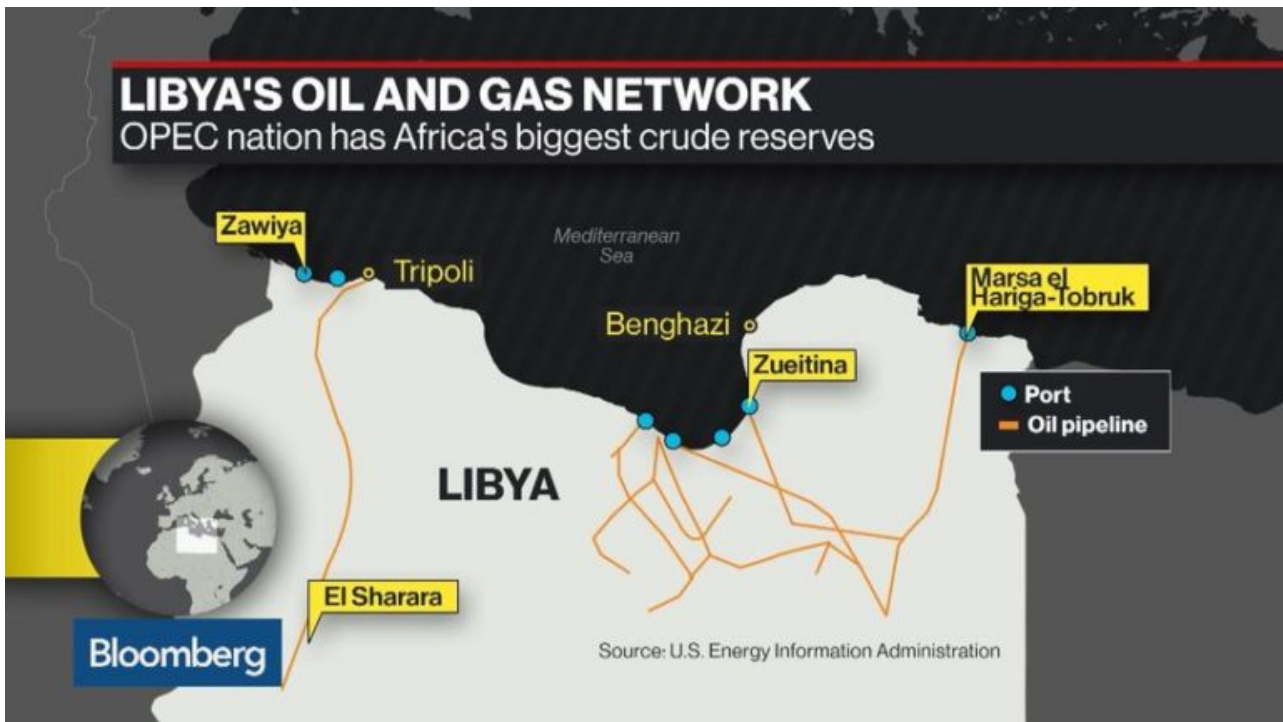


# Oil Hits a Five-Month High as Libya Clashes Add to Supply Concerns

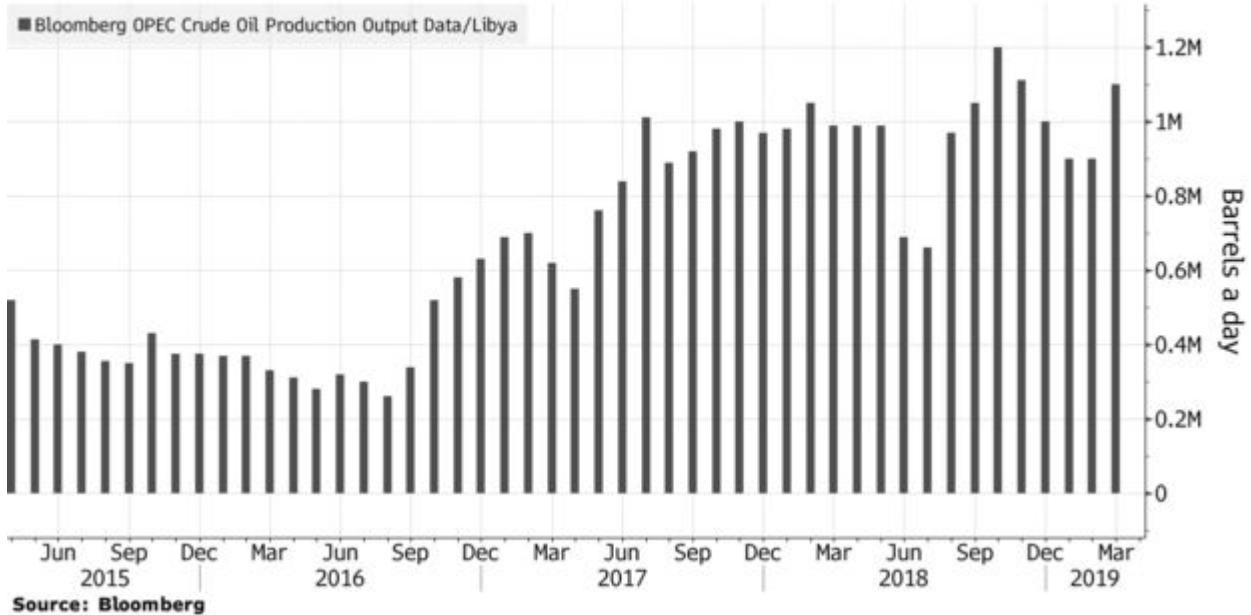


Oil extended gains after capping its best week in almost two months as an escalation of fighting in OPEC producer Libya overshadowed the biggest increase in U.S. active rigs since May.

Futures gained as much as 0.7 percent in New York after rising 4.9 percent last week. Libya's internationally-recognized government vowed to counterattack against forces loyal to strongman Khalifa Haftar that are trying to enter the capital Tripoli. Crude pared gains after Saudi Arabian Energy Minister Khalid Al-Falih said in a Bloomberg TV interview that oil markets are "moving in the right direction" and there's no need for the kingdom to deepen output curbs.

## Rising Production

While volatile, Libyan output has been on the rise



Crude has kept rallying after its best quarter in almost a decade on signs the Organization of the Petroleum Exporting Countries and its allies will extend output cuts beyond June. The escalation of the conflict in Libya, which pumped 1.1 million barrels of a day last month, adds to risks to supply from Iran and Venezuela. On the demand side, a U.S. report last week showing better-than-expected hiring is the latest evidence that the global economy might not be in as bad shape as previously feared

“Supply disruptions in Libya are lifting prices at a time when appetite for risk assets is rising as concerns over global growth ease,” said Ahn Yea Ha, a commodities analyst at Kiwoom Securities Co. in Seoul. “Oil might be rising too quickly at the moment, but it’s hard to find any bearish signals,” she said before the comments by Al-Falih.

West Texas Intermediate for May delivery climbed 27 cents, or 0.4 percent, to \$63.35 a barrel on the New York Mercantile Exchange as of 8:08 a.m. in London. Prices rose 1.6 percent to settle at \$63.08 on Friday, the highest closing level since Nov. 5.

Brent for June settlement advanced 0.3 percent to \$70.56 a

barrel on the London-based ICE Futures Europe exchange. The contract added 1.4 percent to \$70.34 on Friday, taking its weekly gain to 2.9 percent. The global benchmark crude was at a premium of \$7.16 to WTI for the same month.

The structure of the futures market is reflecting supply uncertainty. WTI's front-month prices rose to a premium, or backwardation, of as much as 4 cents a barrel to the contract four months ahead on Monday. They then flipped back into a discount, or contango. A spot price that's higher than the forward price indicates tighter supply.

Fighting on the outskirts of Tripoli showed no signs of abating despite appeals for calm by global powers and the United Nations. While the latest fighting is south of Tripoli – away from most of the main oil ports and fields – the risks of disruption rises the more inflamed the tensions get. Western Libya is home to the Zawiya oil terminal, the export point for crude pumped from the country's largest field, further south at Sharara.

American rigs climbed by 15 to 831 in the first increase since mid-February, according to data from oilfield services provider Baker Hughes.

---

## **Total, China battery maker team up in latest Big Oil shift**



Total SA is tying up with China's Tianneng Group to build batteries, moving into mass production of electricity storage technology after snapping up Saft Groupe SA in 2016.

The joint venture will focus on making and selling advanced lithium-ion cells for electric vehicles, bikes and energy storage equipment in China and worldwide, Total said Thursday in a statement. The French company is among several oil and gas majors investing in the sector as governments clamp down on fossil fuels and carbon curbs tighten.

Power storage could be a lifeline for Big Oil in the long term, offering a new revenue stream as the industry shifts toward less-polluting energy. Total bought battery maker Saft for 950 million euros (\$1.07 billion) in 2016, while Royal Dutch Shell Plc acquired car-charging operator NewMotion a year later.

Saft, which makes batteries for planes, trains, and military

equipment such as missiles and night-vision goggles, had so far avoided the mass market for cars for fear of being squeezed by Asian rivals benefiting from lower production costs and bigger demand.

Chinese, Korean and Japanese manufacturers have taken the lead in batteries for electric vehicles by investing billions in so-called gigafactories to supply global carmakers that are developing low or zero-emission vehicles to meet increasingly stringent government anti-pollution rules.

The Total-Tianneng joint venture will manufacture cells at the Changxing Gigafactory, with potential capacity of 5.5 gigawatt-hours, according to the statement. Total will have a 40 percent stake in the venture, while Tianneng Group will hold the remaining shares. Saft's current capacity for lithium-ion batteries is about 400 megawatt-hours a year, a spokeswoman said.

The joint venture may be up and running within a year to work on new batteries that will be more competitive, a spokeswoman for Saft said.

Total Chief Executive Officer Patrick Pouyanne had complained several times about China's protectionism in terms of batteries, and urged Europe to do the same if it wants to foster a similar industry on its soil.

Germany and France said this year they will put up 1 billion euros and 750 million euros, respectively, in subsidies to co-finance building factories in their respective countries.

Saft last year teamed up with German engineering giant Siemens AG and battery maker Manz AG as well as Belgian chemicals maker Solvay SA to develop next-generation batteries that would be cheaper, safer and more efficient.

*– With assistance by Amanda Jordan*

---

# Biggest US gas shipper hunts China deals, trade truce or not



Bloomberg/Singapore/Shanghai

America's biggest natural gas exporter is ready to sign long-term agreements with buyers in China, the world's top market for the fuel, with or without a trade truce.

Cheniere Energy Inc isn't delaying any liquefied natural gas deals because of the trade dispute, chief executive officer Jack Fusco said in an interview in Shanghai. If that's happening, it's on the part of Chinese customers or their government, he said.

"Their approval process is between them and their regulatory agencies," Fusco said on the sidelines of the LNG2019 conference. "But we are a publicly traded company, and we are not going to slow down."

A supply deal between Cheniere and China Petrochemical Corp, known as Sinopec, is expected to be awaiting a resolution to the US-China trade spat. The companies had been in talks for nearly a year when progress stalled as the Trump administration escalated a tariff war between the two countries, people familiar with the situation said last month. Fusco declined to comment about any negotiations.

LNG is perhaps the best example of a trade that would benefit both countries. China is the world's fastest growing market for the super-chilled fuel, which it wants to use in place of coal to fight pollution. And the US, buoyed by booming natural gas production from shale fields, could easily be on track to be the world's biggest exporter.

"Two companies working together could be a win-win," Fusco said. "A Chinese company and an American company, trying to show our administrations what the possibilities are."

China National Offshore Oil Corp, the country's largest LNG importer, hasn't excluded the US in its search for overseas upstream and LNG investment opportunities, Chen Jie, chief engineer for the company's gas and power unit, said in an interview at the conference.

"Buying US resources can actually help ease the trade frictions between the two countries," Chen said.

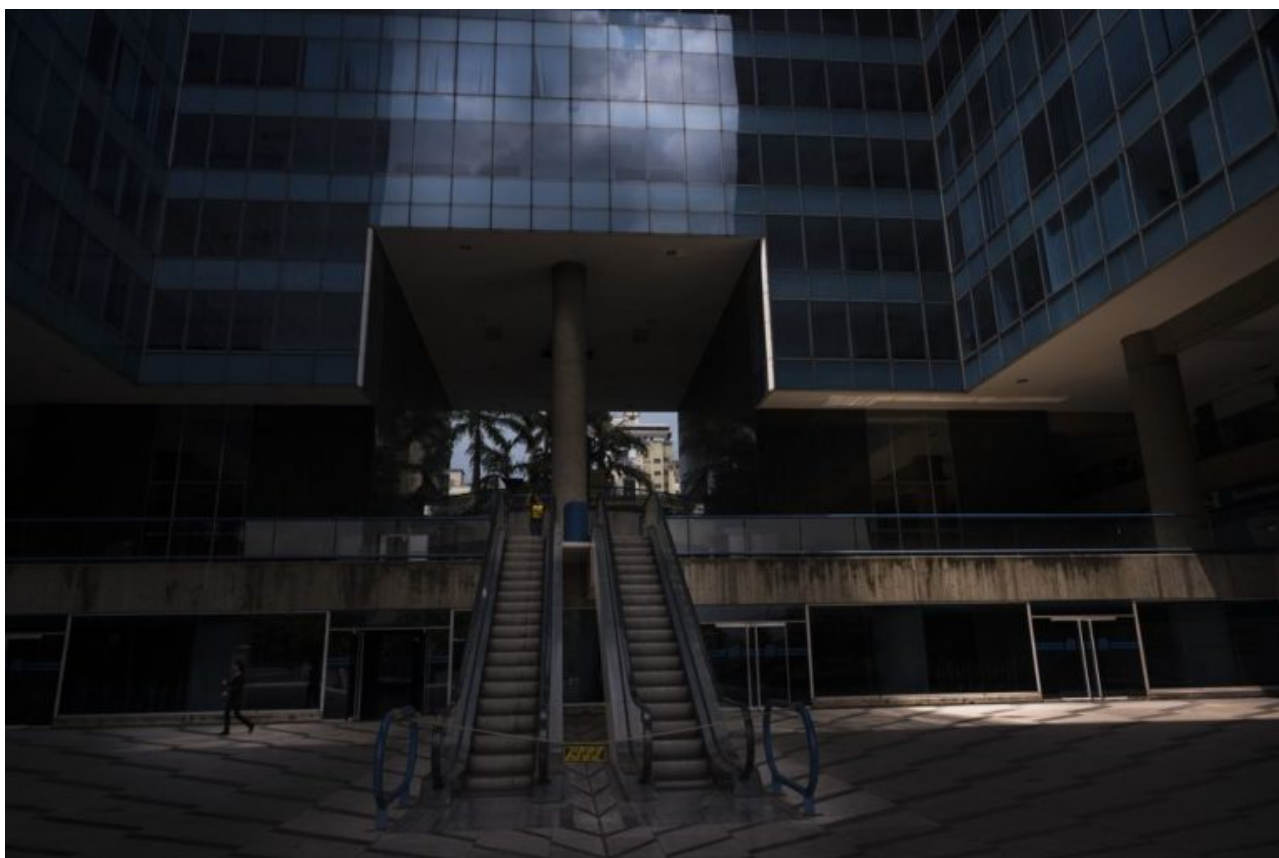
US suppliers have seen their efforts to court Chinese buyers jammed up because of the trade dispute. While China has at times been a large buyer of spot LNG from the US, the only long-term contract is between Cheniere and a unit of state-owned China National Petroleum Corp for 1.2mn tonnes per year over 25 years, and that was signed in February 2018, before trade issues intensified.

"My expectation is if the trade dispute gets solved that there could be good things to come for Cheniere here in China," Fusco said in an interview on Bloomberg TV.



---

# Venezuela Blackouts Cut Oil Output by Half During March



Power failures that plunged Venezuela into darkness for much of March also briefly slashed the country's crude production by half, according to people familiar with the situation.

Rolling blackouts across much of the country that started on March 7 paralyzed most of the country's oil wells and rigs, which have slowly come back online. Oil output averaged less than 600,000 barrels a day during the blackouts, the people said, who asked not to be identified because the information isn't public. For the full month, daily production was 890,000 barrels, according to a Bloomberg survey of officials, analysts and ship-tracking data.

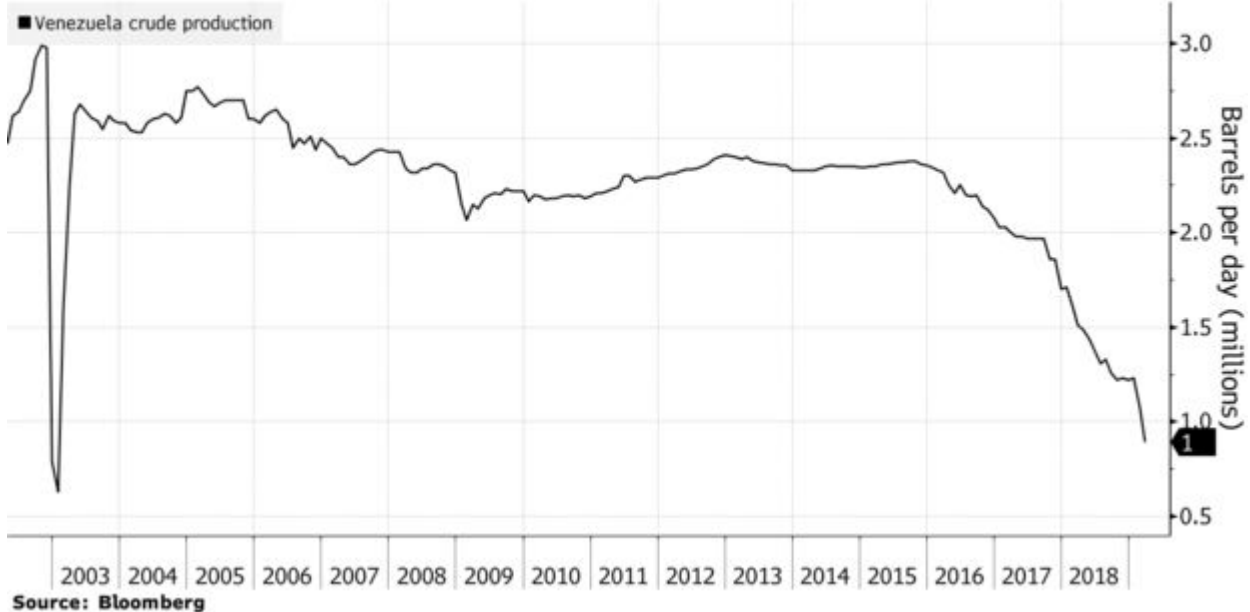
The loss of production due to the blackouts deals another blow



to Venezuela's already-crippled oil industry, already reeling from years of mismanagement and U.S. sanctions that removed its biggest customer. The nation's crude output, one of the few sources of cash for Nicolas Maduro's regime, has tumbled by two-thirds since before PDVSA workers went on strike in December 2002.

## Heading Lower

Venezuela crude production fell well below 1 million barrels a day after blackouts



Near the Orinoco basin in the East, where four out of every five barrels is pumped, heavy tar-like oil has begun to clog pipelines and tanks after the heating system lost power, according to Wills Rangel, a former PDVSA board director and president of the United Workers Federation of Oil, Gas and Related Derivatives of Venezuela. Cleaning or removing the pipes could take months, he said.

“Damage caused by the blackouts at the Orinoco Belt oil fields is substantial,” Rangel said in an interview.

## Production Drop

Because of the blow to Orinoco Belt production, a huge drop will be reflected in the March numbers Venezuela will report to OPEC, Rangel said. During the blackouts, production was down to a level similar to Venezuela's January

2003 reported production to OPEC, which plunged after the PDVSA strike against then-president Hugo Chavez.

The Orinoco Belt area hasn't recovered fully from the electricity blow and is currently producing about 300,000 barrels a day, he said.

While pumping oil from fields in the Orinoco Belt requires some electricity, the bigger power demand comes from the upgraders – facilities that convert the extra-heavy oil to more commercial blends – located some 300 kilometers away in the north near the coast. The country's four upgraders are still working to restart.

“If PDVSA restores power at full to all its four upgraders, jointly owned by Chevron, Total, Equinor and Rosneft, it can have an impact on the national grid,” Rangel said.

Upgraders will only have total power once the state run utility allows it, Rangel said. The flow of electricity from the national grid needs to be stabilized before it can bring power back to other high-demand services such Caracas's subway and water pumping systems. In the fields, oil wells and pumps are expected to be connected under a government-ordered power rationing plan that's in effect.

– *With assistance by Lucia Kassai*

---

**Petrobras agrees to sell pipeline unit to Engie for**

# \$8.6 billion



SAO PAULO/RIO DE JANEIRO (Reuters) – A consortium led by France’s Engie SA submitted the highest offer for a major gas pipeline unit owned by Brazil’s Petroleo Brasileiro SA, the state-run oil firm said on Friday, as the company’s biggest divestment draws to a close.

In a filing, Petrobras, as the company is known, said the Engie consortium, which includes Canada’s Caisse de Dépôt e Placement du Québec, presented an \$8.6 billion bid for 90 percent of the TAG gas pipeline unit in northern and northeastern Brazil.

That topped offers by two competing consortia, led by Itausa Investimentos Itau SA and EIG Global Energy Partners with Mubadala Investment Co, respectively.

Two sources with knowledge of the matter said the difference between the bids was very small. The second highest bid, delivered by EIG Global Energy Partners and Mubadala Investment Company, was less than 1 percent below Engie’s bid, they said.

Engie subsidiaries in different countries account for 75 percent of the winning consortium and the Canadian pension fund the other 25 percent, one of the sources added, asking for anonymity to discuss undisclosed details.

Around 60 percent of the bid was financed by Itau Unibanco Holding SA , Banco Bradesco SA and Banco do Brasil SA .

The EIG-Mubadala group was financed by JPMorgan Chase & Co and Goldman Sachs. The third group, led by Brazilian holding Itausa Investimentos Itau SA, was also financed also by local banks. Banco Santander Brasil SA was Petrobras adviser on the deal.

The price tag includes the payment by the Engie group of \$800 million in debts to Brazilian state development bank BNDES. At an exchange rate of 3.85 reais to \$1, Petrobras said, the deal values all of TAG at 35.1 billion reais.

The divestment represents a victory for current Petrobras leadership and Chief Executive Roberto Castello Branco, who is pushing to aggressively unload assets in a bid to cut debt and refocus on exploration and production.

The sale process began in October 2017 but was interrupted last year by a Supreme Court injunction.

In September 2016, Petrobras sold a larger gas network pipeline, Nova Transportadora do Sudeste, for \$5.2 billion to Brookfield Infrastructure Partners LP, which beat out a bid by Engie.

Petrobras will continue to distribute natural gas through the TAG system under the terms of long-term contracts, the company said in the statement.

Bloomberg reported on the TAG sale earlier on Friday.

---

## **Greater flexibility is key to**

# LNG infrastructure growth revealed in DNV GL research



OSLO – A new report published by DNV GL has revealed that the vast majority (85%) of professionals working in the liquefied natural gas (LNG) sector believe that more investment is needed in LNG infrastructure to satisfy forecasts for growing global demand after 2025. However, more than two-thirds (69%) stated that uncertainty over prices is limiting spending in the megaprojects needed to feed the world's growing appetite for LNG.

DNV GL forecasts global LNG production will increase from 250 MMtpa in 2016 to around 630 MMtpa by 2050.

According to DNV GL's new report: The LNG era takes shape, oil-indexed LNG pricing is part of the issue. Recent oil price swings have made LNG sellers reluctant to peg decades-long contracts to volatile crude markets, yet they still need long-term commitments to make infrastructure investments viable. Half (49%) of the LNG professionals questioned expect contracted LNG prices to continue to be linked to the oil price, while a significant proportion (30%) disagree.

Respondents expect the U.S. (36%) and Australia (16%) to experience the greatest growth in LNG exports over the next three years. Other nations, such as Canada, Russia, and Africa

are also making moves for a slice of the LNG action. However, conventional gas from the Middle East and North Africa, as well as North American unconventional gas, will account for 70% of LNG liquefaction capacity by mid-century, according to DNV GL's 2018 Energy Transition Outlook.

China is the country expected to have the greatest growth in LNG imports over the next three years, according to the survey. This is largely driven by the country's 'blue sky' policies, aimed at reducing fossil fuel emissions and improving air quality. Other emerging economies, particularly in the Indian Subcontinent and Sub-Saharan Africa, will also drive demand towards 2050.

The level of supply and demand growth predicted by DNV GL will require significant investment; particularly facilities to re-gasify, store and distribute new liquefaction capacity. The cost of financing new infrastructure will have the greatest impact on the global LNG market in 2019, according to a third of respondents (36%). Political risk (including trade agreements) was the leading market barrier (17%).

"The new era we see emerging for the LNG sector will demand new thinking from our industry to ensure that a rapid evolution in demand and supply can be met. For example, our research shows signs of the sector opening up to new players, contracting models and pricing strategies. As reservations over capital spending and uncertainty over LNG pricing persist, the study reveals increasing interest in the sector finding more agile and flexible approaches to LNG production and trading," said Hans Kristian Danielsen, senior V.P. and marketing & sales director, DNV GL – Oil & Gas.

Agile approaches to LNG production are most likely to come in the form of smaller-scale floating liquefied natural gas (FLNG) projects. Smaller FLNG vessels and LNG tanker conversions are preferred by 59% of LNG professionals over the development of large-scale floating production units. These

are cheaper to build and operate, faster to deploy and more effective at exploiting smaller volumes of stranded gas for more markets.

Contractor-led operating models are also becoming increasingly favorable for LNG production, according to the findings of the report. In these instances, a contractor liquefies gas on behalf of an operator, who can reduce risk by purchasing a service instead of a costly asset. More than half (55%) of senior oil and gas professionals globally believe it is likely that operators will outsource or lease critical field development assets (such as FLNG vessels) in 2019.

Agility will also be key to protecting LNG buyers against risk. Three quarters (72%) of LNG professionals believe that buyers need more flexible contracts, where LNG volumes can be reduced, tenures shortened, and delivery locations changed.

“New market actors could be key to bridging the divergent interests of LNG buyers wanting flexibility, and sellers, who demand long-term cash-flow certainty to support major investments. This was once the domain of oil majors, but commodity traders are now emerging as a significant new breed,” added Danielsen.

---

**IEA's climate models criticised as too fossil-fuel friendly**





The world's top energy body has come under fire from leading investors and scientists who say that its energy forecasts are not in line with the latest climate science, and could contribute to higher levels of carbon dioxide emissions.

In a letter to the International Energy Agency seen by the Financial Times, businesses including Hermes Investment Management, Allianz Group and Legal & General Investment Management have asked the IEA to develop a new model with lower emissions that would line up with 1.5C of warming.

The IEA's benchmark annual World Energy Outlook is considered the definitive assessment of the energy sector, but critics say its models do not go far enough in mapping the deep cuts in carbon emissions needed to limit the worst climate impacts, and are too fossil-fuel friendly as a result.

"Without the inclusion of a central and realistic 1.5C scenario going forward, the World Energy Outlook would abdicate its responsibility to continue to chart the boundaries of the path of the global energy sector," the letter warned.

Under the 2015 Paris deal, nearly 200 countries agreed to limit the global temperature rise to well below 2C while pursuing efforts to keep it to less than 1.5C.

The global energy body, which was founded in 1974 to ensure the energy security of its members, including big consumer nations such as the US, produces a range of energy scenarios that are considered the gold standard for policy planning. Many asset managers also rely on these scenarios as they try to bring their portfolios in line with climate goals.

“The IEA scenarios that could be used as a centralised benchmark are not really fit for purpose,” said Ingrid Holmes, head of policy at Hermes, which has £33.5bn of assets under management. “What we have seen over the last couple of years is, as the climate crisis becomes more urgent, the credibility of the scenarios from the IEA has been reduced.

“From a company’s perspective, at worst these scenarios could be used as a fig leaf for inaction,” she added. “From a government perspective, one of the risks is complacency.”

The IEA has varying models that are used by the world’s biggest energy companies, governments, banks and investors to plan their businesses and policies.

The energy body said the scenarios in its World Energy Outlook – which include a central “new policies scenario”, a “sustainable development scenario”, and a “current policies scenario” – are hypothetical models, rather than predictions of the future.

In response to the letter, Fatih Birol, IEA executive director, said the central scenario was “a mirror” that reflected policymakers’ decisions.

“Our latest energy demand and emissions data for 2018 show that the world in which we live in is unfortunately in line with the new policies scenario, as emissions continue to

increase. Highlighting the reality of the established trajectory is of cardinal importance,” he wrote.

“The World Energy Outlook has been, and remains, at the forefront of global efforts to combat climate change,” he added, pointing out that the sustainable development scenario was in line with the goals of the Paris accord.

Several of the world’s top climate scientists were also signatories to the letter, which called on the IEA to publish another scenario, one that has a two-thirds probability of limiting warming to 1.5C.

“By not providing more ambitious scenarios, it makes it much harder for those stakeholders to set more ambitious targets, or targets which would be consistent with limiting to 1.5C,” said Joeri Rogelj, a lecturer at Imperial College London and a lead author of the UN’s annual emissions report.

Currently, the IEA’s most ambitious model, the sustainable development scenario, includes a level of carbon dioxide emissions that implies a 50 per cent chance of limiting global warming to 1.7C, compared to pre-industrial times. Its new policies scenario implies between 2.7C to 3C of warming.

“Given the influence of the World Energy Outlook and its currently central new policies scenario, it is no surprise that the current national commitments to reduce emissions under the Paris Agreement would track us on to an unacceptable warming pathway,” the letter said.

Copyright The Financial Times Limited . All rights reserved. Please don’t copy articles from FT.com and redistribute by email or post to the web.

---

# Gas supply glut in Europe drives prices to multiyear lows



## Global markets have become more connected as LNG shipments grow more flexible

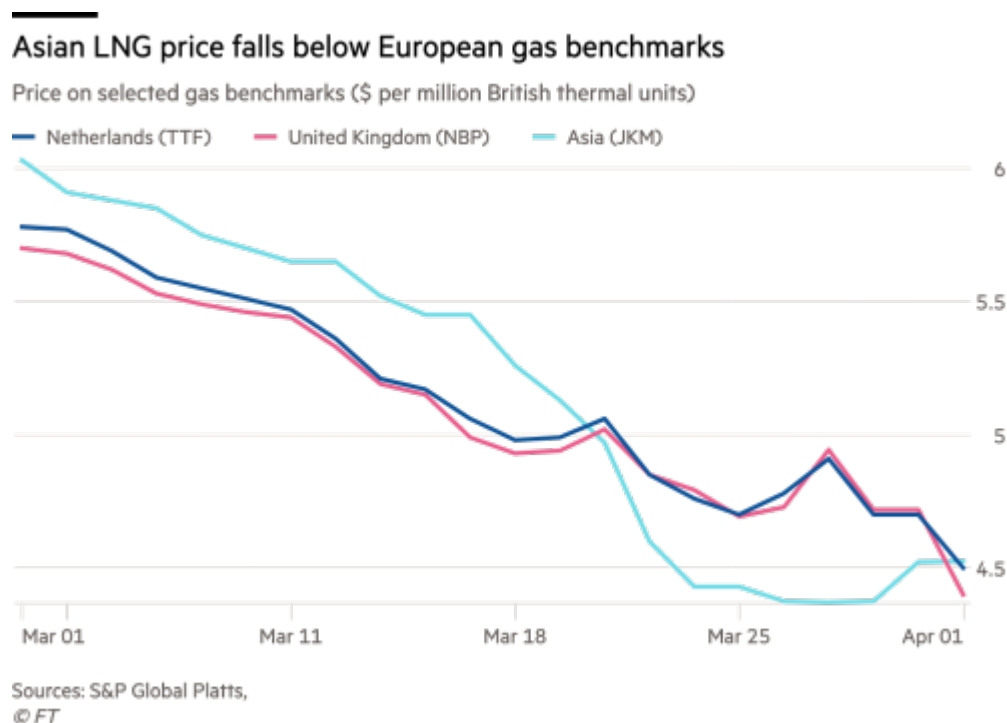
Utilities across Europe are enjoying a windfall, as a gas glut caused by excess liquefied natural gas shipments from Asia drives prices to multi-year lows.

A mild Asian winter coupled with nuclear-plant restarts in Japan and ample supplies from the US and Russia have cut down deliveries of LNG to large buyers in the region. As prices for the supercooled fuel have fallen, hitting a three-year low, cargoes have been directed instead to Europe.

That is pushing down prices there, too: the UK wholesale day-

ahead gas price, for example, is trading just above 31p per therm, the lowest seasonal level since 2016 and below a 5-year average of 46p per therm.

The price moves show how gas markets around the world have become more connected thanks to increasing volumes of LNG cargoes moving the gas from one continent to another, freed from an old regime of rigid contracts with fixed destinations.



“In the future, gas prices in Europe will be driven by LNG,” said Niall Trimble, managing director of oil and gas consultants The Energy Contract Company.

LNG will also gain greater influence on European and UK gas markets as volumes from the region’s production areas in the North Sea, Netherlands and Norway decline. The UK became a net importer of natural gas in the mid-2000s as North Sea production fell.

The UK is among the leading destinations for LNG cargoes thanks to plentiful terminal storage capacity. The amount of LNG used in the UK gas pipeline system quadrupled in the fourth quarter of 2018 from the previous year and jumped 4.5 times in the first quarter of this year.

Asia and Europe are the two main LNG importing regions, and until recently, robust demand from China, South Korea and Japan have kept the Japan-Korea Marker (JKM), the Asian benchmark, higher than the European equivalent.

Sam Laidlaw, a former chief executive of Centrica, the gas and electricity company, who now leads the private equity-backed Neptune Energy, said he expected the drop in gas prices to be a “short-term phenomenon” as demand picks back up in Asia. He said any resolution of the trade spat between Washington and Beijing would likely see more oil and LNG flow from the US to Asia, tightening supplies available to Europe.

National Grid, which plays a role in ensuring UK energy supply matches demand, said in a recent report that it was expecting much higher deliveries of LNG this summer than in 2018. This was because LNG shipping costs had risen over the winter, making Europe, which is a closer destination, a more profitable market than Asia for cargoes from the US and Russia.

However, some analysts said that the weakness in the Asian price was encouraging some producers to shut down their facilities for maintenance. Meanwhile, the LNG flows to Europe could push prices down in the region, making the Asian markets more attractive again.

Samer Mosis, LNG analyst at S&P Global Platts, said that the Asian discount to European price benchmarks was unsustainable. He noted that Qatar had already “swung its flexible production towards Europe alongside continued US and Russian deliveries, which is threatening to lead to oversupply”.

Copyright The Financial Times Limited . All rights reserved. Please don't copy articles from FT.com and redistribute by email or post to the web.

---

# Aramco's bond sale is part of a grand plan



It is not every day that a company asks to borrow money while at the same time explicitly stating that it has absolutely no need for it.

Then again, it is not every day that the most profitable company in the world emerges from a shroud of secrecy, to tap international bond markets for the first time.

Saudi Aramco's debut bond sale is just days away, prompting the jewel in the crown of the desert kingdom to open its books and reveal some staggering numbers. The Saudi Arabian oil company booked \$111bn of net income in 2018, more than that of Apple and Alphabet combined.

Companies that make that much money do not usually have much cause to borrow more.

Apple, for example, has only ever raised bonds to cover its mountains of cash trapped offshore. Since President Donald Trump introduced a new tax code at the end of 2017,



encouraging companies to bring money back home, the US tech group has been conspicuously absent from the bond market. Google's owner, Alphabet, meanwhile, which has an equity value of \$845bn, has a grand total of \$300m in bonds.

Saudi Aramco's treasurer has been clear that the company does not need the funding, telling investors that it has a "fortress-like corporate position".

The bond sale has very little to do with corporate finance, therefore, and everything to do with the grand plans of Saudi Crown Prince Mohammed bin Salman.

The wheels may have come off Prince Mohammed's aim to sell shares in the Saudi oil giant but he has not abandoned the idea entirely. And opening Aramco to the rigours of disclosing its balance sheet is seen as a stepping stone to that bigger prize of an initial public offering.

Fortunately for the prince, bond investors love lending money to companies that do not need the funds and are very unlikely to default. While Aramco has indicated that it will raise \$10bn, investors expect this to hit at least \$15bn given the strength of demand.

At one point last year, bankers and advisers were even talking about Aramco issuing \$70bn of bonds in one shot. That was before the grisly killing of Jamal Khashoggi at the Saudi consulate in Istanbul last October.

But Khashoggi's death has had no long-term impact on fund managers' desire to load up on Saudi bonds. (That \$70bn number was only ever floated because it would have been a record-breaking corporate debt sale.)

Nor have investment banks shied away from the kingdom. In October, Jamie Dimon, the JPMorgan chief executive, was the first bank boss to pull out of Prince Mohammed's "Davos in the Desert". Less than six months later, the US investment bank is leading Aramco's bond sale.

---

# U.S. LNG in high demand



LONDON (Bloomberg) – U.S. gas companies at the LNG2019 conference in Shanghai this week have announced deals to sell a combined 4.5 million tons of LNG a year from proposed multi-billion dollar projects. Nearly all of that was sold without a link to the U.S. Henry Hub benchmark, the most-widely traded gas price in the world.

The novel price links for U.S. gas included:

Japan-Korea Marker: Tellurian Inc. agreed to sell Total 1.5 million tons a year from its Driftwood LNG venture in Louisiana linked to Asian spot LNG marker, which has traded as much as \$9 above Henry Hub in the past year. Brent oil: NextDecade Corp. will supply Royal Dutch Shell with 1.5 million tons annually, for 20 years, linked to the global crude benchmark, which U.S. exporters in the past argued has no connection with gas fundamentals.

LNG has traditionally been priced against oil, since the gas market lacked a liquid, global benchmark. The rise of U.S. exports, and the ease of pricing against Henry Hub, was a way

to break the link with oil, but left costs dominated by factors unique to North America.

## **Not Willing**

“Nobody wants Henry Hub” pricing in Europe, Mark Gyetvay, CEO for Russian LNG developer Novatek, told reporters on the sidelines of the conference. “Most of these people are not willing to take Henry Hub because they can’t hedge it” against European benchmarks.

No global marker has been established amid the robust growth in spot LNG demand and trading, reflecting a desire by buyers and sellers to secure a diversity of pricing options. Trading of JKM futures on the Intercontinental Exchange Inc. grew 10-fold between January 2017 and December 2018, while trading of Dutch Title Transfer Facility futures has grown nearly five times faster than U.S. trading in the past two years.

Europe has long had domestic gas markets that set prices LNG producers are willing to sell against. But that hasn’t been the case in Asia, where gas markets are typically disconnected and regulated by governments.

That’s started to change in the past two years as spot LNG trading in the region increased, bolstering confidence in the JKM price, assessed by S&P Global Platts. Nearly two-thirds of the world’s LNG was bought by Japan, China, South Korea or Taiwan last year, according to the International Group of LNG Importers.

## **Asian Index**

“We don’t believe LNG should continue to trade on an index to something else. It should be buying and selling on an LNG index,” said Meg Gentle, Tellurian’s chief executive officer. “Today JKM is really the market clearing index. Over time there will be additional LNG price points.”

The pricing mechanism that raised eyebrows this week in Shanghai was NextDecade's Brent-linked deal with Shell. NextDecade CEO Matt Schatzman said he wanted to sell against Brent because his Rio Grande LNG venture will rely on gas that's a byproduct of oil drilling in the Permian Basin, where output will likely increase along with oil prices.

Total CEO Patrick Pouyanne said he didn't understand that logic.

"Continuing to price gas linked to oil is somewhat the old world," Pouyanne said on Wednesday. "I was most surprised to see new contracts linked to Brent, especially from the U.S. Someone will have to explain this to me."