actions by central bankers to curb it could put the brakes on the economy. Demand has yet to recover to pre-pandemic levels, and a recession could put downward pressure on fuel consumption. But few see a return to the prices seen even just a year ago. "A recession scenario with rising unemployment and household and corporate bankruptcies could lead to commodities demand declining and surpluses developing," warn analysts with Citi, adding that oil could fall as low as $60. However, Citi is an outlier in its bearishness — other pundits say that even with a recession, supply-side factors will keep oil supported above $80. Winter fuel

Selected Oil Price Forecasts

Brent (US$)	Q3'22	Q4'22	2022	2023
Energy Intelligence	109	93	103	103
EIA	114	106	105	95
Citi	99	85	98	75
Goldman Sachs	110	125	--	125
Bank of America	110	100	104	100
Deutsche Bank	110	110	107	96
JBC	112	113	110	103
Oanda	105	95	105	95
Santander	100	92	102	82
Commerzbank	100	95	101	91
WTI	**Q3'22**	**Q4'22**	**2022**	**2023**
Energy Intelligence	104	90	99	100
EIA	98	92	99	89
Citi	94	81	95	72
Goldman Sachs	105	120	--	120
Bank of America	105	95	100	95
Deutsche Bank	107	107	104	94
JBC	110	110	104	101
Oanda	100	90	100	90
Santander	96	88	97	78
Commerzbank	97	92	98	88

Source: Energy Intelligence, reports

switching to replace sky-high natural gas could offset drops in demand from transportation and discretionary travel. Analysts with Goldman Sachs argue that it will take a combination of lower consumption and a slowing economy to take oil prices much lower. "We continue to expect that the oil market will remain in unsustainable deficits at current prices," they said.

Wild cards remain on both the bullish and bearish fronts. Hurricane season has thus far been quiet in the US but is entering its most active phase. Given low product stocks, a major hurricane hitting the Gulf Coast and affecting operations would give prices a significant boost. Progress in negotiations on a nuclear agreement could bring more Iranian barrels back into the market. In 2021, Hurricane Ida smashed into the energy-rich US Gulf, knocking off line 2.1 million b/d of refining capacity and 400,000 b/d of crude production. Energy Intelligence sees a nuclear deal allowing Iran to increase exports by more than 300,000 b/d by year's end and Iranian officials say an increase of more than 1 million b/d is possible. While not enough to offset either the end of US SPR sales or potential Russian outages, the additional volumes would cool oil prices and add some slack to the physical market.

Permit Reform Holds Promise For US Gas

The US has its best shot in years at securing durable reforms to oil and gas pipelines permitting potentially unlocking additional US gas production. The federal approval process for oil and gas pipelines and other major energy projects has long been a sticking point in the US. Authorizing large pipelines is a time-consuming, unpredictable process that involves multiple federal agencies and decisions that are often vulnerable to lengthy delays from environmental lawsuits. Permitting reform legislation was the string attached to US Sen. Joe Manchin's support for the pending $369 billion climate-focused Inflation Reduction Act, but politically there are still question marks. If permitting reform squeaks by in the US Senate this fall it could help to clear natural gas bottlenecks in the Northeast and the Permian. The reforms also could help insulate pipeline developers to some extent against costly green litigation. Energy Transfer's 570,000 barrel per day Dakota Access Pipeline, for example, a main artery for shipping crude from the North Dakota Bakken tight oil play to US Gulf Coast refining markets, faced a protracted legal battle to avoid shutdown after a 2020 ruling that the federal government failed to adequately assess spill risks. Developers of the PennEast pipeline that would have added 1.1 billion cubic feet per day of natural gas capacity in the constrained Northeast halted development last year even after winning a US Supreme Court battle because the project would have struggled to gain state-level permits.

Permitting reform could be a boon for natural gas development in the US Northeast. Shale gas producers have cited capacity constraints as a key hurdle to expanding output from the Marcellus Shale that is needed to meet demand in the US Southeast. If the legislation were to pass this fall, the first project affected would be the Equitrans Midstream's embattled Mountain Valley pipeline, awaiting US Forest Service authorizations that have been held up for months. The mostly complete 303-mile line from Bradford, West Virginia to markets in Southern Virginia would add 2 billion cubic feet per day capacity. It is a key priority of Manchin's home state and he appears to have secured Democratic commitments to issue the remaining permits for the project.

Crude transport is unlikely to see dramatic change. Longstanding bottlenecks in the Permian to US Gulf Coast ports have already been cleared by a slew of newly built pipelines and expansions that came online in the last three years. But some of the reforms Manchin is seeking could also smooth the way for additional gas capacity beyond just Mountain Valley. Manchin wants new curbs on state power to block pipelines using water quality authority, as New York and other Democratic-led states have done. He is also seeking a requirement that the White House publish an evolving list of 25 "high priority" energy projects. These would go to the front of the line for agency approvals and supposedly balance fossil fuels against renewables and other types of infrastructure. Analysts have suggested that LNG export facilities could come out a winner on the priority list because of the trade implications. For example, Sempra's Port Arthur LNG facility in Texas has been moving slowly through Federal Energy Regulatory Commission review. In the Permian Basin, several gas pipeline projects announced in recent months would add a combined 4.18 billion cubic feet per day of takeaway capacity over the next two years but all are awaiting various stages of approval.

However, the passage of permitting reform legislation is far from a slam dunk in a bitterly divided Washington. Manchin is yet to release publicly more than a wish list of demands, such as measures to limit the ability of environmental organizations to challenge projects in court. Democratic leadership has agreed to attach permitting reform to a must-pass funding bill in September. The bill would require 60 votes to pass and there's no guarantee that Republicans, bitter over Democrats' Inflation Reduction Act, will support it.

What's New Around the World

CORPORATE — Devon Energy unveiled plans to take over privately held Eagle Ford Shale producer Validus Energy for $1.8 billion. The transaction would expand Devon's footprint in the South Texas shale play by 42,000 net acres and tack on another 35,000 boe/d of output, which is expected to grow to 40,000 boe/d over the coming year. Devon said that 70% of Validus' current production is oil. Validus, backed by Pontem Capital, acquired its Eagle Ford assets from Ovintiv in 2021 for $880 million. At the time, the properties produced 21,000 boe/d and oil prices were in the low $60 per barrel range. Investors responded favorably after Devon said increased cash flow from the deal would translate to a 10% boost in its outlook for its variable dividend and an acceleration of its $2 billion share buyback program. Devon's stock had risen by more than 3% to over $59 per share by mid-morning. Devon's purchase of Validus would be the largest deal in the Eagle Ford since Chesapeake's $4 billion purchase of WildHorse Resource Development.

RUSSIA — President Vladimir Putin has signed a decree that prohibits companies from "unfriendly countries" from divesting assets in Russia's financial and energy sectors — at least through the end of this year. Among other things, the decree temporarily prevents BP from proceeding with plans to sell its 19.75% stake in Russian oil giant Rosneft and Exxon Mobil from disposing of its 30% operated interest in the Sakhalin-1 oil project in Russia's Far East. The ban on divestments in the energy sector also extends to producers of equipment for the oil and gas industry and companies that maintain and service energy equipment. Moscow uses the term "unfriendly" to refer to countries that have adopted sanctions against Russia in response to its invasion of Ukraine. The decree may be extended beyond the end of this year and Putin has the power to grant waivers that would allow sales to proceed. Most Western oil and gas majors have announced plans to stop new investment in Russia and divest some or all of their assets in the country. Russia, meanwhile, has tried to limit the exodus of foreign investors and encouraged companies to remain in the country to limit damage to its economy.

Opec-Plus Achieves Output Surge

The 23-member Opec-plus produced 44.55 million b/d of crude oil in July, an impressive 1.08 million b/d increase on June, according to Energy Intelligence assessments. Saudi Arabia, Nigeria, Kazakhstan and Libya spearheaded the gain, with the latter three staging a rebound after temporary setbacks in June.

Despite the surge, the 19 members of the alliance with a quota came up 2.8 million b/d short of their target of 41.45 million b/d for the month. Russia had the largest shortfall of 1.02 million b/d. This was not unexpected. Russia's July production target of 10.83 million b/d, is greater than its production capacity of 10.2 million b/d as assessed by Energy Intelligence. The total Opec-plus compliance rate for July was 224%, the second highest result in the 27 months that the pandemic-related production cut agreement has been in force.

Compliance With Opec-Plus Production Cuts

Opec	Base	Jul Ceiling	Jul Production	Target	Compliance Rate
Saudi Arabia	11,500	10,833	10,830	-3	100%
Iraq	4,803	4,580	4,409	-171	177
UAE	3,500	3,127	3,130	3	99
Kuwait	2,959	2,768	2,768	0	100
Nigeria	1,829	1,799	1,168	-631	2,203
Angola	1,528	1,502	1,209	-293	1,227
Algeria	1,057	1,039	1,049	10	44
Congo (Br.)	325	320	234	-86	1,820
Gabon	187	183	196	13	NA
Eq. Guinea	127	125	111	-14	800
Opec 10	**27,815**	**26,276**	**25,104**	**-1,172**	**176**
Iran	3,296	NA	2,610	NA	NA
Venezuela	1,171	NA	730	NA	NA
Libya	1,114	NA	850	NA	NA
Opec 13	**33,396**	**26,276**	**29,294**	**-1,172**	**176**

Non-Opec	Base	Jul Ceiling	Jul Production	Target	Compliance Rate
Russia	11,500	10,833	9,815	-1,018	253
Mexico*	1,753	0	1,743	0	NA
Kazakhstan	1,709	1,680	1,430	-250	962
Oman	883	868	865	-3	120
Azerbaijan	718	706	562	-144	1,300
Malaysia	595	585	344	-241	2,510
Bahrain	205	202	203	1	67
South Sudan	130	128	146	18	NA
Brunei	102	100	70	-30	1,600
Sudan	75	74	78	4	NA
Non-Opec 9	**15,917**	**15,176**	**13,513**	**-1,663**	**324**
Combined 19*	**43,732**	**41,452**	**38,617**	**-2,835**	**224%**
Opec-Plus 23	**51,066**	**NA**	**44,550**	**NA**	**NA**

In '000 b/d. Opec and non-Opec compliance based on crude oil only. Mexico no longer has a quota but nominally is a member of the non-Opec alliance. Source: Opec, government data, Jodi, Energy Intelligence.

Global Production Skyrockets in July

Global production of hydrocarbon liquids jumped by over 2 million b/d in July, catapulting over the 100 million b/d threshold and ending at an average 100.8 million b/d for the month. The total is the highest since March 2020. Opec-plus accounted for over half the monthly gain, or an additional 1.13 million b/d, lifting the alliance's total liquids output to 52.43 million b/d. Countries not aligned with Opec managed to boost production by 940,000 b/d thanks to rebounds in Norway (430,000 b/d month-on-month) and Equador (130,000 b/d m-o-m).

World Crude Oil and Other Liquids Supply

('000 b/d)	Jun'22	Jul'22	Chg.	Crude July	Other July
Non-Opec-Plus	**19,027**	**19,010**	**-17**	**11,800**	**7,210**
US	5,587	5,570	-17	4,500	1,070
Canada	3,951	4,293	341	3,123	1,169
Brazil	698	734	36	716	18
Colombia	1,529	1,958	429	1,670	288
Norway	870	896	26	811	85
UK	649	641	-8	529	111
Egypt	2,142	2,128	-14	611	1,517
Qatar	4,290	4,236	-54	4,132	105
China	779	771	-8	586	185
India	785	798	13	618	180
Indonesia	4,770	4,981	210	3,281	1,699
Other Non-Opec-Plus	4,888	4,826	-63	3,139	1,686
Opec-Plus	**51,293**	**52,427**	**1,134**	**44,550**	**7,877**
Opec	**33,745**	**34,642**	**897**	**29,294**	**5,348**
Saudi Arabia	12,960	13,183	223	10,830	2,353
Iraq	4,470	4,471	1	4,409	62
Iran	3,441	3,464	23	2,610	854
UAE	4,135	4,177	42	3,130	1,047
Kuwait	2,893	2,937	44	2,768	169
Nigeria	1,159	1,367	208	1,168	199
Libya	695	918	223	850	68
Algeria	1,452	1,478	27	1,049	429
Angola	1,175	1,247	72	1,209	38
Other Opec	1,367	1,401	35	1,271	130
Non-Opec	**17,547**	**17,784**	**237**	**15,256**	**2,528**
Russia	11,293	11,262	-31	9,815	1,447
Kazakhstan	1,485	1,699	214	1,430	269
Azerbaijan	687	706	20	562	144
Mexico†	1,931	1,983	52	1,743	240
Oman	1,073	1,084	11	865	219
Malaysia	587	535	-52	344	191
Other Non-Opec	492	515	23	497	18
World Supply	96,370	98,442	2,072	76,928	21,514
Refinery gains	2,363	2,360	-3	0	0
Total World	**98,733**	**100,801**	**2,069**	**76,928**	**23,873**

*Other liquids include natural gas liquids, biofuels, gas-to-liquids, coal-to-liquids, refinery additives. †Mexico nominally is a member of the Opec-plus alliance but has no production quota. Source: IEA, EIA, Jodi, government and trade data, Energy Intelligence.

Marketview

Moving on Up

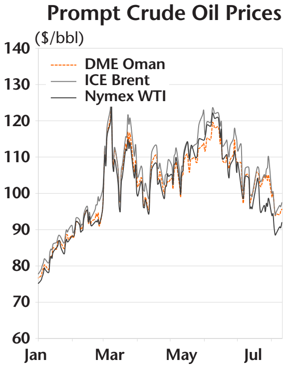
Brent oil rebounded from its prior week low of $94.12 per barrel and was poised to bounce more than $4 week on week after a period of directionless trading. Prices struggled to regain momentum, with both supply and demand uncertainty competing for the market attention last week. This ebb and flow of trading sentiment whacked $30/bbl off the Jun. 8 high of $123.58/bbl and contributed to eroding refining margins.

On the supply side, Libya restored exports but refiners told Energy Intelligence the flows are not reliable enough to plan runs. Global output rose by 1.4 million barrels to 100.5 million barrels per day in July, its highest level in two and a half years, the International Energy Agency (IEA) said in its latest Oil Market Report. Saudi Arabia increased production in line with its Opec-plus targets, while some upstream facilities in the North Sea, Canada and Kazakhstan restarted operations after a period of scheduled maintenance. Producers outside of the Opec-plus alliance — primarily the US — are set to add 640,000 b/d until December.

On the demand side, the recessionary outlook is weighing on economic growth. The IMF has cut its 2022 global GDP outlook by another 0.4 percentage points, to 3.2%, citing uncertainty over health of key economies. Consumer confidence is in the doldrums, and aversion to high retail fuel prices has left a lackluster driving season, with motor fuel demand stalling early in the summer. Sweltering heat across much of the world, however, has increased air conditioning demand and prompted a surge in direct fuel burn for power generation. Given the sharp spike in gas prices, several countries in Europe, the Middle East and Asia have already switched to fuel oil.

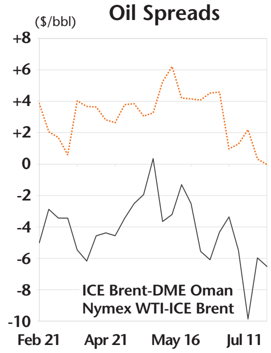
This oil substitution trend will get stronger this winter and, if natural gas prices keep rising, could create nearly 1 million b/d of extra demand in Europe and Asia combined, Energy Intelligence estimates. Europe alone could account for about 300,000 b/d. Industrial usage will be key, as running fuel oil instead of gas for heat generation is relatively easy. European power generation is less flexible, but a few older thermal plants can probably burn fuel oil in place of gas.

Prompt Crude Oil Prices



Source: Nymex, ICE, DME

Benchmark Crude Oil Spreads



In the Middle East, Saudi Arabia and Egypt are importing and burning more fuel oil from Russia and monetizing their own oil and gas reserves elsewhere. In Asia, Bangladesh and Pakistan have scooped up cargoes of Russian "mazut" to replace expensive LNG. In certain regions, utilities can also burn heating oil (diesel). "In Europe, it's almost impossible to produce electricity from diesel", said Daria Scafaffardi, CEO of Italian refiner Saras. "But in other parts of the world, this is happening".

As a result, the price outlook remains "constructive", refiners said. So far, the effect of US and EU sanctions against Russian oil has been minimal. Product exports from Russian have remained roughly the same as before the war. Buyers have changed, but the oil is still flowing, even if big oil majors have turned away from Russian supply. Yet, a looming EU ban on Russian refined products due on Feb. 5 could impact global balances dramatically. The late dip in product crack spreads may just be a phase of consolidation before margins start to rise again

EIA Trims US Demand Outlook

Demand for US oil products is expected to be slightly lower than previously thought as higher prices and diminished consumer sentiment start to bite, according to the US Energy Information Administration (EIA). In its latest *Short-Term Energy Outlook* (STEO), the EIA lowered its US 2022 oil demand forecast by 140,000 b/d to 20.34 million b/d, which is expected to grow to 20.75 million b/d in 2023. The agency's outlook for US consumption in 2023 is 50,000 b/d lower than it predicted in July. Gasoline, jet fuel and diesel demand are now expected to be a little softer this year, while demand for natural gas liquids like ethane and propane is forecast to be somewhat higher than predicted in last month's STEO. After the revision, US gasoline demand is seen rising by just 30,000 b/d from last year to 8.83 million b/d in 2022, while jet fuel demand is expected to increase by 160,000 b/d to 1.53 million b/d. Diesel demand is flat at 3.94 million b/d.

PIW Market Indicators

($/barrel)	Aug 8-Aug 10	Aug 1-Aug 5	Jul 11-Jul 15
Spot Crude			
Opec Basket	$101.00	$103.41	$105.44
UK Brent (Dtd.)	104.10	102.18	109.79
US WTI (Cushing)	93.54	93.96	99.92
Nigeria Bonny Lt.	111.27	111.50	118.31
Dubai Fateh	94.55	97.67	99.14
US Mars	92.06	93.12	96.53
Russia Urals (NWE)	71.27	70.40	76.81
Crude Futures			
Brent 1st (ICE)	96.79	97.28	101.28
Brent 2nd (ICE)	95.40	95.49	97.70
B-wave (ICE)	95.97	98.04	101.04
WTI 1st (Nymex)	91.06	91.30	97.92
WTI 2nd (Nymex)	90.27	90.20	95.15
Oman 1st (DME)	96.81	96.95	100.31
Oman 2nd (DME)	92.98	93.25	95.56
Murban 1st (ICE)	97.48	97.80	103.08
Murban 2nd (ICE)	94.50	94.67	97.23
Forward Spreads			
Brent (1st-Dtd.)	-$7.31	-$4.90	-$8.50
Brent (2nd-1st)	-1.39	-1.78	-3.58
WTI (2nd-1st)	-0.80	-1.11	-2.77
WTI (3rd-2nd)	-0.76	-0.84	-2.72
Oman (2nd-1st)	-3.83	-3.70	-4.75
Oman (3rd-2nd)	-2.77	-2.33	-3.43
Murban (2nd-1st)	-2.98	-3.13	-5.85
Murban (3rd-2nd)	-1.62	-1.71	-3.14
Grade Differentials			
WTI-Brent (1st)	-$6.52	-$7.08	-$6.13
WTI-LLS	-2.82	-2.84	-1.91
WTI-Mars	+1.48	+0.84	+3.39
Brent(Dtd)-Dubai	+9.55	+4.51	+10.65
Brent(Dtd.)-Urals	+32.83	+31.79	+32.98
Brent(Dtd.)-Bonny Lt.	-7.17	-9.31	-8.52
Term Crude Formulas			
Arab Lt.-US (c.i.f.)	$99.19	$100.25	$103.66
Arab Lt.-Europe (Med)	101.07	103.14	104.94
Arab Lt.-Far East (f.o.b.)	106.23	108.82	106.37
Nigeria Bonny Lt.	110.56	108.64	114.74
Arab Light Gross Product Worth			
Rotterdam	$100.45	$102.74	$117.04
US Gulf Coast	108.74	109.20	120.51
Singapore	96.11	100.94	105.75
Gross Product Worth & Margins			
Rotterdam			
UK Brent GPW	$110.95	$113.63	$120.19
UK Brent Margin	+4.78	+9.67	+8.77
US Gulf Coast			
Mars GPW	105.04	105.48	114.95
Mars Margin	+12.88	+12.26	+18.32
Singapore			
Oman GPW	95.77	100.80	105.20
Oman Margin	-4.30	-1.26	+4.05
US Nymex			
WTI 3-2-1 Crack	+$38.47	+$37.55	+$45.34
Refined Products			
Rotterdam ($/ton)			
Eurobob Gasoline	$924.67	$958.76	$1084.28
Gasoil (0.1%)	1,007.17	1,033.10	1,164.20
Fuel Oil (0.5%)*	683.00	675.15	726.05
US Gulf Coast (¢/gal)			
RBOB Gasoline	277.24¢	275.64¢	319.14¢
ULS Diesel	323.97	329.29	369.98
Fuel Oil (0.5%, $/ton)	$743.00	$761.00	$806.00
Singapore ($/bbl)			
Naphtha	$76.24	$79.80	$84.73
Gasoil (0.05%)	119.32	125.85	136.51
Fuel Oil (0.5%, $/ton)	742.33	786.60	998.00

*ARA fuel oil prices for 1% sulfur fuel oil (LSFO) have been discontinued as the market becomes increasingly illiquid. The new 0.5% sulfur fuel oil (VLSFO) specs reflect the transition to new emissions standards set by the International Maritime Organization effective Jan. 1 2020. Latest week's data are preliminary. For GPW and margin calculations, see Refining Profitability Methodologies on the Energy Intelligence website in Reference Tools Publication Methodologies. Spot prices from Thomson Reuters. Opec basket source, Opecna. 3-2-1 crack spread for 3 parts crude, 2 parts gasoline, and 1 part heating oil. PIW Numerical Datasource subscribers can download all indicators in Excel worksheets.