Half of lost Saudi oil to remain offline for a month: S&P



DUBAI: Around three million barrels per day of Saudi oil will remain offline for a month, about half the production halted by the weekend's devastating attacks on key crude facilities, S&P Platts said on Tuesday.

The report came as oil prices dipped slightly following record gains Monday as uncertainty prevailed on global markets over when the OPEC kingpin will be able to restore lost production.

Strikes on Abqaiq — the world's largest processing plant — and the Khurais oilfield that the US has blamed on Iran have knocked out 5.7 million barrels per day (mbpd), or six percent of global production.

"At this point, it looks likely that around 3.0m bpd of Saudi Arabian crude supply will be offline for at least a month," S&P Global Platts said in a report.

The Saudi cabinet chaired by King Salman warned on Tuesday the unprecedented attacks posed a threat to global energy supply.

"The goal of the unprecedented destructive aggression... is to target primarily global energy supplies," the cabinet said in a statement.

"We urge the international community to take firmer measures to stop these flagrant aggressions," said the statement, cited by the SPA news agency.

The kingdom stressed that it was "capable of responding to the attacks", regardless of who the perpetrators were, but did not name any.

But it reiterated earlier claims that the strikes were carried out with Iranian weapons.

Challenging

Riyadh pumps some 9.9m bpd of which around 7.0m bpd are exported, mostly to Asian markets.

"Saudi Arabia will likely say that they can fully supply their customers, although as time goes on this may be challenging. Any indication of delays or supply tightness will lead to further price increases in the weeks/months ahead," S&P said.

The threat of a prolonged supply outage from Saudi Arabia highlights the lack of spare production capacity in the market, estimated at 2.3m bpd, most of it held by Riyadh, the energy news provider said.

Reports said Monday the kingdom was likely to restore up to 40 per cent of the lost production immediately, but experts had conflicting views on how long it will take to bring production

back to pre-strike levels.

The crisis revived fears of a conflict in the tinderbox Gulf region and raised questions about the security of crude fields in the world's top exporter as well as for other producers.

London-based Capital Economics said global crude stocks, estimated at around 6.1 billion barrels, should be able to compensate for the lost output.

It said that if Saudi Arabia manages to restore full production by next week, oil prices would quickly come down to around \$60 a barrel.

But if it takes months and tensions persist, benchmark Brent crude prices could hit \$85 a barrel, it said.

Oil prices sink

Oil prices sank five per cent on Tuesday, reversing some of the previous day's gains as analysts predicted Saudi output would recover sooner than expected after weekend drone attacks.

In the space of several minutes in afternoon European trading, North Sea Brent crude oil for delivery in November tumbled from \$67.75 to \$65.00. It fell as low as \$64.24, before recovering somewhat.

The market was already trading in negative territory after the previous day's record gains that were fuelled by attacks on Saudi facilities which wiped out half the kingdom's crude output.

"The markets were once again wrong-footed by the Saudi news," said Forex.com analyst Fawad Razaqzada in reaction to Tuesday's price drop.

"This time prices slumped on reports of sooner-than-expected return for oil production after the attacks.

"Although little details have emerged, speculators are evidently happy to sell now and ask questions later. And who would blame them after that big (price) gap?"

The spike in the oil price had stoked fears that costlier energy and geopolitical instability could weigh on an already slowing global economy, but a quick recovery in Saudi exports and a return to earlier price levels would alleviate those concerns.

"Arguably Monday's spike in oil was unsustainable, since oversupply concerns have been the much more dominant theme this year, but the sudden drop came earlier and quicker than expected," said Chris Beauchamp, chief market analyst at online trading firm IG.

Traders were meanwhile nervously awaiting a further response from the United States after it said Iran was likely to blame.

The crisis revived fears of a conflict in the tinderbox Gulf region and raised questions about the security of crude fields in the world's top exporter Saudi Arabia as well as other producers.

"Oil's reversal didn't do much for the global markets. The indices remain concerned over what happens next between Saudi Arabia and Iran, fears that helped to undermine sentiment," said Spreadex analyst Connor Campbell.

The attack on Saudi oil facilities also took attention away from the upcoming trade talks between China and the US, as well as a much-anticipated policy meeting of the Federal Reserve, which is expected to cut interest rates Wednesday.

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Oil market gripped by uncertainty over lost Saudi production



Oil markets are grappling with uncertainty over how long it will take Saudi Arabia to restore output after the devastating attacks that knocked out five per cent of global crude supply.

As state oil giant Saudi Aramco grows less optimistic that there will be a rapid recovery after the strikes that cut the nation's output by half, investors are seeking clarity on just how bad it could be. Initially, it was said significant volumes could begin to return within days, but Saudi officials later told a foreign diplomat they face "severe" disruption measured in weeks and months. Saudi Energy Minister Prince Abdulaziz bin Salman is scheduled to hold a press briefing on Tuesday evening in Jeddah.

"Today's press conference is going to be crucial — we have to

wait for that really," said Olivier Jakob, managing director at consultant Petromatrix GmbH in Zug, Switzerland. "We need to have that update in order to make a proper assessment."

The worst ever sudden disruption to global oil supplies continues to reverberate as geopolitical risk premiums soar on concern over instability in the Middle East and a potential retaliation against Iran, which the U.S. has blamed for the strikes. Traders may not have fully priced in the impact of the supply losses, according to Citigroup Inc.

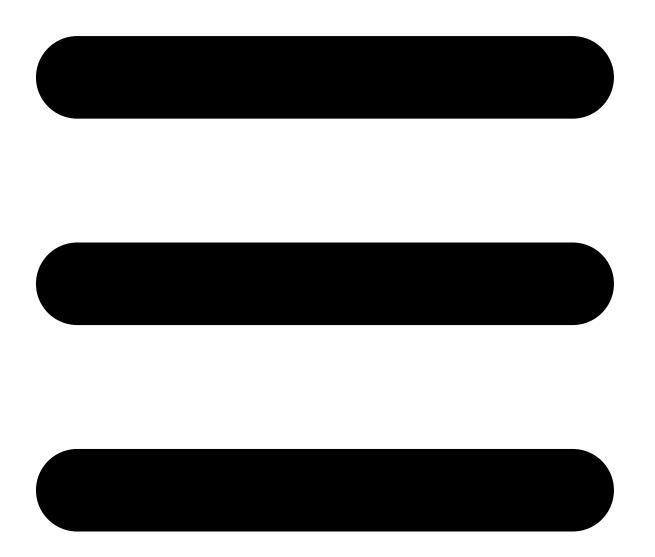
The attacks, which damaged one of the Saudis' flagship fields and a key processing complex, triggered one of the wildest bouts of trading seen in oil markets, with Brent futures rising 19 per cent in a matter of seconds at the open on Monday and ending the day up 15 per cent, their biggest single-day advance.

It was a more subdued start to trading on Tuesday, with both Brent and West Texas Intermediate futures edging lower.

Saudi Aramco lost about 5.7 million barrels a day of output on Saturday after 10 unmanned aerial vehicles struck the Abqaiq facility and the kingdom's second-largest oil field in Khurais.

While Aramco is still assessing the state of the Abqaiq site and the scope of repairs, it currently believes less than half of the plant's capacity can be restored quickly, according to people familiar with the matter, who asked not to be identified because the information isn't public.

Saudi Aramco is firing up idle offshore oil fields — part of its cushion of spare capacity — to replace some of the lost production, one person said. Customers are also being supplied using stockpiles, though some are being asked to accept different grades of crude. The kingdom has enough domestic inventories to cover about 26 days of exports, according to consultant Rystad Energy A/S.



Customers are also preparing to tap strategic reserves if needed. U.S. President Donald Trump authorized the release of oil from the U.S. Strategic Petroleum Reserve, while the International Energy Agency, which helps coordinate industrialized countries' emergency fuel stockpiles, said it was monitoring the situation.

The disruption surpasses the loss of Kuwaiti and Iraqi petroleum output in August 1990, when Saddam Hussein invaded his neighbor. It also exceeds the loss of Iranian oil production in 1979 during the Islamic Revolution, according to

the IEA.

Nevertheless, U.S Energy Secretary Rick Perry said Tuesday that the market is well-supplied and a "staggering spike" in prices is unlikely.

Brent futures slipped 83 cents to US\$68.19 a barrel on the ICE Futures Europe exchange as of 2:02 p.m. London time, while WTI dropped 60 cents to US\$62.30 on the New York Mercantile Exchange. Brent is trading at a US\$6.11 premium to WTI for the same month.

"It is still difficult to assess the exact scale of the damage caused by the drone attacks to Saudi infrastructure in the Eastern province, but recent official statements lean toward a longer outage than initially anticipated," Citigroup Inc. analysts Ed Morse and Francesco Martoccia said in a report.

-With assistance from Shery Ahn and Grant Smith.

Saudi supply disruption puts huge US petroleum stash in play



WASHINGTON — The Trump administration is standing by to deploy the nation's emergency oil reserves and help stabilize markets if needed after a series of drone attacks in Saudi Arabia knocked out half of the kingdom's crude output, or about 5% of world supplies.

Energy Secretary Rick Perry is ready to draw down stocks from the 630 million-barrel cache "to offset any disruptions to oil markets as a result of this act of aggression," his spokeswoman, Shaylyn Hynes, said in a statement late Saturday. Perry also ordered officials to work with the International Energy Agency on possible options for coordinated action. Whether the Strategic Petroleum Reserve, the world's largest supply of emergency crude, gets used may depend on how quickly the Saudis can resume production from the world's biggest crude-processing facility.

Set up after the Arab oil embargo in the 1970s sent prices skyrocketing, the stockpile has previously been tapped in response to Operation Desert Storm in 1991, Hurricane Katrina in 2005, and Libyan supply disruptions in 2011.

"Until a damage assessment is available, it's not possible to make high confidence odds on the likelihood it will be tapped," said Bob McNally, a former energy adviser to President George W. Bush and president of the consulting firm Rapidan Energy Group. "For now, the administration is reassuring the market that the U.S. and other emergency stockholding partners in the IEA are ready to act."

McNally said showing openness to an SPR release would have an impact.

"I suspect this is just precautionary verbal reassurance, and I am sure they are dusting off their plans," he said. "Unless the damage is extensive, doubt we will see a release."

Saturday's attacks on Saudi Arabia are expected to rattle oil markets when they open. The kingdom's benchmark stock index tumbled as much as 3.1% on Sunday in Riyadh.

"Almost no geopolitical risk is priced into oil markets focused solely on trade wars and macro concerns," said Joe McMonigle, senior energy analyst at Hedgeye Risk Management LLC. "An SPR release, especially if coordinated with IEA action, would mitigate some of the spike in oil prices but would also depend on the ongoing and elevated geopolitical risk."

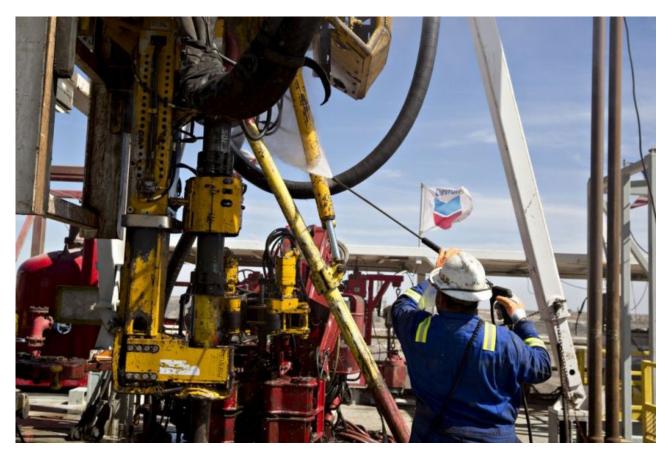
SALT CAVERNS

The emergency stockpile is stored in huge underground salt caverns along the U.S. Gulf Coast. Although it was originally created as a backup in case of future supply shocks, the reserve has more recently become Congress's go-to piggy bank, used to fund everything from roads to drugs to deficit reduction. About 10 million barrels were sold in the latest of a series of congressionally mandated sales last week.

President Donald Trump proposed selling off half of the emergency stockpile in his 2017 budget request. His administration argued that record domestic oil production made keeping such a large reserve unnecessary. But the "potential long term disruption from critical oil facilities" such as the 5 million barrel per-day Abqaiq processing facility hit on Saturday, "is exactly the type of risk the Strategic Petroleum Reserve was designed to mitigate," McNally said.

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US beats Saudi to become top oil exporter on shale boom



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The U.S. briefly became the world's No. 1 oil exporter as record shale production found its way to global customers, and there are prospects for more.

Surging output from shale helped America ship almost 9 million barrels a day of crude and oil products in June, surpassing Saudi Arabia, the International Energy Agency said in a report, citing gross export figures. There's room to send even more supply overseas as companies add infrastructure to transport the burgeoning production from fields in Texas and New Mexico to the coast.

Gains in U.S. supply are undermining efforts by the Organization of Petroleum Exporting Countries and its allies, whose production cuts are in their third year in a bid to drain stockpiles. The swelling American output, as well as deepening concerns over global demand fueled by a prolonged U.S.-China trade war, have prompted a drop of almost 20% in

benchmark Brent crude from an April high.

The expansion in America's exports in June was helped by a surge in crude-oil shipments to more than 3 million barrels a day, the IEA said. At the time, Saudi Arabia was cutting its exports as part of the OPEC+ agreement, while Russian flows were constrained by the Druzhba pipeline crisis.

The Saudis reclaimed the top exporter's spot in July and August as hurricanes disrupted U.S. production and the trade dispute "made it more difficult for shale shipments to find markets," the IEA said.

The tussle for the No. 1 slot could remain tight in the months ahead. As Saudi Arabia continues to curb production, the IEA said America's crude exports could rise by a further 33% from June levels to as much as 4 million barrels a day as new export infrastructure gets built in the fourth quarter of this year.

Oil prices down 2% on US-China trade doubts, Opec+ talks



NEW YORK (Reuters) — Oil prices fell about 1% on Thursday after a media report cast doubt on the possibility of an interim U.S.-China trade deal and as a meeting of the OPEC+ alliance yielded no decision on deepening crude supply cuts.

Oil was pressured further after the European Central Bank cut its deposit rate to a record low -0.5% from -0.4% and said it will restart bond purchases of 20 billion euros a month from November to prop up euro zone growth.

Brent crude LCOc1 futures settled at \$60.38 a barrel, shedding 43 cents, or 0.71%. WTI crude CLc1 futures settled at \$55.09 a barrel, losing 66 cents, or 1.18%.

Oil futures extended losses after a senior White House official denied a Bloomberg News report that the United States was considering a temporary trade agreement with China, according to CNBC.

Earlier, prices had been supported on news that the world's two largest economies made some concessions in their protracted trade war. "We had a lot of moving parts. We came in with the ECB, then we saw the U.S was going to reach some kind of interim agreement with China, then they ended up saying they're not," said Phillip Streible, senior commodities strategist at RJO Futures in Chicago. "Now we're just back-pedaling and cautiously waiting for the next development in the market, whether it be from economic data, more verbiage from OPEC, and we're still going to monitor inventories as a whole."

Oil prices also stumbled after comments from Saudi Arabia's new energy minister, Prince Abdulaziz bin Salman, said deeper cuts would not be decided upon before a meeting of the Organization of the Petroleum Exporting Countries planned for December.

A Thursday meeting of the market-monitoring committee formed by the Organization of the Petroleum Exporting Countries and its allies, whose de facto leader is Saudi Arabia, yielded a promise to keep countries within the production quotas they committed to in a global supply deal.

A statement from OPEC and its allies, a grouping known as OPEC+, said oil stocks in industrial countries remained above the five-year average. Oman's energy minister said "the outlook is not very good for 2020."

Prince Abdulaziz said Saudi Arabia would keep cutting by more than it pledged in the pact, which has throttled supply from OPEC+ by 1.2 million barrels per day.

Also feeding the bearish sentiment, the International Energy Agency said surging U.S. output would make balancing the market "daunting" in 2020.

"Booming shale production has allowed the U.S. to close in on, and briefly overtake, Saudi Arabia as the world's top oil exporter ... in June, after crude exports surged above 3 million bpd," the agency, which advises industrial economies on energy policy, said in its monthly report.

The Paris-based IEA kept its oil demand growth forecasts for this and next year at 1.1 million barrels per day and 1.3 million barrels per day, respectively.

Reporting by Laila Kearney in New York; Additional reporting by Shadia Nasralla in London and Aaron Sheldrick in Tokyo; Editing by Matthew Lewis and Leslie Adler

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China aims to rev up shale gas drive; wean itself off imports amid US trade row



SINGAPORE/BEIJING (Reuters) — China aims to slash its growing dependence on gas imports by boosting domestic projects like

shale fields as the security of its energy supply comes under the spotlight amid a festering trade war with the United States.

The row with Washington has overshadowed China's economy, likely slowing gas demand growth considerably this year, a new government research report shows. But Beijing is funding new efforts to boost domestic production, particularly from so-called unconventional sources like shale gas, as weaning China off its import reliance takes on new importance.

The report, released on Saturday by the oil and gas department at the National Energy Administration (NEA) and a State Council research arm, calls for boosting natural gas production in key resource basins in the southwestern province of Sichuan, the Erdos basin in the north and offshore China.

According to the report, China's gas consumption will rise by about 10% this year to 310 billion cubic meters (bcm), and to continue growing until 2050. Though slowing from last year's 17.5%, 2019's growth still represents an annual addition of 28 bcm, faster than the annual average growth of 19 bcm during 2007-2018, the report said.

While China imposed tariffs on imports of liquefied natural gas (LNG) from the United States starting last year, it remains the world's second-largest buyer of the super-chilled fuel.

"China's reliance oil and gas imports is growing too rapidly, with oil topping 70% and gas moving toward 50%," said Lin Boqiang, Director of the Energy Economics Institute at Xiamen University.

The NEA report calls for building the Sichuan basin into the country's top gas hub due to its rich resource base in both conventional gas fields and unconventional resources, such as shale gas and 'tight gas', a low-permeability gas derived from reservoir rocks and costly to develop.

"Through expanding development of deep-reservoir gas, tight gas and shale gas, Sichuan is likely to account for about a third of the country's total natural gas output," the report said, up from 20% currently.

Shale gas in Sichuan, the key region for China's still fledgling shale gas development, could overtake conventional gas in output, the report added.

SHALE GAS

In a separate report carried by official news agency Xinhua on Saturday, Zhao Wenzhi, an influential researcher at China's Academy of Engineering forecast that China's shale gas output could reach 280 bcm, or 23% of the country's total gas output, by 2035. Zhao also serves as president of Exploration and Production Institute at state giant PetroChina.

China last year produced about 10.9 bcm shale gas, less than 7% of the nation's total gas output at 161 bcm.

The leap in projected shale gas output would require companies drilling over 500 wells a year between 2019 and 2035, double the 2018 level, Zhao was cited as saying.

Dominant state oil and gas firms have already ramped up drilling activities with near-record spending, in response to a call by President Xi Jinping in August last year to boost domestic energy security.

To expedite the growth, Beijing should consider offering tax sweeteners such as waiving resource tax on the shale gas, Zhao said.

China recently also announced a policy to extend subsidies for another three years on domestic production of unconventional gas, to include also tight gas for the first time.

In a research note last week, Wang Xueke, a consultant at Wood

Mackenzie, raised China's tight gas outlook to 85 bcm by 2040, up from an earlier forecast at 68 bcm.

Despite the lofty forecast and state subsidies, China faces complex geology and a lack of technological breakthroughs to make shale gas a profitable enough business to lure private money.

"The investment is still too small as only a handful state-run companies are exploring it ... Technology progress is not fast enough," said Xiamen University's Lin.

Reporting by Muyu Xu and Chen Aizhu; Editing by Kenneth Maxwell

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Sanctions choke Iran crude sales, but oil product exports booming



LONDON (Reuters) — While U.S. sanctions on Iran's oil industry have slashed the OPEC member's crude exports by more than 80%, oil product sales from the Islamic Republic remain strong at nearly \$500 million a month, shipping data and Reuters calculations show.

Sanctions have barely affected Iran's exports of oil products, primarily fuel oil used for power generation and shipping as well as liquefied petroleum gas (LPG) used as cooking gas and petrochemical feed.

Iran's product exports reached their highest level in August, oil minister Bijan Zanganeh was quoted as saying by a lawmaker after a parliamentary meeting on Aug. 27. "In exports of products we have no problem," Zanganeh was cited as saying.

Consultancy FGE estimates Iran's product exports at 400,000-500,000 barrels per day, exceeding the top end of crude export estimates by other analysts of some 400,000 bpd for July.

Refinitiv Eikon data shows Iran exported more than 230,000 bpd of fuel oil in August, all to the United Arab Emirates, slightly above July's figure of 220,000 bpd. At current

prices, and assuming Iran is not selling at a big discount, such sales generate over \$300 million a month.

Data intelligence firm Kpler says Iran exported 514,000 tonnes of LPG in July, or nearly 200,000 bpd, worth over \$180 million at market prices. This compares with 579,000 tonnes in June. China accounted for more than 95% of Iranian LPG exports in June, according to Kpler.

Samantha Hartke, head of natural gas liquids and LPG at consultancy Energy Aspects, said her firm did not expect Chinese imports of Iranian LPG to abate given China's new petrochemical capacity is creating significant demand for the feedstock.

"The irony is: if not for the U.S.-China trade war, the U.S. would have greatly benefited from this uptick in Chinese demand as a means of mopping up its overabundance of LPG supplies, thanks to shale," she added.

Unlike crude oil, where the ultimate buyer is a refinery, fuel oil and LPG can find their way to potentially thousands of small-scale industrial or residential buyers, Iman Nasseri, managing director for the Middle East with FGE, told Reuters.

"The market for these two products is so vast that finding and targeting those individuals is not easy," he said.

In July, Grace 1, a jumbo tanker laden with Iranian crude, became the most-watched ship in the world after the British navy seized it off the coast of Gibraltar on suspicion of carrying oil to Syria.

The tanker has changed its name to the Adrian Daria since being released by Gibraltar and is in the eastern Mediterranean.

Oil products, like crude, fall under U.S. sanctions.

"Non-U.S. persons engaged in this sanctionable conduct could be sanctioned themselves and be subject to blocking by the U.S.," Erich Ferrari, a Washington-based attorney who specializes in sanctions law, told Reuters.

Iran's oil ministry did not immediately respond to a Reuters request for comment.

SELF-SUFFICIENCY

Iran has a refining capacity of around 2.23 million bpd, putting it behind regional leader Saudi Arabia. But years of sanctions and underinvestment mean the country's refining sector lags its Gulf neighbors, who have invested billions of dollars to create some of the world's most complex refineries.

Despite the challenges, Iran declared self-sufficiency in gasoline after the inauguration of the third phase of its 350,000-bpd Persian Gulf Star refinery in February. Shipping data shows Iran has imported barely any oil product recently.

Iranian gasoline production stands at 105 million liters per day, according to Zanganeh, or around 660,000 bpd, while consumption is around 100,000 bpd below production. It even exported gasoline this year for the first time. Its gasoil production stands at around 720,000 bpd.

Additional reporting by Dmitry Zhdannikov; Editing by Dale Hudson

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Russia's compliance with

Opec+ deal slips as Druzhba crisis ends



Russia's average daily oil output in August exceeded its Opec+ cap for the first time since April as the impact of the Druzhba contamination crisis faded. The country pumped 47.8mn tonnes of crude and condensate last month, according to preliminary data from the Energy Minis- try's CDU-TEK unit. That implies a daily average of 11.294mn barrels — based on the standard 7.33 barrels-per-tonne conversion ratio — and is 104,000 barrels a day above its Opec+ target, Bloomberg calculations show. Russia's compliance with pledged production cuts has retreated just weeks before Opec+ ministers meet in Abu Dhabi to discuss the implementation of their accord to curb output. The Organisation of Petroleum Exporting Countries and its allies agreed in July to extend their pact into 2020. Under the deal, Russia committed to cut output by 228,000 barrels a day from October levels. The nation reduced oil production more steeply than required in the three months through July, after the discovery of contaminated crude in the Druzhba pipeline forced parts of the link to shut down. Energy Minister Alexander Novak signaled last week that August compliance would be lower, given the deep cuts made previously, Interfax reported. Opec and its partners, a 24nation coalition known as Opec+, agreed to reduce output by 1.2mn barrels a day at the beginning of 2019 as a faltering global economy and booming US shale-oil production threatened to leave world markets with a glut.

Opec output rises for fi rst time since start of '19 cuts



Bloomberg /London

Opec's crude production rose last month, the first increase since the group and its allies started a new round of output cutbacks at the start of the year to shore up a weak global market.

Nigeria and Saudi Arabia led the boost by the Organisation of Petroleum Exporting Countries, which collectively increased by 200,000 barrels a day to 29.99mn a day, according to a Bloomberg survey. The survey is based on estimates from

officials, ship-tracking data and consultants including Rystad Energy and JBC Energy GmbH.

Opec and its partners, a 24-nation coalition known as Opec+, agreed to reduce output by 1.2mn barrels a day at the beginning of 2019 as a faltering global economy and booming US shale-oil production threatened to leave world markets with a glut. That deal replaced a previous round of curbs that began in January 2017.

The strategy has struggled to shore up prices against a deteriorating outlook for global growth and a seemingly intractable trade war between the US and China. Brent futures have subsided more than 20% from a peak reached in April and traded near \$59 a barrel yesterday.

Riyadh boosted output by 50,000 barrels a day to 9.83mn a day in August, a time when domestic consumption typically climbs amid soaring use of air conditioning.

Nigeria hasn't made any of the cuts it pledged, and increased output again in August, by 60,000 barrels a day to 1.95mn, the highest level since early 2016. The West African producer has ramped up production to maximum levels at its new Egina offshore oil field operated by Total SA, according to the International Energy Agency.

Russia, the biggest producer outside Opec in the coalition, has also shown signs of backsliding on its commitments.

The country pumped 11.294mn barrels a day in August, or 104,000 a day more than its limit under the Opec accord. Energy Minister Alexander Novak had signalled compliance would slide as Russia cut more than required earlier this year following the discovery of contaminated crude in its Druzhba pipeline.

A committee made up of key members in the Opec+ alliance will meet in Abu Dhabi on September 12 to review their progress in stabilising world crude markets. The full coalition will then gather in December in Vienna to consider any action required in 2020.

Cyprus runs the risk of being trapped into an expensive undertaking with gas deal



DEFA announced on 23 August its decision to award the tender for the construction of an LNG import terminal at Vasilikos. This will comprise a floating storage regasification unit (FSRU), a jetty for the mooring of the FSRU, pipelines, port and other facilities.

The winner is a consortium comprising China Petroleum Pipeline Engineering Co Ltd (CPPE), Aktor SA and Metron SA, Hudong-Zhonghua Shipbuilding Co. Ltd and Wilhelmsen Ship Management Ltd.

Announcing its decision DEFA said "we believe that the future of the country is aligned with natural gas and we expect it to play a major role in the economic development of the country in years to come.

"The establishment of the natural gas market will boost the development of the whole energy and industry sectors of the Republic."

Indeed, natural gas can help bring carbon emissions down. In order to produce the same energy output gas emits about 27 per cent less carbon dioxide in comparison to diesel oil. As a result, replacing diesel by gas in power generation will be helpful, at least initially. I say initially, because the EU's target is to reduce emissions by 40 per cent by 2030 in comparison to 1990 levels.

The challenge for Cyprus is that so far it has been promising small reductions to its CO2 emissions in comparison to 2005, when these were close to their peak — about 60 per cent higher in comparison to 1990 according to Eurostat data. By the end of 2017 Cyprus' emissions were only marginally lower than in 2005.

In fact the incoming European Commission (EC) President, Ursula von der Layen, promised to increase EU's 2030 CO2 reduction target to 50 per cent. In addition, the EC has already sent back Cyprus' Energy Plan to 2030 for not being ambitious enough and requested it to be revised nearer EU targets.

With no other change, and with power generation being only 20 per cent of Cyprus' total energy consumption, introduction of LNG will reduce carbon emissions only by 8 per cent in comparison to 2005 and close to 50 per cent higher than in 1990. A modest but useful reduction, but it will not get close to EU expectations for 2030. Cyprus will need to do a lot more to achieve that — by substantially increasing use of

renewables and biofuels.

Impact on electricity costs

When asked about cost implications, DEFA said that state ownership of the project will allow the cost of importing and regasifying LNG to be kept sufficiently low to keep the cost of gas offered to EAC below \$10/mmBTU (per about 1000 cubic feet) — the equivalent cost of oil at current prices.

DEFA was also asked how can Cyprus commit itself to expensive infrastructure when it does not yet know whether it can secure gas at an affordable price. The response was that that even if the ongoing process — in response to the request for expressions of interest for the long-term supply of LNG for 10-20 years — does not produce favourable prices, DEFA's needs can be met in the short-term by the spot market, which with today's prices can provide LNG at \$3-\$4/mmBTU.

Indeed, as a result of excessive supplies of LNG, spot gas prices in Europe are currently at a low, at about \$4/mmbtu. However, in October 2018 they were about \$10/mmbtu. But by 2022 — the time at which Cyprus will be ready to import LNG — demand is expected to exceed supply, with prices rising again. Available forecasts estimate the price of gas in Europe to average about \$6.50/mmbtu in the ten-year period to 2030.

Given the small quantities required by Cyprus — initially about 0.5 million tonnes LNG per year — the spot price for LNG to be delivered to Cyprus is expected to be higher. Adding to this the recovery of the cost of constructing the facilities (allowing for the EU grant), operation and maintenance — and other related costs and costs incurred by EAC — is likely to bring the total cost above the \$10/mmbtu level. Long-term supply contracts would cost even more.

What is amazing is that the decision to proceed with award of the construction contract appears to have been taken without first securing LNG at reasonable prices and without a commercial viability study based on expected, reliable, LNG costs.

Other issues

DEFA expects to finalise award of the construction contract by mid-October, with the facilities becoming operational by the end of 2021.

But there may be complications. First, its decision to award the tender to the CPPE consortium, taken after a short evaluation period of six weeks, may be disputed by other bidders, which may cause delays.

It should be noted that the unsuccessful consortia are well known, experienced companies, in the global LNG industry. In contrast, CPPE, the leader of the winning consortium, has no real LNG experience.

There are also questions about members of the winning consortium. Aktor SA is the sister company of Helector, facing corruption charges related to HYTY Paphos. Aktor SA had accusations leveled against it for fraud related to projects in the Balkans. Both companies are fully-owned by Greece's Ellaktor Group. These and other questions will hopefully be cleared during the period before final award, but could, nevertheless, cause months of delays.

Will gas boost Cyprus economy?

Given the above, this is not certain. Gas could boost industry and benefit the economy if its introduction leads to substantial cost reductions in comparison to diesel. But this may not be the case. In fact it could be the opposite.

Import of gas by pipeline, either directly from Aphrodite or by accepting Energean's offer to supply gas from its gasfields in Israel, could do exactly that, with gas prices to EAC less than \$7/mmbtu. Sadly these options have not been taken on.

Moreover, gas alone will not reduce carbon emissions to the levels required by the EU. This would require a substantial increase in the share of renewables and biofuels in Cyprus energy mix.

Without properly and transparently demonstrating the commercial viability of the project — based on reliable data — Cyprus runs the risk of being trapped into an expensive undertaking for at least the next ten years. Not only this may not boost industry, but may also become a long-term burden to Cyprus' economy.

Dr Charles Ellinas (@CharlesEllinas) is a senior fellow at Global Energy Centre of the Atlantic Council