

# Russian Arctic LNG firm joins majors for foray into power



Novatek PJSC is looking at power generation to unlock demand for liquefied natural gas from its massive projects in Russia's Arctic.

The developer of the Yamal LNG plant in Siberia is seeking to be on a par with global majors Royal Dutch Shell Plc and Total SA in a global push to expand into electricity. Novatek will in the long run consider joint ventures to take the next step from gas to power and help nations such as India clean their air, according to chief financial officer Mark Gyetvay.

"There are still billions of people on this planet that don't have access to power, so we may need eventually to look further downstream, we may need in the future to partner up with other potential projects to bring power, so take it from gas to power," Gyetvay said in an interview in London. "That may be one of the options for Novatek to pursue in the future."

The world's biggest energy companies will gather at the

LNG2019 conference in Shanghai next week amid increasing pressure from investors to protect their business from a shift to lower-emission fuels. While many nations favour renewables as they seek to combat air pollution, gas is a cleaner alternative to coal to address the intermittent nature of power from solar and wind.

As a first step, Novatek has already teamed up with Siemens AG to explore co-operation in areas including LNG supply and power generation.

For LNG producers, investments in gas and power infrastructure in regions that offer significant demand potential helps secure an outlet for the supply from their multibillion-dollar liquefaction projects.

At a time of fierce competition among global LNG producers, having a customer secured through mechanisms such as an integrated gas-to-power project is a boon. Many nations in Asia and Africa lack infrastructure and need outside investment.

China's unprecedented drive to switch from coal to gas and become the world's second-biggest LNG importer demonstrates that "the push to clean air has already begun," Gyetvay said.

India and markets in southeast Asia are expected to follow.

"The exciting element is what potentially the Indian market has to offer," Gyetvay said. "It is still 40% to 45% coal, it offers tremendous opportunities, Africa is a continent that is developing and needs gas. A lot of these former export countries, like the Middle East, are now moving toward gas."

Spot LNG has crashed almost 50% since the start of the year to \$4.60 a million British thermal units, and lower prices are seen as a trigger for demand in nations that would otherwise opt for dirtier coal or oil.

"LNG companies with a significant amount of spot exposure have the most to lose from weak spot prices in 2019," Sanford C Bernstein & Co analyst Neil Beveridge said on March 26 in a note. The New York-based researcher sees prices returning to \$8 a million Btu by the next northern hemisphere winter.

Gyetvay is unfazed by what he sees as a "very, very short

window of lower prices" due to the multi-decade nature of LNG projects. While on a short-term basis, there will be impact on profitability, most of Yamal LNG's contracts are linked to crude, diluting the impact of spot price dynamics, he said.

"If the prices stay lower for a period of time, that may open up the market for us," Novatek's Gyetvay said. "We are not really worried about it."

Yamal LNG's first production line, or train, has now switched to supplies under its long-term, oil-linked contracts, and Train 2 is starting to, Gyetvay said. Train 3 started a year ahead of schedule, and its early volumes are sold on a spot basis, as is typical for new LNG plants.

That flow of uncommitted volumes is spilling into European markets, making Russia the biggest supplier of LNG into northwest European markets this year. That dynamic is helped by the plunging economics of sending a cargo from the Atlantic region to Asia after the typical premium nations such as Japan, South Korea and China pay for spot LNG disappeared.

"Europe has been a stronger market, so we are able to deliver cargoes to the European market," Gyetvay said. "Another thing we can do is look at early nominations for contracted volumes so we are asking the buyers to step up on early nominations on their particular long-term contracts."

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## **Natural gas prices falling across the globe as supplies rise**



Natural gas prices are falling across the globe as supplies from the US to Australia flood the market, sparking concern some exporters will have to curtail output and raising questions about new investments. While prices typically ease at this time of year as mild weather in the northern hemisphere crimps demand, a boom in output of the heating and power-plant fuel is exacerbating the slump. The crash comes as the world's biggest energy companies are set to gather at the LNG2019 conference in Shanghai next week, with many considering whether to move forward with a wave of massive, multibillion-dollar liquefied natural gas export projects. Global trade is already shifting as lower prices wipe out the economics of sending US gas to Asia and boost Europe's appeal as a market. New LNG production from Australia, Russia and the US has helped to push prices in Asia more than 50% lower this year after a warmer-than-normal winter. Even as concern about climate change drives a shift to cleaner-burning gas from coal, demand isn't growing fast enough to absorb the supply surge. "The gas market obviously is undergoing a winter" fallout after warm weather curbed demand, said Francisco Blanch, head of global commodities and derivatives research at Bank of America Corp in New York. "We are getting a glut

across the board and we don't see that changing all that much."

Asia's LNG benchmark, the Japan-Korea Marker, has more than halved since the start of the year to \$4.375 per million British thermal units as of March 26. It's fallen to a rare discount to European prices, as UK National Balancing Point futures traded at around \$4.50 on Friday, down 44% this year in their worst quarter in a decade. US gas futures are down more than 8% this year, heading for the worst quarterly loss in two years. The gas crash stands in stark contrast to oil prices, which are heading for their best quarter since 2002 as Opec and its partners curtail production amid a decline in output from Iran and Venezuela. Since gas is produced as a by-product of crude drilling in places like West Texas's Permian Basin, the oil rally threatens to exacerbate the gas glut. European gas prices are also dropping relative to the US, and if the spread narrows further, American exporters may be forced to cut output, according to Societe Generale SA. The market is collapsing just as more Gulf Coast terminals designed to send LNG overseas are poised to start up, creating the first real test of buyers' appetite for US cargoes. "Prices could keep falling and stay low for weeks, perhaps until sometime closer to the middle of the year, after the market has adjusted and overcome frictions on the supply, demand and shipping sides," Citigroup Inc analysts including Anthony Yuen wrote in a March 28 note to clients. European prices may need to fall more than 15% to make US LNG into the region uneconomic and help rebalance an oversupplied system this summer, BloombergNEF analysts said in a report this week.

So much production is flooding the market that prices may not begin a sustained rebound until heating demand starts to pick up during the northern hemisphere winter, said Meg Gentle, chief executive officer of Tellurian Inc, which is planning a \$28bn export terminal in Louisiana. The short-term pain may seem at odds with expectations that several developers are now

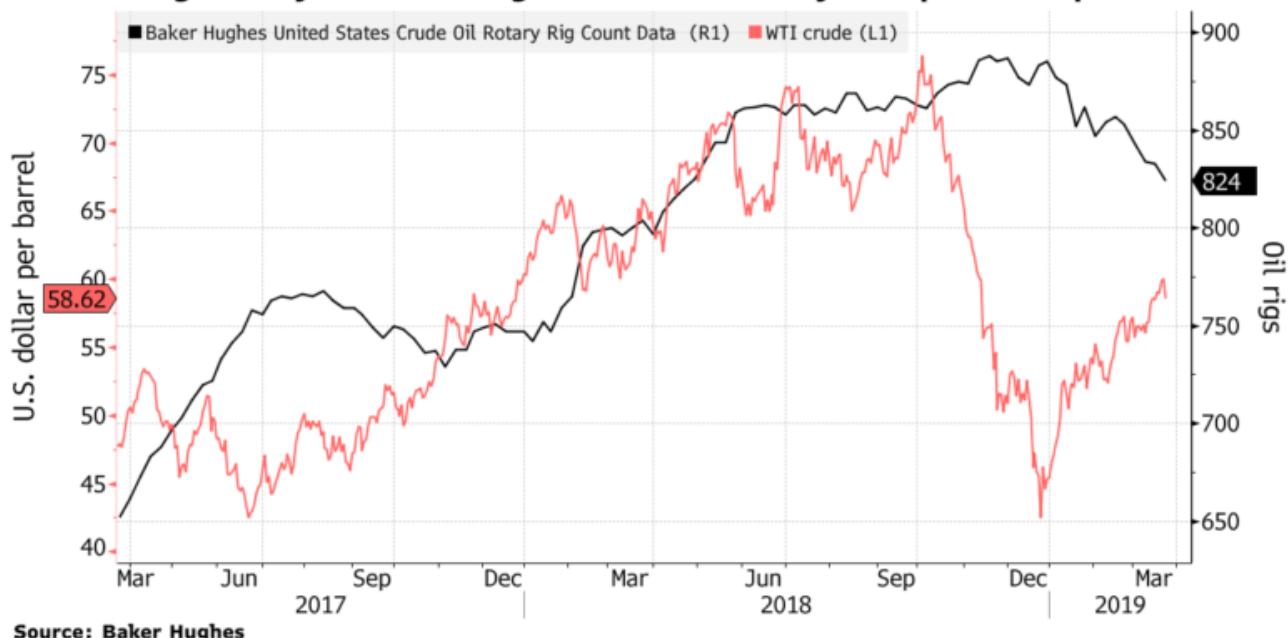
set to announce billions of dollars in investments for new export facilities. That's because the medium-term outlook calls for the current surplus to shift into a deficit early next decade, which can only be avoided if projects are sanctioned now. The impacts of this situation on US projects "might raise questions at LNG2019 for the US developers trying to sell LNG export capacity," Citigroup analysts wrote in the note. "Ultimately, customers are likely to look past this nearerterm dynamic." Global consumption is forecast to grow 1.6% over the next five years, with China accounting for a third of global demand growth to 2022, according to the International Energy Agency. Gas is expected to surpass coal as the world's second-largest energy source, after oil, by 2030 amid a push to cut emissions.

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## **Shale Suffers Growing Pains That Could Slow U.S. Oil Production**

## Rig Reversal

U.S. drilling activity is still feeling the effects of last year's price collapse



Source: Baker Hughes

The dramatic ramp-up in U.S. shale production is running into a combination of issues – technical and financial – that threaten to slow the pace of expansion, according to some of the industry's biggest companies.

Schlumberger Ltd. and Halliburton Co., two of the largest providers of oil services, said Monday there will be a double-digit drop in spending from customers in the U.S. and Canada this year, a gloomier outlook than they had previously given.

American frackers are tightening their belts following a plunge in crude prices in late 2018 and as investors urge drillers to do more with less. An explosive surge in output from shale formations has pushed U.S. oil production past Russia and Saudi Arabia to become the world's largest. There are warning signs that growth cannot continue indefinitely.

That's leading one of those producers, Devon Energy Corp., to slash its workforce by about a third amid pressure on spending, Chief Executive Officer Dave Hager said Monday at the Scotia Howard Weil energy conference in New Orleans. The Oklahoma-based driller has already whittled down its headcount by 200 people this year, he said, and is planning to get its total down to 1,700, from about 2,500 now.

In addition to financial limits, technical difficulties are sparking concern that some oil production forecasts won't materialize. Schlumberger Chief Executive Officer Paal Kibsgaard became the latest voice in the U.S. energy industry to warn of the problems caused by "interference" between newer oil prospects – called child wells – and their so-called parent.

Too close, and the child wells can turn out to be less prolific than their parent. But too far apart, and drillers can end up leaving oil in the ground.

"Is there a parent-child relationship? Absolutely. Has it been there since time immemorial? Absolutely," Diamondback Energy Inc. CEO Travis Stice said at the conference. "It's our responsibility to account for the economics of the degradation between a parent and child well, and it's our responsibility to dial that into our forecast."

Stice said Diamondback hasn't had to cut back its activity in response to those issues, like some of its peers who have had to widen spacing after production failed to live up to expectations.

"I think what you're seeing is reserve reports coming out at the end of last year with a lot of negative performance revisions in there," he said. "That's really the first tell as an industry that you've overcapitalized your assets."

It's not just budget constraints or technological challenges that may slow growth. Concho Resources Inc. President Jack Harper said the industry will have to throw more money at the Permian Basin's stretched schools and roads for the hot shale play to handle the level of activity expected over the next several years.

In another sign that the shale boom might be slowing down, explorers have reduced the number of oil rigs operating in the U.S. to the lowest in about a year, a report by Baker Hughes showed on Friday. There's also a backlog of thousands of wells

that have already been drilled but haven't yet been fracked, the most costly part of the process of bringing a well into producing.

So far, U.S. oil output is holding at a record 12.1 million barrels a day after jumping about 30 percent in just two years. But shale wells have a short life span, with yields sometimes declining in just a few months. More have to be drilled and fracked frequently just to keep up the pace of production.

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## **N-KOM successfully completes its first FSRU project**



Nakilat-Keppel Offshore & Marine (N-KOM) has successfully completed its first floating storage regasification unit (FSRU) project for the 138,000cbm FSRU Excelerate owned by the US-based Excelerate Energy.

During its period at the Erhama Bin Jaber Al Jalahma Shipyard, the FSRU underwent routine drydocking and repairs, in addition to modifications and retrofitting of several new systems, including the installation of a ballast water treatment system (BWTS).

To date, N-KOM has completed some seven BWTS installations for various types of vessels, such as LNG and LPG carriers as well as very large crude carriers (VLCCs).

The vessel is now ready to sail to Bangladesh to join Excelerate's 'FSRU Excellence' in the Bay of Bengal and serve as the country's second LNG import terminal.

N-KOM's expertise in handling gas carriers has attracted many LNG vessels for routine docking, membrane repairs, and other repair and maintenance works at its facility. Located within the world-class Erhama Bin Jaber Al Jalahma Shipyard, N-KOM has completed more than 190 LNG carrier drydocking and repairs to date, with around 30 projects undertaken in 2018 alone.

The shipyard's comprehensive facilities include three Q-Max sized docks (two graving docks and one floating dock), berthing capacity of 3,150 metres, specialised workshops and cryogenic cleanrooms, enabling it to handle repairs and maintenance for all types of marine vessels and offshore structures.

To date, N-KOM has delivered in excess of 900 marine and offshore projects in a safe, reliable and timely manner to clients from around the world.

Established in 2007, N-KOM is a joint venture between Qatar's premier gas shipper Nakilat and leading offshore rig constructor and ship repairer Keppel Offshore & Marine.

From its strategic location within the Erhama Bin Jaber Al Jalahma Shipyard in Ras Laffan Industrial City, N-KOM offers a comprehensive range of repair, conversion, maintenance and

fabrication services for marine vessels, offshore and onshore structures.

Excelerate Energy is an LNG company based in Woodlands, Texas.

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## **IEA: Carbon emissions hit record high in 2018**



Global energy-related carbon emissions rose to a record high last year as energy demand and coal use increased, mainly in Asia, the International Energy Agency (IEA) said on Tuesday.

Energy-related CO<sub>2</sub> emissions rose by 1.7 percent to 33.1 billion tonnes from the previous year, the highest rate of growth since 2013, with the power sector accounting for almost two-thirds of this growth, according to IEA estimates.

The United States' CO<sub>2</sub> emissions grew by 3.1 percent in 2018, reversing a decline a year earlier, while China's emissions rose by 2.5 percent and India's by 4.5 percent.

Global energy demand grew by 2.3 percent in 2018, nearly twice the average rate of growth since 2010, driven by a strong global economy and higher heating and cooling demand in some parts of the world, the IEA said.

Global gas demand increased at its fastest rate since 2010, up 4.6 percent from a year earlier, driven by higher demand as switching from gas to coal increased.

“Coal-to-gas switching avoided almost 60 million tonnes of coal demand, with the transition to less carbon-intensive natural gas helping to avert 95 million tonnes of CO<sub>2</sub> emissions,” the IEA said. “Without this coal-to-gas switch, the increase in emissions would have been more than 15 percent greater,” it added.

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## **European Countries Are The Most Ready For Global Energy Transition**



Sweden, Switzerland, and Norway lead a host of European countries judged by the World Economic Forum as those most ready for the global energy transition, while Canada, Australia, and South Korea are the only Advanced Economies performing well below the average, due primarily to poor environmental sustainability policies.

These are the primary findings from the World Economic Forum's *Fostering Effective Energy Transition* report, published on Monday. The report contains the Forum's Energy Transition Index (ETI) which compares the energy sectors of 115 countries and analyzes their readiness for the energy transition – described by the Forum as “the readiness of their macro environment for transition to a secure, sustainable, affordable and inclusive future energy system.”

The underlying determination from the report is that, globally, the energy transition has slowed, with the year-on-year increase of the global average score on the Forum's ETI the lowest of the last five years. “Three years after the global milestone of political commitment through the Paris Agreement, this lack of progress provides a reality check on the adequacy of ongoing efforts and the scale of the challenge,” the authors of the report explained.

Conversely, energy security and access continued to show strong growth driven by strong gains in access to electricity in Emerging and Developing Asia countries, and by increasingly diversified import counterparts among fuel-importing countries. Specifically, on average, 135 million people gained access to electricity each year between 2014 and 2016.

Leading the transition were Sweden, Switzerland, and Norway, heading up a European-heavy list. According to the report, all the top performing nations share certain characteristics which demonstrate a combination of technical advances and effective policy-making and implementation.



Countries filling out the bottom of the rankings are found to often lack effective regulatory frameworks and suffer from political instability. According to the report, ongoing geopolitical conflicts that are an unfortunate trademark of regions such as Africa, or dependency on legacy fossil fuel-based power generation infrastructure serve to restrict opportunities to develop the conditions for the necessary energy transition. Fossil fuel exporters like Nigeria, Mozambique, and Venezuela face significant barriers to energy transition, as do those countries which rely disproportionately on high coal consumption such as South Africa and Mongolia.



However, it is Advanced Economies like Canada, Australia, and North Korea which are held up as badly failing in the emerging energy transition, let down by low scores on environmental sustainability. Australia, in particular, is highlighted due to its resistance from the current government to walking away from coal-fired power, aligning it with the United States as two of the countries seeking a way forward that allows them to keep coal as a primary source of energy.

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# BP's focuses \$100 million on reducing emissions



HOUSTON – BP has announced that it has established a \$100 million fund for projects that will deliver new greenhouse gas (GHG) emissions reductions in its upstream oil and gas operations. The new Upstream Carbon Fund will provide significant further support to BP's work generating sustainable greenhouse gas emissions reductions in its operations.

In April 2018, BP set clear, near-term and specific targets aimed at reducing its emissions and advancing the energy transition, including achieving 3.5 million tons of sustainable GHG emissions reductions across the BP Group from 2016 to 2025 and targeting a methane intensity of 0.2%.

In the year since, BP's total direct GHG emissions fell by 1.7 MMt CO<sub>2</sub>equivalent, despite a 3% growth in upstream oil and gas production on the same basis. By the end of 2018, BP had generated 2.5 MMt of sustainable GHG emissions reductions throughout its businesses since 2016. BP's methane intensity for 2018 was 0.2% – in line with the target.

Upstream chief executive Bernard Looney said, "A year ago we challenged everyone at BP to reduce emissions in our operations and they have responded overwhelmingly. This \$100 million investment is designed to build on that momentum. It will fund ideas both big and small because everything counts in our transition to a lower carbon future and everyone at BP has a role to play."

Under the new initiative, funding totaling up to \$100 million will be made available over the next three years to support new projects in the upstream that will generate additional GHG emission reductions. Businesses and employees throughout BP's Upstream operating businesses are being invited to come up with ideas and propose projects for this funding.

The Upstream Carbon Fund will be in addition to the \$500 million that BP invests in low carbon activities each year, including investment in venturing activities and into its significant alternative energy business. BP is also a founding member of the Oil and Gas Climate Initiative, which brings together 13 of the world's largest energy companies and has set up a \$1 billion investment fund to address methane emissions and other issues.

BP's targets for reductions in operational emissions are part of its 'reduce-improve-create,' or RIC, approach to the energy transition, which also aims to improve its products to allow customers to reduce their emissions and to create and grow new low carbon businesses. The projects that are awarded funding will help to deliver the further emissions reductions necessary to achieve the RIC targets.

The announcement of the new fund is a further step in BP's work to meet its targets and advance the energy transition. In January, BP announced that progress towards the sustainable emissions reductions target has now been incorporated as a factor in the remuneration of 36,000 employees across the Group.

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## **The ‘new reality’ of the oil and gas sector**



The “new reality” that Oil & Gas UK has identified in its new Business Outlook highlights the significant pressures that those operating on the UKCS continue to grapple with, as the industry strives to remain competitive and sustainable.

Certainly, the current environment has challenges. Continued market uncertainty is reinforcing investor caution, indicating a conservative outlook for prices. This has meant that the

laser focus on costs, budgets and efficiencies, which has been so crucial to the industry in recent years, must continue to be the norm across the sector.

However, it is important to stress that the latest Business Outlook also draws out some of the many positive outcomes that have resulted from better collaboration, new ways of working and greater focus on technology and innovation that have been adopted over the last 5 years. The industry is working better, smarter and more efficiently, and capable of maintaining global competitiveness.

The improvements in production, production efficiency and new field approvals which feature in this year's Outlook help to demonstrate the industry's ongoing resilience and optimism. Following 14 years of decline, production has increased by 20 percent over the past five years, while momentum around exploration activity has increased, with up to 15 exploration wells expected to be drilled this year, including some potentially high-impact prospects.

Additionally, the on-going levels of M&A activity indicate that the appetite to invest in the basin continues to be positive. That much of this activity in 2018 related to the transfer of assets, helping to ensure that investment opportunities are in the most appropriate hands, and creating a more diverse landscape, is hugely encouraging given the importance of this in achieving MERUK.

However, fresh and forward-thinking approaches to collaboration and business models that take into consideration trust, technology and transformation in the oil and gas industry remain crucial to ensuring the UKCS's competitiveness and longevity as well as supporting that of its critical supply chain mass. While there have been positive changes towards this, there is much more that can still be done.

The industry needs to move forward together to unlock the

£200bn that OGUK has reported to be required to achieve Vision 2035 – adding another generation of productive life to the basin. By building on the momentum now established, and with a continuing focus on our “new reality”, this definitely looks to be achievable.

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## **European Parliament approves Clean Energy for All Europeans package**



The European Parliament has adopted the new Electricity Regulation and Electricity Directive, concluding the political negotiations on the Clean Energy for All Europeans package. The regulation now requires to be formally approved by the Council. It will then enter into force immediately (with a date of application of 1 January 2020 for the Electricity Regulation) and has to be transposed into national law within

18 months.

The revised Electricity Regulation opens up electricity markets to renewables, energy storage and demand response. It also introduces stricter and harmonised rules for capacity mechanisms and enhances regional coordination in order to improve market functioning and competitiveness. Under the new rules, new thermal power plants emitting more than 550 gCO<sub>2</sub>/kWh will not be allowed to benefit from the capacity mechanism, while existing power plants emitting more than the 550 gCO<sub>2</sub>/kWh threshold will be allowed to participate in capacity mechanisms until July 2025 only.

The Clean Energy for All Europeans package is expected to enable the European Union to realise the energy transition, follow up on the 2030 climate legislation and meet the Paris Agreement commitments.

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## **America emerges third-biggest holder of LNG export capacity**



Bloomberg/New York

Just three years after it began sending liquefied natural gas overseas, America now trails only Australia and Qatar in the volume of the fuel it's capable of exporting.

The US jumped ahead of Malaysia with the startup of Cheniere Energy Inc's LNG terminal in Corpus Christi, Texas, data from BloombergNEF show. And the race is just getting started: US export capacity, currently accounting for 8% of the world total, will more than double as projects under construction are completed.

More than a dozen projects are vying to be part of the so-called second wave of US LNG development, seeking to capitalise on the surge of production from shale basins. Though global gas demand is climbing as nations switch to the cleaner-burning fuel from coal, American shipments will compete with supplies from Qatar and Russia.

Cheniere shipped the first cargo from Corpus Christi in December, and a fifth LNG production unit at its Sabine Pass terminal in Louisiana received US approval this month to start service.

Though the US is already in third place in terms of global export capacity, the Cheniere projects "will be what nudges

the US up to third place in terms of supply into market – overtaking Malaysia on export volumes, including on a monthly basis,” Fauziah Marzuki, an analyst with BNEF in Singapore, said in an e-mail. “Russia isn’t too far behind” as it exports from Siberia, but America should have the lead with the startup of three more terminals this year, she said.