

NGS' NG/LNG SNAPSHOT

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JUNE 2018, VOL 1

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City gas distribution bidding process to be completed by Oct

The 9th City Gas Distribution Bidding round, which has potential for investment of up to Rs 70,000 crore, has received a good response from both domestic companies and MNCs through their partners in India. While the bidding process, which covers 86 geographical areas, is likely to be completed by October 2018, Telangana State, which will see the offer of 20 cities, has potential for investment of up to Rs 10,000 crore, according to Satpal Garg, and S Rath, Members of the Petroleum and Natural Gas Regulatory Board. Outlining the potential and prospects for the bidding process, Garg said there is huge potential this time as gas availability is likely to go up with big plans from ONGC and Reliance. This can be gauged from the initial response and pre-bid meetings, Garg said, where both Indian major companies and MNCs have evinced interest. PNGRB is in the process of offering 86 geographical areas covering 174 districts, spread over 22 states and union territories. These GAs cover 29 per cent of the country's population and 24 per cent of its geographical area. After award of the gas under offer, gas distribution would reach 286 districts spread across 26 states and UTs, covering 60 crore people and 49 per cent of the population and 35 per cent of the country's area. "The Ministry has brought about a number of changes in the bidding process to attract investments. Our efforts are directed towards being a facilitator from regulator," Garg said. SK Joshi, Chief Secretary of Telangana, said this was a big initiative towards providing clean energy. Telangana is already working with CGD entities to facilitate supply of CNG and piped natural gas.

<https://www.thehindubusinessline.com/news/city-gas-distribution-bidding-process-to-be-completed-by-october/article24024120.ece>

After petrol & diesel, CNG prices to rise in Delhi NCR; check new rates

Indraprastha Gas Limited (IGL), on Monday, May 27, announced revision in CNG prices in Delhi, Noida, Greater Noida and Ghaziabad region from midnight to offset the impact on its input costs. The new consumer price of Rs. 41.97 per kg in Delhi and Rs 48.60 per kg in Noida, Greater Noida & Ghaziabad would be effective from May 29. This comes on the back of rising petrol and diesel prices in Delhi touching a new peak of Rs 78.27 a litre and Rs 69.17 a litre respectively on Monday. The company said it will continue to offer a discount of Rs 1.50 per kg in the selling prices of CNG for filling between 12.30 am to 5.30 am at select outlets. However, the price of PNG in these cities remains unaffected. There has been a steep appreciation of the dollar as compared to rupee since the last CNG price revision. "The base price of natural gas being procured by IGL from its sources is dollar-linked thereby making the entire input price totally dependent on price of dollar vis-à-vis rupee. In addition, as per the revised domestic gas allocation for supply as CNG, the proportion of costlier PMT gas has been increased, which has added to the input cost of gas," the company said in a statement today. IGL is meeting fuel requirements of over 1.5 million vehicles running on CNG in NCR through a network of 446 CNG stations. IGL is supplying PNG to nearly 900,000 households in Delhi and NCR towns.

http://www.business-standard.com/article/economy-policy/now-cng-prices-too-increase-in-delhi-118052801423_1.html

Punjab's first CNG station opens in Mandi Gobindgarh

Punjab's first CNG station was thrown open to motorists at Mandi Gobindgarh town, Fatehgarh Sahib district, on Friday, May 25. Punjab Pollution Control Board (PPCB) chairperson Kahan Singh Pannu inaugurated the station commissioned by IRM Energy Private Limited, a group company of Cadilla Pharmaceuticals. This station has the facility of dispensing CNG for cars, auto-rickshaws and buses. A day before its inauguration, a part of the station caught fire from a spark due to welding done at the site. At least 10 fire tenders were rushed to the spot to control the flames at night. Pannu said the state government was alarmed by rising pollution. "PPCB is making allout efforts to control this and the use of CNG as an alternative to conventional fuel will play an important role in controlling pollution levels," he said. When asked about the use of diesel-run three-wheelers, he said the government was aware of the pollution caused by them and the PPCB had recommended it not to register such vehicles in future. "Three-wheeler owners have been directed to convert their vehicles to run on CNG, which costs Rs 20,000. PPCB is bargaining with the kit company to give subsidy to owners," he said.

<https://timesofindia.indiatimes.com/city/chandigarh/punjab-first-cng-station-opens-in-mandi-gobindgarh/articleshow/64325557.cms>

Guwahati city to get piped gas by 2021

The Petroleum and Natural Gas Regulatory Board said the GAIL will extend the Urja Ganga natural gas pipeline to Guwa-

hati to connect the Northeast with the grid. Board member S. Rath, who was here in connection with the ninth city gas distribution bidding round, said the city will get piped gas by 2021. The pipeline connecting Hadia, Dhamra, Paradip and Barauni will be extended to Guwahati. The 721-km pipeline project will cost Rs 3,000 crore. He said the pipeline would be extended to other locations in the Northeast and should be operational by 2023. The 1,500-km pipeline from Guwahati to other locations is being built by a consortium of companies involving Oil India Limited, Numaligarh Refinery Limited and others. Five Assam districts, Hailakandi, Karimganj, Kamrup and Kamrup (metro), as well as two districts of Tripura, Gomati and West Tripura, have been included in the bidding round. "An establishment of a gas grid in the Northeast, connecting all states, will provide impetus to economic growth and would lead to employment generation," an official said. Board chairman Dinesh K. Saraf urged all to leverage the opportunities available in the gas distribution business enabling the Centre to achieve its target to connect one crore households by piped natural gas by 2020. Education minister Siddhartha Bhattacharya, who also hold charge of the Guwahati development department, said the state government would provide full security cover to companies working on the project. "The security scenario in Assam and other states of the region has improved and there is no reason to fear for companies to operate here," he said.

<https://www.telegraphindia.com/states/north-east/city-to-get-piped-gas-by-2021-232906>

Natural gas to 5000 capital homes in pipeline - Jharkhand

Prime Minister Narendra Modi will lay the foundation of projects worth Rs 27,000 crore, including a Rs 2,840-crore domestic natural gas pipeline project, during his whirlwind tour of Jharkhand. Modi is scheduled to arrive at Baliapur, 22km from Dhanbad district headquarters, at 3.30pm on a helicopter after attending the Visva Bharati convocation at Santiniketan in Bengal. After laying the foundation of various projects, he will leave for Ranchi at 4.30pm and hold a meeting with deputy commissioners of 19 backward districts at the Birsa Munda Airport. At 6.30 pm, he will leave for Delhi. Addressing the media at Project Building here on Wednesday, chief minister Raghu-bar Das said the gas project, under the Urja Ganga Gas Pipeline Project of the Centre, will benefit Ranchi, Jamshedpur, Bokaro, Dhanbad, Hazaribagh, Ramgarh and Giridih. "By next year, we will be able to supply natural gas to at least 5,000 households in the state capital. We are thankful to the Modi government. We want Jharkhand to be a developed state like Gujarat," said Das. Barnwal said 591km of pipeline will be laid in the state passing through 12 districts. The groundwork for this project has already started," he said. Barnwal said 180km of pipelines will be laid in Ranchi and East Singhbhum district at a cost of Rs 445 crore in the first phase.

<https://www.telegraphindia.com/states/jharkhand/natural-gas-to-5000-capital-homes-in-pipeline-232568>

12 districts in Rajasthan to have city gas distribution, CNG stations

Despite Cairn India and Focus energy producing gas in Rajasthan, the footprint of the green and cheaper energy is almost non-existent in the desert state. But that is set to change. The Petroleum and Natural Gas Regulatory Board (PNGRB) is offering 12 districts (six geographical areas) in the state for bidding to build networks and infrastructure for making available city gas distribution (CGD) and setting up CNG stations. "Under 9th round bidding, 12 districts will get CGD and CNG station infrastructure. This will cover almost three crore population in the state," said Dinesh K Sarraf, managing director of PNGRB at a roadshow in Jaipur aimed at inviting investors to participate in the bidding. Sarraf said the bidding closes on July 10 and the winning bidders will

be awarded the projects in October this year. "In the 9th CGD bidding round, 86 GAs spread over 22 states and union territories are offered which is the highest in any round and it covers 29% of India's population. They have been identified keeping in view their proximity to gas pipelines," added Sarraf. It is expected that for each district, an investment of Rs 300-400 crore is required to build the infrastructure.

In the last eight rounds, 91 CGD networks have been awarded to 36 entities covering 19% of the country's population and 11% of geographical area. It has benefited 42 lakh domestic consumers, 33,000 industrial and commercial establishments and now providing CNG to 30 lakh vehicles through 1,300 stations.

<https://timesofindia.indiatimes.com/city/jaipur/12-districts-in-raj-to-have-city-gas-distribution-cng-stations/articleshow/64279526.cms>

GAIL plans to sell VGL stake to Gujarat Gas

GAIL Gas Ltd, a wholly owned subsidiary of Gail (India) Ltd, is looking to offload its entire stake in Vadodara Gas Ltd (VGL), the only city gas joint venture (JV) company of its kind where a civic body is a partner with a public sector energy company. GAIL has sought an amendment in the restrictive clauses of its shareholding agreement with the Vadodara Municipal Corporation (VMC) to sell its stake to Gujarat Gas Ltd (GGL), a subsidiary of Guja-

rat State Petroleum Corporation (GSPC). GAIL and VMC have equal stake (50:50) in the JV company that has operations in the VMC limits presently. GAIL had written to the VMC in 2015 too stating that its board had given a nod for offloading its stake to GSPC. In January this year, it again sought that a side letter should be drafted and signed by both GAIL and VMC for amendments that would waive the restrictive clauses. The restrictive clauses in the shareholders' agreement for the formation of VGL included that neither of the partners can sell a part of their stake in the JV for five years. It also stated that the stake could not be sold to any entity that was involved in the same business. Also, even after five years, only up to 20% of the stake could be offloaded. VGL commercial director Shailesh Naik said that a proposal for the amendments has been put before the VMC standing committee. The standing committee is expected to take a call on the proposal on Wednesday, May 16. The value of the deal is yet to be calculated. When the shareholders agreement was signed for the JV in July 2013, the JV was valued at Rs 215 crore. There were 75,000 domestic PNG connections that has now increased to 1,01,800. The number of commercial connection has remained stagnant at around 2,500. VGL operate eight CNG stations in the city too.

<https://timesofindia.indiatimes.com/city/vadodara/gail-plans-to-sell-vgl-stake-to-gujarat-gas/articleshow/64263771.cms>

India could have 10 million CNG vehicles on roads by 2025: Report

The estimated one crore CNG vehicles by 2024-25 will include passenger vehicles, three-wheelers and busses, according to the report. India could have one crore CNG vehicles on the roads by 2024-25 if an additional 5,000 filling stations are added, thereby providing answers to calls for alternative sustainable and eco-friendly mobility, according to a report. According to the report by Nomura Research Institute (NRI) Consulting, scaling up the total number of CNG stations from the current 1,349 to 5,000 could also result in crude oil imports saving by around Rs 95,000 crore by FY2024-25. The estimated one crore CNG vehicles by 2024-25 will include passenger vehicles, three-wheelers and busses, according to the report. At present, the existing CNG stations in India support around a total of 30 lakh CNG vehicles and we are way below the global standards," NRI Consulting and Solutions Partner Ashim Sharma said. Speaking on the sidelines of NGV India Summit by Messe Frankfurt, he said as per global standard one CNG station would cater to 1,500 vehicles only. "Once we add 5,000 new CNG stations by FY25, we could be reaching close to the global benchmark," Sharma said. A favourable policy is required for promotion of natural gas vehicles (NGVs) through development of CNG infrastructure in order to increase customer acceptance and provide cost competitiveness, he added. Currently, CNG is mostly offered as option in bi-fuel vehicles thereby compromising on boot space but despite that these vehicles are popular in cities where there are adequate CNG stations, he said.

<https://energy.economictimes.indiatimes.com/news/oil-and-gas/india-could-have-10-million-cng-vehicles-on-roads-by-2025-report/64306158>

Time for a hard look before Delhi takes an electric bus leap

Delhi government recently told the Supreme Court that it wanted to add 1,000 electric buses to its fleet, but a switchover will take a lot more than just buying and putting e-buses on the road. Suffering from the worst air pollution in the world, Delhi recently told the Supreme Court that it would buy 1,000 electric buses with the funds collected from diesel trucks as an environment compensation charge. While maintaining that it was not against Delhi getting e-buses for its public transit fleet, the SC-appointed Environment Pollution (Prevention and Control) Authority (EPCA) last week raised concerns about the procurement, maintenance and infrastructure enhancements required to run these battery-powered vehicles. The Delhi government responded to EPCA's criticism saying it has not, in fact, completed the technical detailing of the project. But considering its poor record on public transport upgrades at 5,429 buses, Delhi's bus fleet it at an eight-year-low

the government will have to do extensive homework before it takes the leap. Electric buses come with multiple benefits for a city like Delhi. They have zero tailpipe emissions. They also offer quieter and smoother rides and reduce the fuel budget drastically. But a switchover takes a lot more than just buying and putting e-buses on the road. The biggest challenge is to keep them running. Last year, China's Shenzhen became the first city in the world to own a fully electric fleet of 16,359 buses. But it was not easy to shift from diesel to e-buses, pointed out a report by World Resource Institute-China (WRI). Compared to diesel buses, e-buses cost two to four times upfront. They need the infrastructure to support consistent charging. Their batteries need to be replaced at least once during their lifetime, which can cost nearly half of a vehicle's price. Not surprisingly, it took the Shenzhen administration eight years to fix these back-end issues.

<https://www.hindustantimes.com/delhi-news/time-for-a-hard-look-before-delhi-takes-an-electronic-bus-leap/story-YnycNrUqNfwiUKMkPtC7cO.html> [Edited]

Nearly 4 percent of cooking gas users give up subsidy in India

Nearly 4% users of cooking gas, or liquefied petroleum gas (LPG), in India have given up subsidy provided by the government at the request of Prime Minister Narendra Modi in the past three years, said official sources in the Ministry of Petroleum and Natural Gas. In March 2015, Modi appealed to the well-to-do sections of Indian society to voluntarily give up the LPG subsidy, saying this would enable the government to benefit more of the poor. As per rough estimates, nearly 80% of households in India use LPG as cooking gas, while the rest, mostly in rural and far flung areas, still depend on firewood for cooking purposes. A website run by the Ministry of Petroleum and Natural Gas says domestic cooking gas is "heavily subsidized" by the government and every gas cylinder carries substantial subsidy. This translates to a huge annual subsidy burden on the government, draining precious resources which otherwise could have been used in developmental activities. Accordingly, the government has launched a campaign aimed at motivating LPG users who can afford the market price for LPG to voluntarily forgo subsidy. http://www.xinhuanet.com/english/2018-05/26/c_137207778.htm

NATIONAL: NATURAL GAS/PIPELINES/ COMPANY IN THE NEWS

ONGC to quadruple output from Bay of Bengal gas field that cost \$1 billion

India's state-owned exploration company Oil and Natural Gas Corp will by early 2019 quadruple the output from an offshore gas block in the Bay of Bengal, according to a senior ONGC official. Output from the Deendayal natural gas block off India's east coast will reach as high as a million standard cubic metres per day by January 2019, according to Rajesh Kakkar, head of ONGC's offshore division. ONGC bought the Deendayal field in 2017 from state-owned company Gujarat State Petroleum Corp (GSPC) while it was still undergoing test runs for commercial gas production. The increase in production is marginal against India's total consumption, although Kakkar said the field has a potential to go up to 3 MMSCMD, which would make up about 4% of ONGC's total output. "The project will also help us in developing the adjoining gas fields in the KG (Krishna-Godavari) basin at lesser capex (capital expenditure) and time," said Kakkar. ONGC and Reliance Industries Ltd, along with partner BP Plc, are developing several natural gas discoveries in the KG basin. These discoveries could contribute up to 50 MMSCMD output, or about a third of India's current demand. ONGC, which meets up to 40 percent of India's total natural gas demand, had been saddled with ageing fields and dropping production for almost a decade. Analysts said the increase in output from the Deendayal field will help ONGC in clocking an increased overall output in the current fiscal year as well. ONGC, however, will be able to monetise the gas at a higher price and with more marketing freedom under new rules meant to encourage the development of frontier offshore reserves.

<https://auto.economicstimes.indiatimes.com/news/oil-and-lubes/ongc-to-quadruple-output-from-bay-of-bengal-gas-field-that-cost-1-billion/64317868>

All news and features carried in this NGS NG/LNG Update are compiled from various sources - print and web editions, and have been duly acknowledged.

**Published and Web-hosted By
NATURAL GAS SOCIETY**

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GAIL Training Institute
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HPCL is keen to takeover MRPL before end of 2018-19: Chairman & MD Surana

HPCL is keen to takeover Mangalore Refinery and Petrochemicals Ltd (MRPL) before the end of 2018-19, as there are a lot of synergies. HPCL is keen to takeover Mangalore Refinery and Petrochemicals Ltd (MRPL) before the end of 2018-19, as there are a lot of synergies according to HPCL Chairman and Managing Director, Mukesh Kumar Surana. Oil and Natural Gas Corp (ONGC), India's biggest oil and gas producer, earlier this year completed the acquisition of HPCL for Rs 369.15 billion. After this, ONGC has two oil refining subsidiaries — HPCL and MRPL. A move is afoot to bring the two units under one umbrella. Surana said standalone refineries, like MRPL with no marketing infrastructure, do not make big business sense. For one, HPCL sells more petroleum product than it produces and bringing MRPL's 15 MMTPA refinery under the fold would help bridge the shortfall. HPCL operates a 7.5 MMTPA refinery at Mumbai and 8.3 MMTPA unit at Visakh in Andhra Pradesh. Its subsidiary, HPCL-Mittal Energy Ltd operates 11.3 MMTPA unit at Bhatinda in Punjab. MRPL would bring to it a 15 MMTPA refinery, helping bridge the fuel shortfall it currently has. Also, there can be synergies in crude oil procurement as well as in optimising refinery set-up.

http://www.business-standard.com/article/companies/hpcl-is-keen-to-takeover-mrpl-before-end-of-2018-19-chairman-md-surana-118052301665_1.html

India reverses decision to privatise small, ageing oil and gas fields

Reversing its earlier decision to privatise small, ageing or underperforming oil and gas fields held by national exploration and production (E&P) companies, the Indian government has now directed companies to submit time-bound action plans to boost production from these assets. Earlier this year, the Indian government approved the privatisation of 11 small oil and gas fields held by domestic E&P majors, including ONGC and Oil India Limited (OIL), and identified 44 other similar fields wherein it had directed the E&P companies to rope in local or global companies as technology partners to enhance production. In the case of the 11 small and ageing fields, the government has proposed that the national oil companies

hive off a minimum 60% stake in these assets to domestic or global private E&P companies. However the move raised the hackles of national oil company officials, who are opposing the move to grant financial incentives to prospective private partners on the grounds that national oil companies were never offered similar incentives to maintain the "difficult and challenging" assets. Government officials said that the policy for privatising ageing and underperforming oil and gas fields had only been at the discussion stage and never finalised. However, on review of these discussions over the past few months and based on the views submitted by the national oil companies, the Petroleum and Natural Gas Ministry had decided not to proceed any further on the issue.

<https://www.hellenicshippingnews.com/india-reverses-decision-to-privatise-small-ageing-oil-and-gas-fields/>

Congress march for farmers – Urja Ganga Project

The Congress marched to the Raj Bhavan on Saturday to register its strong protest against farmers not being compensated for their land by the Centre for the GAIL pipeline and NHAI projects in Bihar. Leaders, workers, and farmers marched under

the leadership of AICC Bihar in-charge Shaktisinh Gohil. The police had barricaded the spot, and the protesters clashed with them for almost half-an-hour. "The Centre has acquired land in Rohtas, Bhojpur, Buxar, Gaya, Aurangabad, Jehanabad and Arwal districts for the GAIL (Gas Authority of India Limited) pipeline and NHAI (National Highways Authority of India) road projects, but has refused to provide proper compensation to the farmers. Nobody is listening to their woes. We have decided to take up their fight," said Gohil, adding that the party will pursue the issue till "Prime Minister Narendra Modi's anti-farmer government is forced to listen to their voice". Bihar Congress leaders were among the protesters as were farmers Ram Baran Yadav, Ram Subhag Singh, Narsingh Yadav, Krishna Singh and more - who had come from Aurangabad district - who narrated how GAIL had dug through their fields and left the pits open, leaving them unable to till their land. A Congress delegation consisting of a few legislators met governor Satya Pal Malik and submitted a memorandum. "The governor listened to us and assured suitable action," Kaukab said.

<https://www.telegraphindia.com/states/bihar/congress-march-for-farmers-231693>

RIL, Shell, ONGC told to pay \$3.8 billion as government's share of PMT

India's oil ministry has ordered Reliance Industries, Royal Dutch Shell and Oil & Natural Gas Corp to pay \$3.8 billion as the increased share of the government's earnings from the Panna-Mukta and Tapti fields after a UK court rejected challenges to the arbitration award that went against the companies, people familiar with the matter said. The liability is to be shared by the companies in proportion to their interests in the oil and gas fields in the Arabian Sea - ONGC (40%), RIL (30%) and Shell (30%). The demand was made a few days ago. Reliance and Shell separately said a demand for payment at this stage was premature because the arbitral tribunal is yet to determine the final outcome of the proceedings. Reliance and BG (taken over by Shell) had invoked arbitration against the government in December 2010 after a dispute over the state's share of profit and royalty from Panna-Mukta and Mid and South Tapti contract areas off the west coast. The government said profit should be calculated after adding the marketing margins of the companies and that only the actual taxes paid could be counted as costs, not the notional rate mentioned in the contract. The government barred state owned ONGC from the arbitration, although the outcome of the proceedings would apply to the exploration company as well. The arbitration tribunal had pronounced a 'final partial award' in October 2016, which went largely in favour of the government. The ministry of petroleum & natural gas then computed the liability of the three companies and directed them in May last year to pay the differential share of profit and royalty of \$3.9 billion. The companies refused to pay, saying the award had been challenged in a UK court and the liability not yet been quantified by the tribunal.

<https://energy.economictimes.indiatimes.com/news/oil-and-gas/ril-shell-ongc-told-to-pay-3-8-billion-as-governments-share-of-pmt/64297627>

India's first Gas Trading Hub to be a reality by end of year

The Gas Trading Hub, a first-of-its-kind initiative in India, has been initiated to encourage use of cleaner fuels by facilitating trading and supply of gas and ensuring fair price. The proposed Gas Trading Hub envisaged by the Ministry of Petroleum and Natural Gas will be functional by the end of this calendar year. The Gas Trading Hub, a first-of-its-kind initiative in India, has been initiated to encourage use of cleaner fuels by facilitating trading and supply of gas and ensuring fair price through market driven demand and supply forces. According to Satpal Garg, member of Petroleum and Natural Gas Regulatory Board (PNGRB), the thinking behind setting up of gas trading hub is to create an Indian benchmark, ensure fair pricing and encourage the use of natural gas. The consultant will facilitate in development of a regulatory framework for operating the gas trading hub. According to Mr. Garg this can be a physical or virtual. It will be an electronic trading hub and the location will depend on where the major pipelines are connected in the country while explaining the aim and location of the hub. According to the PNGRB member, as the major gas pipelines are currently connected in states like Gujarat, Maharashtra and Andhra Pradesh, the hub is expected to come up in any one these locations. Currently, the government fixes the price of the bulk of domestically produced natural gas. The price arrived at using price prevalent in gas-surplus nations like US, Canada, UK, and Russia, is USD 3.06 per million British thermal unit for six month period beginning April 1, while the cost of imported LNG into India is around \$7.5. <http://www.newindianexpress.com/business/2018/may/30/indias-first-gas-trading-hub-to-be-a-reality-by-end-of-year-1821193.html>

Waiting for market to mature to split co: GAIL

Facing a prospect of being split into two, GAIL India said it supports reforms like unbundling of gas marketing and transportation business but such a move globally has been done only after gas market has matured. In a point by point rebuttal to critics, its Chairman and Managing Director B C Tripathi said GAIL is the only company in the country that has built multiple gas pipelines in last one decade while the private sector even after getting authorisation has not laid an inch. Also, it has thrown open all of the 11,400-km of pipeline length to third parties for accessing on common carrier basis, he said. In mature markets, monopoly gas transporting and marketing companies have been unbundled or split after the share of natural gas in energy mix has reached at least 15 per cent and a well-connected pipeline network built. Also, domestically produced gas forms bulk of consumption. <http://www.freepressjournal.in/business/waiting-for-market-to-mature-to-split-co-gail/1283280>

Oil, gas contractors to get rights for other hydrocarbons in their areas

Under the plan, the government will sign a new contract with a company if it wants to explore the unconventional form of oil and gas in an already allotted area. The government is set to announce a new policy on unconventional hydrocarbon resources. Under this, operators of blocks under the New Exploration Licensing Policy (NELP) and pre-NELP rounds will be able to access shale oil,

shale gas, coal-bed methane (CBM) and gas hydrates from the same blocks where they are extracting conventional oil and gas. The move is likely to benefit not only state-run exploration and production companies Oil and Natural Gas Corporation (ONGC) and Oil India but also private majors Cairn India (now part of Vedanta) and Reliance Industries (RIL). A new Hydrocarbon Exploration and Licensing Policy (Help) was cleared by the Union Cabinet in March 2016. It allows for a uniform licence to explore and produce all forms of hydrocarbons. According to multiple sources, the government is working on a Cabinet note in this regard. Under the plan, the government will sign a new contract with a company if it wants to explore the unconventional form of oil and gas in an already allotted area. So, in the same block, while the traditional hydrocarbons will be extracted under the existing production sharing contract model, the unconventional form might be explored under a revenue sharing model. The central government has already conducted allotments under the Discovered Small Field Policy (DSF-I) and Open Acreage Licensing Policy (OALP-I). In these, blocks were given under a uniform licensing policy. However, neither attracted foreign players. The new policy comes when the Union Cabinet relaxed rules for state-owned Coal India to enable extraction of natural gas below coal seams in its blocks, to quickly boost production.

http://www.business-standard.com/article/economy-policy/oil-gas-contractors-to-get-rights-for-other-hydrocarbons-in-their-areas-118052100063_1.html

All news and features carried in this NGS NG/LNG Update are compiled from various sources - print and web editions, and have been duly acknowledged.

NATIONAL: LNG DEVELOPMENT/SHIPPING

India's LNG import up 20% y-o-y in March 2018 – India Ratings & Research

Natural gas (NG) production during March 2018 was 1.2% y-o-y higher. The production volume grew for Oil & Natural Gas Corporation and 'from private/joint venture fields' (higher 2.1% y-o-y and 1.0% y-o-y respectively), whereas for Oil India Limited it declined y-o-y (negative 5.6%). NG consumption increased by 10.5% y-o-y during March 2018. The increase in consumption was on account of an increase domestic demand. Additionally, there was a 19.6% y-o-y increase in liquefied natural gas (LNG) imports during March 2018, augmented by arrival of first ever LNG cargo from United States. On a cumulative basis, the LNG import was higher by 7.3% y-o-y during FY18. Domestic NG price has been raised by around 6% to USD3.06/MMBtu for April-September 2018. Prior to this, the gas price was raised by around 17% to USD2.89/MMBtu for October 2017-March 2018 after it was revised downward five times consecutively since the implementation of the domestic gas pricing formula in October 2014. The increase in gas prices is likely to impact the fertilizer, power and city gas distribution entities which are the primary consumers of NG.

Source: Capital Market/ Indian Oil & Gas

Petronet LNG CEO looking at building LNG import terminal on the east coast

Petronet LNG CEO Prabhat Singh says company looking at building an LNG terminal on India's East Coast. Company signed binding MoU with Sri Lanka, evaluating an FSRU project. It deals with Sri Lanka could be finalised in three to four months' time, commercial terms yet to be worked out. Company is waiting for security of payment from Bangladesh before signing deal to build LNG Terminal in the country. Qatar keen on giving an upstream stake to Petronet. Petronet, with Indian partners, could take up to 10 pct. stake in a project in Qatar.

Source: Reuters/Indian Oil & Gas

Petronet LNG posts record profit of Rs 22 billion in March quarter

Petronet LNG Ltd., the nation's biggest importer of liquefied natural gas, reported its highest quarterly net profit in three-months ending March on higher gas volume. Net profit increased 11% year-on-year to Rs 5.2276 billion in the fourth quarter, Prabhat Singh, Managing Director said today. The record quarterly profit is due to "higher volumes processed and better efficiencies in operations," he said. Imported gas processed by the com-

pany rose 18% to 213 TBtu in the fourth quarter of the financial year 2017-18. It's mainstay Dahej import terminal in Gujarat processed 17% higher gas to 207 TBtus, he said. Sales rose 34% to Rs 87.3963 billion. For the full fiscal, the company clocked 21% higher net profit of Rs 20.78 billion - the highest ever. The firm processed 16 percent higher gas at its Dahej and Kochi import terminals in Kerala at 848 TBtus. Singh said that the company board has recommended a dividend of Rs 4.5 per share (45 percent), entailing a payout of Rs 8.1378 billion including dividend distribution tax.

Source: PTI/Indian Oil & Gas

India's GAIL turns to spot and short-term LNG deals

Indian gas utility GAIL (India) has switched its focus to short-term and spot deals for the purchase of LNG to meet rising demand and hedge against price volatility, its chairman said. The move from longer-term deals comes as India builds infrastructure, including pipelines and import facilities, to raise the share of gas in its energy mix to 15% by 2030 from the current level of about 6.5%. The company owns a diversified portfolio of the super-cooled fuel, with about 60% linked to oil prices and the remainder with the Henry Hub index. Price-sensitive customers in the South Asian nation have

already forced renegotiation of three long-term LNG deals. From next month the company will start getting supplies under a reworked 2.5 MMTPA long-term deal with Russia's Gazprom, Tripathi said. GAIL also buys 1 MMTPA from Qatar while marketing 5 MMTPA procured by India's Petronet LNG. The company will gradually ramp up supplies under the Gazprom deal and should start receiving the contracted 2.5 MMTPA by 2022-2023, he said. A rise in global oil prices has improved the appeal of GAIL's LNG deals with the U.S. companies. Pricing of U.S. LNG is linked to a formula but other charges including freight to India add an extra \$2-\$3 per MMBtu, leading to GAIL scouting for destination, time and volume swap deals. In 2018/19 the state-run firm will receive 100 LNG cargoes, mostly through long-term deals, compared with 52 cargoes imported a year ago, Tripathi added. The company will bring 68 cargoes to India and trade the remainder on the global market. GAIL, which operates 11,000km of pipelines, is laying 5,000km of gas lines at a cost of 250 billion Indian rupees (\$3.66 billion), he said. Tripathi also said he would look at tying up new long-term supplies beyond 2022-23, when the country's six new fertilizer plants begin operation, consuming about 3.5 MMTPA of LNG.

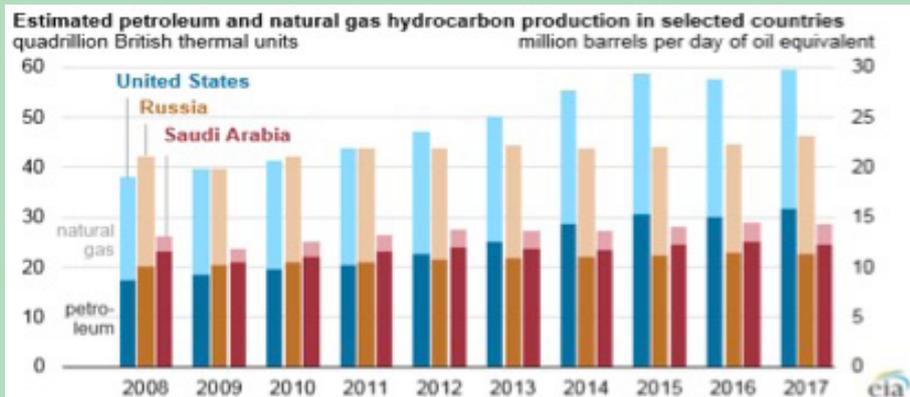
Source: Reuters/LNG Global

INTERNATIONAL: NATURAL GAS/ TRANSNATIONAL PIPELINES/COMPANIES/ OTHERS

United States remains the world's top producer of petroleum and natural gas hydrocarbons

The United States remained the world's top producer of petroleum and natural gas hydrocarbons in 2017, reaching a record high. The United States has been the world's top producer of natural gas since 2009, when U.S. natural gas production surpassed that of Russia, and the world's top producer of petroleum hydrocarbons since 2013, when U.S. production exceeded Saudi Arabia's. Since 2008, U.S. petroleum and natural gas production has increased by nearly 60%. For the United States and Russia, total petroleum and natural gas hydrocarbon production, measured in energy content, is almost evenly split between petroleum and natural gas, while Saudi Arabia's production heavily favors petroleum. Total petroleum production is made up of several different types of liquid fuels, including crude oil and lease condensate, tight oil, extra-heavy oil, and bitumen. In addition, various processes produce natural gas plant liquids (NGPL), biofuels, and other liquid fuels, some as a result of refinery processing gain.

Source: LNG Global/IEA



Source: U.S. Energy Information Administration

Putin: Russia could consider liberalizing gas exports

Russia will look into the possibility of opening up gas pipeline exports to companies other than the current exclusive exporter state-controlled gas giant Gazprom. Russian President Vladimir Putin told the CEO of France's Total, Patrick Pouyanné, at an economic forum in Russia. During the St. Petersburg International Economic Forum, Pouyanné asked Putin to allow a joint venture of Total and Russian gas producer Novatek to export gas from Russia via pipeline to Europe. On the sidelines of the forum, Total and Novatek signed an agreement outlining the terms for the French oil and gas major to buy a 10% direct working interest in Arctic LNG 2, a LNG project lead by Novatek on the Gydan Peninsula in the north of Siberia, whose final investment decision is expected in 2019. Total also has a 20% stake in Novatek's Yamal LNG project which began exporting LNG in late 2017. While Russia is expanding its LNG capacities, pipeline gas exports are currently the exclusive right of Gazprom, which holds around one-third of the European gas market. Gazprom dodged a fine yesterday in the settlement of the seven-year-long antitrust dispute with the European Union (EU), after the Russian gas giant agreed to change market behavior and ensure competitive gas prices in Central and Eastern Europe. The European Commission (EC) imposed legally binding obligations on Gazprom to address competition concerns and enable free flow of gas at competitive prices. During the forum in St. Petersburg today, Putin also said that he is not planning to cut off the transit of Russian gas to Europe via Ukraine and was ready to talk to Ukraine on the issue that has been straining the energy relations between the two countries. In addition, Putin also noted that France's Total and other companies would be welcome to join the controversial Gazprom-led Nord Stream 2 project for a gas pipeline between Russia and Germany via the Baltic Sea, which has become the center of heated debates between Russia, the U.S., and EU officials lately. Nord Stream 2 AG currently has financing agreements for the project with European companies ENGIE, OMV, Shell, Uniper, and Wintershall.

<https://oilprice.com/Latest-Energy-News/World-News/Putin-Russia-Could-Consider-Liberalizing-Gas-Exports.html>

Trump wants to make natural gas part of NATO discussions

President Trump wants to make natural gas part of the negotiations on reforming the NATO alliance between European members and the United States. Germany and other NATO members are "buying massive amounts of gas from Russia and paying billions and billions of dollars," Trump said before sitting down for talks with NATO Secretary General Jens Stoltenberg at the White House. "So, I think that's something we'll be discussing later and we'll be discussing that at our meeting," Trump said. It wasn't clear how Trump wants to use natural gas in his discussions about European members paying their fair share of the alliance's military costs. However, the Trump administration has been clear that reliance on energy from Russia places Europe at risk of being manipulated through the threat of supply cuts. Trump's "energy

dominance" agenda promotes exports of natural gas from the United States, which has become the world's largest natural gas producer and a net exporter of the fuel. "We're going to successfully confront the full range of threats, and we're going to need every member state to honor its obligation," Trump said. "So, as we've just said, some do and some don't."

Immediately before making the natural gas comment, he said 20 NATO members haven't met their commitments under the pact. Trump called out Germany, in particular, saying the country "must demonstrate leadership" by addressing its longstanding shortfall in defense contributions. "We renew our call on nations to demonstrate their commitment to the alliance through their actions, including by increasing their defense contributions under the Article 3 requirement for preparedness and military capacity," he said.

[Source: LNG Global](#)

Analysis: Domestic focus, oil-indexed prices curb Australian LNG's global ambitions

Australian natural gas producers could find their stature in global LNG markets challenged as they get increasingly tangled in the complexities of domestic supply obligations and rising oil prices making oil-indexed gas more expensive. Curbs on LNG exports have impacted spot volumes and prices. Export controls and oil-indexed prices push buyers towards US supply. Santos CEO makes a pitch for higher gas reservation, aka lesser left for exports. LNG export curbs and proposals for higher reservation of gas production for domestic consumption mean that Australian oil and gas companies have to pull back from global markets, which dulls their competitive edge against rival producers such as the US. The companies that are finding themselves on the receiving end of souring public opinion and sharper political backlash may find it difficult to balance domestic obligations and global ambitions at the same time. In recent months, the Australian government has openly blamed Queensland's three large LNG projects Gladstone LNG, Australia Pacific LNG and Queensland Curtis LNG for causing gas shortages. Officials said that "the simultaneous commissioning of the three LNG projects in Queensland has caused a significant disruption to the east coast gas supply/demand balance, with massive LNG exports more than double the volume of domestic demand." Consequently, on October 3 last year, the Australian government signed an agreement with east coast LNG exporters to commit to a "good faith offering of gas to the domestic market on reasonable terms" and offer uncontracted gas cargoes to local buyers first before putting them on the spot market. The LNG operators have already reduced their planned exports for 2018, impacting markets. Lower supplies have offered support to global prices and a smaller presence in the Asian market opens doors for competitive cargoes from the US and the Middle East, effectively handing over market share on a silver plate. Gas buyers in Asia will be reluctant to sign new contracts if the producer is exposed to export curbs, because it elevates the supply risk. The gas export curbs, and oil-indexed LNG contract prices have affected Australia's competitive position in the pecking order of LNG suppliers, and this is already feeding into contract negotiations, the director of the program on Energy Security and Climate Change at the Council on Foreign Relations Amy Myers Jaffe said.

<https://www.hellenicshippingnews.com/analysis-domestic-focus-oil-indexed-prices-curb-australian-lngs-global-ambitions/>

PetroChina steps up gas supply to help meet demand

Top Chinese oil and gas producer PetroChina is stepping up natural gas supplies from both domestic fields and imports to meet customer demand, according to the parent company, CNPC. PetroChina raised April gas supplies by 14 percent over a year earlier, CNPC said on its website, without giving specific volumes. Reuters reported on Friday the state major has since early May curbing the feed of gas to some users in the northern and western parts of the country to help head off possible shortages next winter. PetroChina lifted production in the first four months of this year at major domestic fields Changqing, Southwest, Tarim and Qinghai by more than 2 percent from the same time in 2017 to 30.5 billion cubic meters, CNPC said. PetroChina also raised imports of natural gas by nearly 29 percent during the same period. The

company also stepped up pumping gas to storage, with stock fill in April reaching 1.49 bcm, 33 percent more than a year earlier. It is expected to supply 10 percent more gas from the storage for next winter's peak demand versus the previous heating season.

<https://www.hellenicshippingnews.com/petrochina-steps-up-gas-supply-to-help-meet-demand/>

Azerbaijan's Jan-Apr gas exports from Shah Deniz I fall 6.4 pct. yr/yr

Azeri gas exports from the first stage of its giant Shah Deniz field fell by 6.4 percent to 2.391 BCM in the first four months of this year compared with the same period in 2017, the State Statistics Committee said. Gas from Shah Deniz I is exported through the South Caucasus pipeline. Export volumes from Shah Deniz I operated by an international consor-

tium led by BP were 7.314 BCM in 2017. Azerbaijan's gas exports through all pipelines totalled 8.112 BCM in January-April this year. Azerbaijan plans to start first commercial deliveries of natural gas to Turkey from the second stage of the Shah Deniz field from June 30 this year. The European Union is trying to reduce its dependence on Russian gas by developing the so-called Southern Gas Corridor, which is expected to bring about 16 BCM of gas a year to Europe by 2020. The gas would come from the Shah Deniz II field via the 1,850 km the Trans-Anatolian Natural Gas Pipeline (TANAP) through Turkey, the South Caucasus pipeline extension through Georgia and the Trans-Adriatic Pipeline (TAP) to Greece, Albania and Italy.

<https://www.hellenicshippingnews.com/azerbaijans-jan-apr-gas-exports-from-shah-deniz-i-fall-6-4-pct-yr-yr/>

INTERNATIONAL: LNG DEVELOPMENT

Global LNG-Spot prices spike amid flurry of interest from Asian buyers

Asian spot LNG prices spiked this week amid a flurry of buying interest from buyers in China, Pakistan, South Korea and India, and as new supply from Australia is delayed by several months. Spot prices for July LNG-AS delivery in Asia were at \$8.70 per MMBtu the week (May 14-20), jumping 80 cents from the previous week, according to several LNG traders. Stronger prices for other power generating fuels coal and oil are also lending support to LNG prices. Oil prices climbed to above \$80 per barrel this week, the first time since late 2014. Global gas inventory levels heading into the summer are below the seasonal average as well, also boosting prices, Goldman Sachs analysts said earlier this week. Gas inventories across the Organisation for Economic Co-operation and Development may be 650 BCF below the seasonal average, equivalent to a shortfall of 4.3 days of demand, the Goldman analysts said. Chinese buyers, including state-owned companies, are back in the spot market looking for cargoes for the next few months, trade sources said. Pakistan LNG is also seeking six LNG cargoes of about 140,000 cubic metres each for delivery over July to August, as three new power plants in the country start up after initial teething issues. South Korea's POSCO and Korea Midland Power Co Ltd (Komipo) are both seeking spot cargoes for delivery in July as well. Korea Gas Corp may look for cargoes ahead of winter to build up inventories and to meet summer demand, though the requirement will depend on the status of nuclear plants in the country, a source familiar with the matter said. Indian Oil Corp and Bharat Petroleum Corp Ltd are also looking for cargoes for delivery in June. On the supply side, Indonesia's Donggi-Senoro LNG export plant has offered a cargo for late-June loading, traders said.

Asian spot liquefied natural gas (LNG) prices breached the \$9 per MMBtu mark in the week (May 21-27), a three-year summer season high driven by crude oil gains, production outages and demand from key Asian consumers. Spot prices for July LNG-AS delivery in Asia were at \$9.20 per MMBtu this week, gaining 50 cents from the previous week and the highest in more than three months.

[Source: LNG Global \[Edited\]](#)

Angola LNG steps up exports ahead of maintenance

Angola's sole liquefied natural gas (LNG) project is stepping up exports of cargoes in the spot market ahead of maintenance, three industry sources said. The plant has issued several tenders in the spot market for LNG cargoes to load in May and June, the sources said. Angola's Soyo plant, which has a capacity of 5.2 MMT of LNG per year, will be undergoing a planned shutdown for maintenance in July, with production expected to resume in early August, a company spokeswoman said. The spokeswoman declined to comment on the plant's recent rise in exports, saying Angola LNG will not comment on its production planning or status of LNG sales. "They are trying to sell as much as they can before they have to shut for maintenance," one source said. Angola exported a record high of nearly 500,000 tonnes of LNG last month, up 10 percent from March, data from Thomson Reuters Eikon showed. For May loading, the company has already issued tenders to sell at least four spot cargoes, the sources said. Angola's exports to Asia have also been gradually increasing, although there was a dip last month. Its cargoes to Asia have mainly been heading to India, Japan, South Korea and China, the shipping data showed.

<https://www.hellenicshippingnews.com/angola-lng-steps-up-exports-ahead-of-maintenance/>

Global LNG glut is greatly exaggerated, says Novatek

Novatek, the Russian LNG producer, sees a global surplus of the super-chilled fuel disappearing faster than expected. “I disagree that there is a global LNG capacity surplus,” chief executive officer Leonid Mikhelson said in an interview in Paris last week. Demand in the Asia-Pacific region is so robust that the industry’s assumptions about supply will have to be overhauled, probably within the next three years, he said. One example of that change is China’s LNG imports, which soared 56% in the first quarter, according to Mikhelson. An LNG glut has been an industry talking point for years with unprecedented new volumes from plants in Australia, the US and Russia. Novatek opened its \$27bn Yamal LNG Arctic project last year and laid out plans for more capacity under Russian efforts to take a leading position in the global industry. Many Asia-Pacific countries such as Bangladesh or the Philippines that previously never planned to use natural gas have signed or plan to sign sizeable LNG deals, Mikhelson said. “Even such a major LNG consumer as Korea is now revising its energy strategy to reduce atomic gener-

ation and switch to natural gas,” the billionaire said. Previous forecasts of a surplus were put together when the natural gas price stood between \$12 and \$16 per MMBtu, compared with a range of \$7.5 to \$8.5 today, he said. “As gas producers, our objective is not to operate for the rise in prices and to compete with other energy sources rather than other LNG producers,” he said.

<https://www.hellenicshippingnews.com/global-lng-glut-is-greatly-exaggerated-says-novatek/>

Golar’s Cameroon LNG project ships first cargo – sources, data

A first-of-its-kind LNG plant developed by Golar LNG off Cameroon has exported its inaugural cargo, according to trade sources and shipping data. Successful start-up is a crucial test for Golar, which aims to roll out similar plants in Equatorial Guinea with Ophir Energy and in Senegal-Mauritania with BP. The first shipment was exported by Gazprom Marketing and Trading (GMT) – which bought the entire output of the Cameroon project for eight years – using the Galicia Spirit tanker on Thursday, shipping data shows. First LNG

was initially due in the second half of last year before being pushed back to late April this year. In early May the tanker docked and filled up with 38,000 cubic metres of LNG, before taking another 100,000 cubic metres on May 14, according to market intelligence firm Kpler. GMT said it had chartered two LNG vessels to haul supply from the plant * The Golar Maria tanker is converging on Cameroon to load the plant’s second cargo, according to trade sources and shipping data.

<https://www.hellenicshippingnews.com/golars-cameroon-lng-project-ships-first-cargo-sources-data/>

Japan’s Osaka Gas wins Taiwan LNG terminal consulting work

Japanese city gas supplier Osaka Gas says its subsidiary has won consulting work for liquefied natural gas (LNG) terminals planned by Taiwan’s state-owned CPC Corp and Taiwan Power Co. The subsidiary, Osaka Gas Engineering, will handle basic design for all of the planned LNG terminals in Taiwan, Japan’s second-biggest city gas supplier said in a statement.

<https://www.hellenicshippingnews.com/japans-osaka-gas-wins-taiwan-lng-terminal-consulting-work/>

LNG starts rally early, and it’s mainly (but not only) China: Clyde Russell

The slack period for LNG in top consumer Asia is usually the shoulder season between winter and summer, or March to May, but this pattern hasn’t really repeated this year. The spot price of the super-chilled fuel in Asia LNG-AS has been on a rising trend since the beginning of April, and hit \$9.20 per MMBtu at the end of last week. It touched its low for 2018 of \$7 per MMBtu in the week ended March 29, remained unchanged the next week and then posted gains in six of the seven weeks since. Last year, the shoulder season low of \$5.40 per MMBtu was first reached in late March, and the price drifted in a narrow band until early July, when it started climbing from \$5.45 in the week to July 7, 2017. In 2016, the low was hit in early April before a mild rally for the northern summer, and then another dip in the autumn shoulder season before strong gains in the winter period. What appears to be different so far this year is that while seasonal price fluctuations are still evident, the dip was shallower than in previous years and the rally from the low looks sharper so far.

Spot LNG fell 39 percent from its peak of \$11.50 per MMBtu for the winter of 2018 to the low in late March, while in 2017 the slump from winter peak to shoulder season low was 45%, and it was 49% the prior year.

So far LNG has rallied 31% from the low, in the space of eight weeks. In 2017, eight weeks after reaching the low, LNG had gained just 12%, while the increase was 26% in 2016. What the numbers show is that while seasonality is still in place, the price lows aren’t as deep as in previous years and the rally from that low appears to be on track to be steeper and higher. The easy explanation for this dynamic is China, which has continued to buy LNG at a frantic pace this year, after the 46.4% jump in imports in 2017 to a total of 38.1 MMT, making it the world’s second-biggest buyer behind Japan. China’s LNG imports rose 58% to 15.8 MMT in the first four months of this year compared to the same period a year earlier, according to customs data. This would put it on target for imports of more than 47 MMT for the full year, but this is likely to be a conservative estimate, given LNG buying tend to ramp up in the months ahead of the peak winter demand period.

But it’s not just China that is sucking up more LNG, with South Korea making a bid to reclaim its former place as the world’s second-biggest importer. In the first four months of the year South Korea brought in 16.2 MMT of LNG, up 18.2% from the same period last year, according customs data. Even top importer Japan is buying modestly more LNG, with imports in the first quarter up 1.1% from the same period in 2017, a faster pace of growth than the 0.4% for the whole of 2017. It’s not only the top three importers that are showing growth, with total global seaborne LNG flows rising, according to vessel-tracking and port data compiled by Thomson Reuters Supply Chain and Commodity Forecasts. In the first five months of 2018, a total of 125.1 MMT of LNG has been discharged, a figure that may rise to closer to 133 million by the end of this month as more vessels are unloaded. This would be some 14 MMT, or almost 12%, more than the 118.9 MMT discharged in the first five months of last year. The data shows that while China is the standout when it comes to driving LNG demand and prices, it’s not the only show in town.

[Source: LNG Global](#)

Russia's Rosneft signs agreements to supply gas to Ghana

Rosneft gave Ghana's energy industry a shot in the arm by signing a package of documents to supply natural gas to Ghana National Petroleum Corporation. Russia's biggest energy producer will deliver liquefied natural gas of around 1.7 MMTA (or 250 million cubic feet/day) to the port of Tema over 12 years. Rosneft gas supplies will satisfy a quarter of Ghana's energy demand, strengthen its energy security and reinforce the country's position as the key LNG hub in the region. "The signed documents open a new stage in the development of cooperation between Russia and Ghana," Rosneft Chief Executive Officer Igor Sechin said. "Rosneft is capable of meeting this [growing Ghana] demand including also through LNG and natural gas supplies. Further, the documents open up wide exploration, production and trading possibilities for the company." Rosneft and GNPC also signed a framework cooperation agreement that envisages a joint study of high-priority directions of mutually beneficial cooperation in the development of oil and gas fields, oil and oil product supplies. Rosneft and Oranto Petroleum Limited in Nigeria also signed a memorandum of understanding on potential cooperation in the implementation of oil and gas projects in Africa.

<https://www.platts.com/latest-news/natural-gas/stpetersburg/russias-rosneft-signs-agreements-to-supply-gas-27988780>

Europe's summer appetite for LNG on the rise

U.K. supply this summer may be low but the Netherlands will see a pick up as it rushes to offset lower own production and higher demand for storage, Nick Boyes, a senior gas and LNG analyst at Axpo Trading AG, said by email. France will also need more for storage, he said. The Netherlands is taking the lead also because of lack of storage demand in Britain after the closure of the Rough facility. The Dutch market is so hot that the country's Title Transfer Facility hub will be the reference for LNG trading in the next three to four months, Ruben Tomas, lead LNG trader at Germany's Uniper SE's commodity unit, said on a panel. "We see a well-supplied Atlantic Basin this summer" as Russia's Yamal LNG and U.S. projects fill the market with cargoes, Axpo's Boyes said. Trinidad & Tobago and Angola are also boosting supply, while

Europe awakens for LNG to rival China as own gas runs out

Europe is starting to steal some of the limelight from China's booming LNG demand as imports pick up after several lackluster years. Citing data from Wood Mackenzie Ltd, Cheniere Energy said that Europe and China will be comparable in significance as importing regions in the coming years. China's LNG consumption leapt 42% last year to almost match European imports, which climbed 20%. Whereas the Asian nation needs the fuel mostly to replace dirtier coal, Europe needs it to offset rapidly declining domestic production. The re-emergence of Europe as an LNG market has caught the eye of the coming wave of U.S. fuel producers. Venture Global LNG, Inc., which is developing export terminals in Louisiana, sees Europe as one of the biggest surprises. Europe's location may give it an edge over generally higher-priced markets in Asia when it comes to attracting the increasing volumes produced in the Atlantic. North America and Russia were seen providing most of the new supply from 2025 to 2030, according to a poll at Flame Conference. According to Cedigaz the demand growth in China and South Korea, the second and third biggest LNG importers, will cool during the rest of this year after continued expansion through April. With less appetite also from Japan, the biggest buyer, northern Europe will step in to balance the markets, Cedigaz's secretary general Geoffroy Hureau said at Flame.

[Source: LNG Global \[Edited\]](#)

demand in southern Europe and Egypt is declining, he said. While the usage rate of LNG terminals in Europe was just 23% last year, things are looking up, according to Arturo Gallego Diaz, head of LNG trading and operations at Centrica Plc. Declining production in the North Sea and the Dutch Groningen field as well as the closing of coal plants in Europe have a "big impact on LNG production" and are "a very big demand surprise," Venture Global LNG Chief Commercial Officer Tom Earl said at Flame. The company recently signed a supply contract with Portugal's Galp Energia SGPS SA. Creditworthy counterparts, liquid hubs and physical demand help make Europe attractive for LNG, according to Gallego Diaz. Uniper expects "fairly stable" demand for gas in Europe, while seeing growth in gas-to-power and potentially transport, said Gregor Pett, executive vice president for market analytics. Russia, Europe's biggest gas supplier, sees higher demand for its pipeline gas, undermining the region's efforts at diversification, according to Sergei Komlev, head of the contract structuring and price formation directorate at Gazprom PJSC's export unit. While Russia will continue to pipe natural gas to Europe in competition with LNG, both can co-exist, the Centrica and Uniper executives said. "I don't think they exclude each other," Uniper's Pett said. "Everyone has a place."

[Source: LNG Global \[Edited\]](#)

LNG exports may incite price increases for American consumers

Environmental groups opposed to U.S. natural gas exports just found an unlikely ally: the Commodity Futures Trading Commission. The government agency that regulates futures and options markets found that shipping gas overseas could raise costs for Americans. Domestic prices could rise as much as 20 percent due to the burgeoning industry that liquefies gas so it can be shipped around the world on tankers, according to a CFTC report. In its study, the CFTC cited other assessments conducted by the American Petroleum Institute, the U.S. Energy Department and Deloitte LLP. The U.S. shale boom has bloated domestic gas supplies and ushered in a new era of American energy exports. President Donald Trump has encouraged the development of more LNG plants, while groups such as the Industrial Energy Consumers of America have panned exports as a drain on the nation's resources. "Estimates of U.S. LNG export levels and price impacts on domestic markets vary widely, but generally these estimates suggest that there is a potential for U.S. domestic natural gas markets to be influenced by global supply-demand factors," the commission said in the report.

<https://www.bloomberg.com/news/articles/2018-05-16/lng-exports-may-increase-price-increases-for-american-consumers>

Gazprom, Shell sign agreement on Baltic LNG project

Gazprom and Shell have signed an agreement on the Baltic LNG project, the Russian gas holding said after a meeting between Gazprom CEO Alexey Miller and Chief Executive Officer of Royal Dutch Shell plc, Ben van Beurden. At the meeting, an agreement was signed on the Baltic LNG project in the elaboration of the main terms of the agreement on the joint venture”, the report said. The new document stated an agreement reached regarding the priority use of Russian technical standards in designing and preparing equipment specifications, which is aimed at the development of Russia’s LNG industry. A special attention was paid to the project Nord Stream 2. In 2017, Gazprom and Shell signed the main terms of an agreement on the joint venture, which will implement the Baltic LNG project, and concluded a framework agreement on conducting a joint research within this project.

<http://russianconstruction.com/news-1/30958-gazprom-shell-sign-agreement-on-baltic-lng-project.html>

Novatek targets 70 MTPA LNG of production by 2035

Russia’s largest independent gas producer, Novatek, is planning liquefied natural gas (LNG) production of more than 70 MTPA by 2035. Chief financial officer (CFO) Mark Gyetway was quoted by Russian media this week as saying the aim is to become one of the leaders in LNG exports, as plans targeting 55-57 MTPA by 2030 get upgraded, Kallanish Energy learns. Speaking at an industry event in Amsterdam, Gyetway said the planned increase in LNG output will come from the Yamal LNG, Arctic LNG-2 project, a small-scale LNG project in the Leningrad region, as well as two other projects to be unveiled. The proposed Arctic LNG-2 project is the second phase of Novatek’s Yamal LNG plant, commissioned last year. The new project would produce 18.3 MTPA of LNG and come online in 2023. Final investment decision (FID) for the development is expected in the first quarter of 2019, Gyetway said, “with or without sanctions.” One of the major potential partner to the project is Saudi Aramco – the state oil company of U.S. partner, Saudi Arabia. Amid rising liquidity in the global LNG markets and the growing

call to end long-term supply contracts, the CFO said Novatek would be looking into a combination of different contract lengths, such as spot, short-term and medium-term.

<https://www.hellenicshippingnews.com/novatek-targets-70-mtpa-lng-of-production-by-2035/>

Bangladesh discontinues talks with Trafigura over LNG import terminal

Bangladesh has discontinued talks with Swiss-based commodity trader Trafigura to install a small floating liquefied natural gas (LNG) import terminal due to delays in agreeing terms, a government official said. Trafigura, which plans to develop a floating LNG import terminal in Pakistan and Britain, delayed agreeing terms with Bangladesh for a project to supply fertilizer producer Chittagong Urea Fertilizer Co. via a floating import facility the Karnaphuli river, the official said. “We are not going ahead with Trafigura, we can’t wait for long for their response,” a director at state-run energy firm Petrobangla’s LNG division told Reuters.

<https://www.hellenicshippingnews.com/bangladesh-discontinues-talks-with-trafigura-over-lng-import-terminal/>

INTERNATIONAL: NG/LNG UTILISATION- ROADWAYS

Shell opens its first liquefied natural gas refueling station in Belgium

Shell announced the opening of its first Belgian LNG station in Herstal, Liège. Catering to trucks, the station is located near the three-border point at the E313, a key route for international road freight. The new station has a capacity of 3.5 KT of LNG and can supply 150 trucks with LNG daily. Shell believes LNG has a significant role to play as a solution for heavy-duty road transport. “LNG is an important option for transport companies,” said Laurent Charlot, Commercial Director, Shell Belgium. “We are committed to thriving throughout the energy transition and LNG will play an increasing role in the energy mix. We expect demand for LNG to grow and continue to work with truck manufacturers, customers and policymakers to promote its use as a cleaner-burning and more affordable transport fuel. The station in Herstal is an important step in the further expansion of our network of LNG stations in Europe.” Shell already has seven LNG stations in the Netherlands (Rotterdam, Waalwijk, Amsterdam, Pijnacker, Waddinxveen, Eindhoven and Heerenveen) and plans to open further LNG stations in Europe over the next 12 months.

<http://www.ngvjournals.com/s1-news/c4-stations/shell-opens-its-first-liquefied-natural-gas-refueling-station-in-belgium/>

South African agreement will lead to beer deliveries with LNG

Regeren Limited, incorporated in the Republic of South Africa, and Anheuser-Busch InBev SA/NV, have concluded a Liquefied Natural Gas (LNG) Fuel Sales Agreement through their respective subsidiaries Tetra4 Proprietary Limited and South African Breweries (SAB). The agreement calls for the provision of natural gas by Tetra4 to SAB to use in displacing diesel use in trucks. The Agreement sees the initial roll out of compressed natural gas (CNG) to a small fleet of trucks in the Gauteng area, using gas from Tetra4’s Virginia operations. This will be upgraded to a significantly larger fleet to run on LNG once Tetra4’s plant reaches operational status in 2019. “This agreement with SAB marks another large scale South African logistics operation to use new age fuels. The use of LNG not only drastically reduces carbon emissions, but has the added advantage of improving the vehicle’s lifecycle maintenance and reduces the operator’s cost significantly. Regeren wants to remain a pioneer in alternative energy sources, and is proud to be associated with SAB in such a landmark agreement,” said Regeren CEO Stefano Marani. Tetra4, a natural gas producer that provides sustainable, clean energy solutions to large-scale users in the Free State mining region, also supplies Compressed Natural Gas (CNG) to CNG converted buses operated by Megabus in the Free State.

<http://www.ngvglobal.com/blog/south-african-agreement-will-lead-to-beer-deliveries-with-lng-0528>

Total joins Clean Energy to support deployment of heavy-duty NGVs

Total SA and Clean Energy Fuels Corp. have entered into a broad strategic agreement to drive deployment of new natural gas heavy-duty trucks. Total has agreed to purchase up to 50.8 million shares of Clean Energy's common stock for \$83.4 million, to become Clean Energy's largest stockholder with ownership of 25% of Clean Energy's outstanding shares of common stock. This transaction is subject to, among other things, Clean Energy obtaining the approval at its stockholders' meeting, scheduled for June 8, 2018. Clean Energy, with support from Total, also plans to launch an innovative leasing program that is intended to place thousands of new natural gas heavy-duty trucks on the road and fueling at Clean Energy stations. As presently contemplated, this program will allow fleets to begin driving heavy-duty trucks with the cleanest engine in the world at no increased cost compared to the diesel alternative, while also guaranteeing a discounted natural gas fuel price to diesel. Total intends to provide up to \$100 million of credit support for the program, which the companies expect to launch in Q3 2018. "There couldn't be a better endorsement for the future of natural gas heavy-duty trucking in North America than for Total, one of the largest energy companies in the world, to step up with this investment," said Andrew J. Littlefair, CEO and president of Clean Energy. "Being a European-based company, Total is all too aware of the opportunity to transition to cleaner alternative fuels. Launching the financing program should expedite the adoption of natural gas as the most environmentally friendly fuel for the trucking industry."

<http://www.ngvjournals.com/s1-news/c4-stations/total-joins-clean-energy-to-support-deployment-heavy-duty-ngvs/>

Italian utility Snam buys Westport's CNG compressor business

Westport Fuel Systems Inc. has entered into an agreement to sell its CNG compressor business based in Cherasco, Italy to Snam S.p.A., a leading European gas utility company, for a cash purchase price of 12.5 million euro, subject to certain customary adjustments and closing conditions. The divestiture is consistent with Westport Fuel Systems strategy to streamline its business and product lines

and focus on supplying alternative fuel vehicle components and systems to the transportation industry. Snam signed the agreement through its subsidiary Snam4Mobility and the acquisition, which includes the Cubogas brand, will allow the company to internalize and consolidate entirely the value created along the chain, positioning itself as a leader in providing "turnkey" solutions for sustainable natural gas mobility. The completion of the acquisition, which will be carried out by a newly established company 100% controlled by Snam4Mobility, is expected in July, after meeting certain conditions including trade union procedures. Snam will work to further develop the strengths of Cubogas such as brand value, customer orientation and level of service.

<http://www.ngvjournals.com/s1-news/c1-markets/italian-utility-snam-acquires-westports-cng-compressor-business/>

Remondis to beat German City diesel bans with natural gas fleet

Remondis, a leading international service provider in the field of recycling, service and water, is to begin the gradual conversion of a large part of its fleet of 8,000 commercial vehicles to natural gas. Their decision was announced last Monday in Munich at IFAT, the water, wastewater,

waste and raw materials trade fair. Remondis is increasingly focusing on natural gas mobility to circumvent diesel driving bans in German inner cities. Zukunft ERDGAS will accompany the launch as a specialist for the filling station infrastructure. As a first step, a natural gas filling station in Hürth for the supply of garbage collection vehicles will be upgraded. In close cooperation with Zukunft ERDGAS, Gasversorgungsgesellschaft mbH Rhein-Erft (GVG) and Remondis in Hürth near Cologne are building a new natural gas refinery. It will expand the existing GVG natural gas filling station. From July at the latest, vehicles from the waste industry should be able to refuel there with climate-neutral biomethane. New CNG trucks will also be used in the region. Six vehicles from the Stralis NP model have already been ordered by Remondis from the truck manufacturer IVECO. "As the largest waste disposal company in Germany, we want to set a positive example: The project in the Cologne area is our test region." The new biomethane fuel pump will show politicians and the industry that waste disposal is also almost climate-neutral," Nehrling continued.

<http://www.ngvglobal.com/blog/remondis-to-beat-german-city-diesel-bans-with-natural-gas-fleet-0515>

New NGV conversion campaign is launched in Argentina

Gas Natural Fenosa and Metrogas presented "Pasalo a Gas" (Switch to CNG) campaign, dedicated to promote the benefits of the adoption of NGVs and to encourage the installation of CNG equipment in the Argentine vehicle fleet. The initiative invites drivers to enter www.pasaloagas.com.ar, where they will find the advantages of this technology, as well as the possibility of calculating the economic savings if they used this alternative fuel. The new campaign marks a change of trend at the local level, given that it is the first time in 10 years, since the winter crisis of 2007, that gas companies openly promote the use of natural gas for vehicles in Argentina. Nowadays, 5th generation gas equipment is more advanced and superior to the previous ones, since it operates through a computer that takes the operating parameters of the vehicle and indicates the amount of gas that must be injected. In this way, accurate regulation of the entire system is ensured and optimum conditions of the engine's operation are guaranteed. Since 1992, Gas Natural Fenosa offers its natural gas distribution service through networks in 30 counties in the north and west of Greater Buenos Aires. By sales volume, it is the second gas distributor in Argentina, with more than 1,596,701 residential, 52,253 commercial and 1,265 industrial customers, and 400 CNG stations and 3 sub-distributors. The extension of natural gas networks amounts to 25,900 kilometers. Controlled by YPF, Metrogas is the largest gas distributor in the country. Due to its number of customers (approximately 2.3 million), it is the third largest distributor in the Americas. It covers an area of 2,150 km², and includes the distribution networks of the Autonomous City of Buenos Aires and the following locations in the south of Greater Buenos Aires: Avellaneda, Lanús, Lomas de Zamora, Quilmes, Berazategui, Almirante Brown, Florencio Varela, Esteban Echeverría, Ezeiza, President Perón and San Vicente.

<http://www.ngvjournals.com/s1-news/c1-markets/ngv-conversion-campaign-is-launched-in-argentina/>

Maritime push on greenhouse emissions

With regulations in place to reduce sulphur emissions from ships globally, the International Maritime Organisation turns its gaze to a new horizon – the reduction of greenhouse gases. In early April, the IMO's Marine Environment Protection Committee (MEPC) held its 72nd session with the aim to address the future of emissions reduction in the maritime industry. "As a member of the United Nations family, IMO is encouraged by the spirit of the Paris Agreement (on climate change) and fully committed to further limit and reduce greenhouse gas emissions from shipping," IMO Secretary General Kitack Lim said. Only a handful of countries, including Saudi Arabia, the US and Panama, strongly opposed the ambitious emissions goals. A compromise was reached which will see greenhouse gas emissions cut by at least 50% by 2050 (compared with 2008 levels). This, to some, is still too ambitious and potentially too onerous a goal. To others, it is not enough. The results of MEPC 72 are critical to the development of marine transport in the future. Adding the need to reduce emissions further complicates the process of ship conversion. However, the results of MEPC 72 should be seen as an opportunity, especially for the burgeoning LNG market, as ship conversion now needs to focus on future-proofing their green shipping initiatives. Innovation and development in ship conversion has been propelled almost exclusively by the need to develop solutions to address the 2020 cap on sulphur emissions. These solutions have largely been focused on creating sulphur abatement technologies (such as scrubbers) and switching to low-sulphur fuels such as marine fuel oil, marine gas oil and liquid natural gas. Although costly, scrubbers are seen by many to be a relatively quick and painless compliance measure. LNG offers a sustainable alternative to both scrubbers and low-sulphur fuel alternatives such as marine gas oil if clean production processes are developed. LNG Marine Fuel Institute's project, the Port Hedland Liquefaction Bunkering Facility Facilitation Study, is designed to ascertain how a small-scale liquefaction plant in Port Hedland could support LNG as a marine fuel supply chain in this way. We are attempting to determine how to best mitigate the risks associated with LNG as a marine fuel and ascertain the best way to build LNG dual-fuel powered Newcastle max and Very Large Ore Carriers plying the Green corridor trade between northern Western Australia and North Asia. The IMO's greenhouse gas regulations shake up the maritime industry at a time when some already feel overwhelmed by sulphur emissions compliance. But they are nonetheless timely in the sense that conversion plans can now take these new compliance standards into consideration as the industry intelligently designs innovative technological, economic and business solutions.

<https://www.hellenicshippingnews.com/maritime-push-on-greenhouse-emissions/>

Total doubles down on Arctic LNG shipping

French oil giant Total SA signed a deal to take a 10% stake in a massive Russian gas project, doubling down on controversial efforts to ship supercooled natural gas from the country's Arctic peninsula. The move builds on Total's position in the region, giving it a massive stake in a project that is expected to eventually produce 535,000 barrels of oil equivalent a day. The company is already involved in the region's flagship liquefied natural gas project Yamal, and owns a 19% stake in both projects' majority owner, PAO Novatek. Including its interest in Novatek, Thursday's (May24) deal takes Total's stake in the so-called Arctic LNG 2 project to more than 20%. Total said a final investment decision on the project is likely to come in 2019, though it may face some challenges finding finances because of U.S. sanctions on Novatek.

<https://www.hellenicshippingnews.com/tal-doubles-down-on-arctic-lng-shipping/>

Power sector's thirst for fuel oil after IMO low sulfur cap shifts bunker demand

Fuel oil traders are turning to the power sector to assess how much demand may remain for their product after the Inter-

national Maritime Organization's tighter bunker sulfur limits leave most ship operators buying cleaner fuels in 2020. Only about 10%-15% of the fleet is expected to have scrubbers installed that would then allow ship-owners to burn 3.5% fuel oil, according to a study from consultants CE Delft. Bunker fuel demand is currently estimated at over 300 MMTPA globally, according to industry estimates. From the CE Delft study, commissioned as part of the sulfur proposal's mandatory review, the IMO predicts that heavy fuel oil-based products will make up around 84% of the bunker market in 2020, out of about 320 MMTPA, of which 233 MMT will be 0.50% compliant fuel oil. Therefore a vast amount of excess heavy fuel oil will be available, most likely at a hefty discount. Most of the power sector globally has largely shifted to cleaner, more efficient fuels and away from fuel-oil-fired generation for environmental and cost reasons, particularly in the developed world. However, developing nations are more price-focused about fuels for generation and the likely reduction in the price of HSFO from 2020 could encourage the use of fuel oil in power plants, once most ship-owners do not have a use for the product. If there is an appropriate discount for fuel oil, approximately 500 million b/d of HSFO is expected to go into

on-shore thermal uses, displacing crude and gas, according to S&P Global Platts Analytics. The question of where this fuel oil will go once HSFO bunker demand evaporates in 2020 is still open. In other regions, a less dramatic turn of events could be that HSFO will compete with coal if the price discounts are favorable. Even with low prices, a lack of oil-fired power generation infrastructure in some countries could limit or prevent large purchases of HSFO. In addition, territories and countries that still use fuel oil for power generation like Puerto Rico, Brazil and Argentina have strict sulfur regulations that would prevent burning of HSFO from Mexico and Venezuela. Any large-scale move to fuel oil for power generation will likely be a slow one and will not be enough to absorb all the excess product globally. US EIA data shows the fuel oil yield of US refineries has averaged 2.5% in 2018, down from around 4.1% a decade earlier, even as more heavy sour crudes have been run into refineries.

<https://www.hellenicshippingnews.com/power-sectors-thirst-for-fuel-oil-after-imo-low-sulfur-cap-shifts-bunker-demand/>

New hydrogen project launched on Scotland's Orkney Islands

The equipment for the road transport of gases at high pressure developed by Grupo Industrial Calvera, company based in Zaragoza (Spain), are a key element for the European BIG HIT (Building innovative green hydrogen systems in an isolated territory: a pilot for Europe) project, whose launch took place on the Scottish Orkney Islands with the assistance of institutional and business leaders from several countries. Calvera's five trailers are one of the basic pillars of this 60-month initiative that involves 12 partners from 6 countries with a budget of 10.9 million euros of which the European Commission awards 5 million through the Fuel Cells Hydrogen Joint Undertaking (FCH JU). The goal is to develop an integral infrastructure of production, storage, transport, distribution and use of hydrogen for energy supply purposes from the available local renewable sources, wind and tidal force. Complementing the Surf 'n' Turf 'project, in which Calvera also participated, BIG HIT wants to use the surplus of renewable electricity generated in the islands of Eday and Shapinsay that cannot be consumed at the moment (about 2.7 gigawatt hours per year) to produce, through two proton exchange membrane

electrolyzers (PEM) of 1 and 0.5 megawatts, 50 tons of hydrogen per year by electrolysis of water, which is stored at high pressure in the 5 Calvera's specially designed trailers (each with a capacity to load a quarter of a ton of hydrogen) that are transported by sea to the island of Kirkwall. There, hydrogen supplies a 75-kilowatt hydrogen fuel cell that provides heat and electricity to several port buildings and three ferries when they are docked, while powering 5 Orkney Islands Council's fuel cell and zero-emission Renault Symbio Kangoo vehicles at a refueling station. For more information, visit www.calvera.es/en.

<http://www.ngvjournal.com/s1-news/c7-lng-h2-blends/new-hydrogen-project-launched-on-scotlands-orkney-islands/>

Gazprom orders 24 LNG locomotives for Arctic railway

They will be environmentally friendly and far cheaper to use, the company says. It is the Sinara Transport Machines, a Russian company based in Yekaterinburg, which will build and deliver the new locomotives. They will be used on Gazprom's railway line in the Yamal Peninsula. According to the deal, which was signed during last week's St. Petersburg Economic Forum, the Sinara Group will provide for the serial production of locomotives

running on liquified natural gas (LNG). By year 2024, a total of 10 locomotives with 1,200 horse powers and 14 with about 2,000 horsepower will be delivered, Gazprom informs. It is Gazprom subsidiary GazpromTrans, which operates the 572 km long Yamal railway between the stations of Obskaya and Karskaya. The line could in the future be extended to nearby Kharasavey, as well as Sabetta on the northeastern tip of the Yamal Peninsula. It is the world's northernmost railway. It was opened in 2011 in connection with Gazprom's development of the grand gas field Bovanenkovo. It today constitutes a key part of the company's logistics schemes in the area. The line ends in the station of Karskaya, a point located on 70° north. It includes five stations and 12 double track sections. There are 70 bridges with a total length of 12 km.

<https://thebarentsobserver.com/en/industry-and-energy/2018/05/gazprom-orders-24-lng-locomotives-yamal-railway>

Largest fleet of biogas double deck buses hits the streets of Nottingham

The world's largest fleet of bio-methane powered double deck buses is now fully operational after Nottingham City Transport's (NCT) 53rd bus entered service in April, completing a £16.8m investment in greener transport for the city. A £4.4m grant from the government's OLEV Low Emission Bus Scheme, alongside a significant £12.4m investment by NCT has seen fueling facilities installed at NCT's main Bus Garage and the first 53 biogas double deck buses enter service on seven routes. With all 53 double deck buses from this initial order now in use, over 3,500 tons less CO₂, 35 tons less NO_x and ¼ ton less particulate matter will be emitted each and every year from the NCT fleet, delivering significant improvements to air quality. With plans for further biogas double deck buses to be ordered (subject to funding) and the £3m funding announcement in February from DEFRA's Clean Vehicle Technology Fund to convert 185 existing buses to the latest Euro VI emission standards, NCT plans to reduce emissions by 90% by 2020 and be compliant with the forthcoming Clean Air Zone in the city.

<http://www.ngvjournal.com/s1-news/c3-vehicles/worlds-largest-fleet-of-biogas-double-deck-buses-hits-streets-of-nottingham/>

Australian gas/LNG could fuel Japan's hydrogen push -Woodside CEO

Australian gas could find a big new outlet in its traditional top export market, Japan, as the country pushes to switch to clean hydrogen fuel, the chief executive of Woodside Petroleum said. Woodside CEO Peter Coleman said the opportunity was "huge" beyond 2030, by when he expected hydrogen fuel to be in production in large volumes worldwide, for fuel cells that could power cars and factories. Japan is pushing to power the Tokyo Olympics in 2020 with hydrogen, as part of a long term drive towards a hydrogen economy. Japanese firms are working on pilot projects in Norway and Australia to produce hydrogen fuel using wind power and coal. "It's a game changer – hydrogen," Coleman told reporters. Woodside has discussed the prospects of shipping hydrogen with Japan's Chiyoda Corp, Coleman said. For Woodside the opportunity would be to use gas it produces off Western Australia to convert to ammonia and then liquid hydrogen to export to Japan. It makes more sense to produce hydrogen in Australia and then ship it, rather than sending liquefied natural gas (LNG) to Japan to make hydrogen as the production process requires a lot of energy, which Japan is short on, Coleman said. Woodside is looking to tap the abundant sunshine in Western Australia's Pilbara region for the energy needed to release hydrogen from methane. As a first step, the company is considering switching its North West Shelf LNG plant to be powered by solar energy and batteries, instead of gas, which Coleman estimated would cost hundreds of millions of dollars. That would be justifiable once Australia's oldest and largest LNG plant secures gas supply to keep operating beyond 2025. "It makes economic sense to do it," Coleman told reporters.

<https://www.hellenicshippingnews.com/australian-lng-could-fuel-japans-hydrogen-push-woodside-ceo/>

Southern Californian transit agency expands hydrogen-powered fleet

Orange County Transportation Authority (OCTA) has awarded New Flyer a contract for 10 Xcelsior® hydrogen fuel cell 40-foot buses. The new order helps expand the zero-emission footprint of public transportation across California, and adds sustainability to OCTA's current fleet of just over 500 buses, which will serve communities throughout Anaheim, Garden Grove, Orange, Santa Ana, and Westminster. Moreover, it is the largest procurement and deployment of fuel cell buses in America. OCTA and New Flyer are partners in the Fuel Cell Electric Bus Commercialization Consortium project, sponsored by a grant from the California Air Resources Board (CARB) and supported by the "California Climate Investments" (CCI) program. CCI is a statewide project that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, and improving public health and the environment, particularly in disadvantaged communities. Additional funding for the project comes from OCTA and the South Coast Air Quality Management District. OCTA serves 34 cities and unincorporated areas of Orange County, covering transportation within the state's third-largest county and supporting nearly 40 million passengers per year.

<http://www.ngvjjournal.com/s1-news/c7-lng-h2-blends/county-in-southern-california-invests-in-more-hydrogen-powered-buses/>

Shell and Toyota will build hydrogen filling station at Port of Long Beach, USA

Equilon Enterprises LLC, doing business as Shell Oil Products US (Shell), and Toyota have been provisionally awarded \$8 million by the California Energy Commission (CEC) to develop the first hydrogen-truck refueling station at the Port of Long Beach. Shell and Toyota expect the facility to encourage the use of zero-emission hydrogen fuel cell trucks in and around Long Beach, one of the world's largest freight hubs. The funding, which is contingent upon the approval of the project at an upcoming CEC meeting, forms part of the CEC's Alternative and Renewable Fuel and Vehicle Technology Program, which helps develop hydrogen infrastructure at ports, warehousing and distribution centers in California. If approved, Shell will build, own and operate a hydro-

gen station at the Toyota Logistics Services location at the Port of Long Beach, fueling Toyota's Project Portal heavy-duty fuel cell proof of concept truck and public fleets. Shell will source its hydrogen from Toyota's adjacent Tri-Gen facility, which produces hydrogen from 100% renewable biogas. Toyota continues to demonstrate that fuel cells are one of the most innovative and sustainable technologies for light and heavy-duty vehicles. This initiative with Shell further strengthens our combined commitment to hydrogen as a viable transport fuel and complements our retail station project in Northern California.

<http://www.ngvjjournal.com/s1-news/c4-stations/shell-and-toyota-will-build-first-hydrogen-filling-station-at-port-of-long-beach/> [Edited]

Japanese, U.S., German, Australian team targets big battery projects in Asia-Pacific

Japan's JERA, a U.S.-German joint venture and an Australian firm have teamed up to develop battery projects in the Asia-Pacific, including the world's biggest, targeting a market expected to be worth several billion dollars by 2022. The move marks a big green push for JERA, a joint venture between Tokyo Electric Power Co (9501.T) and Chubu Electric Power Co (9502.T) that is the world's top buyer of LNG and one of the world's biggest coal traders. The plan is for JERA to fund energy storage projects with Australian renewable power developer Lyon Group, while Fluence - a joint venture between U.S. power company AES Corp (AES.N) and Germany's Siemens AG (SIEGn.DE) - provides battery technology. The companies will focus first on batteries for three solar farms, together expected to cost up to A\$1.5 billion (\$1.1 billion), that Lyon Group plans to build in Australia. Globally, demand for utility-scale batteries is expected to rise to 28 gigawatts, worth more than \$15 billion, by 2022, up from 2 GW committed by electricity providers in 2017, according to estimates from Fluence and others. Fluence sees opportunities in Asia in Japan, China, Korea and India, but for the moment sees Australia growing the fastest as the country copes with rapid growth in renewable energy, soaring power prices and an ageing grid. That market has huge potential to grow very, very quickly," Fluence's Asia Pacific market director, Mark Leslie, told Reuters. Lyon's Riverland project in South Australia would be the world's biggest

battery, with 400 megawatt hours (MWh) of storage, eclipsing the current largest, Tesla's (TSLA.O) 129 MWh battery, also in South Australia. "There are many markets beyond Australia where big batteries can provide substantial value in terms of network strength and dispatchable capacity," Lyon Group Chairman David Green said in a statement.

<https://www.reuters.com/article/us-australia-batteries-jera/japanese-u-s-german-australian-team-targets-big-battery-projects-in-asia-pacific-idUSKCN1IU02Z?il=0>

INTERNATIONAL: LNG AS A MARINE FUEL/BUNKERING/ LNG SHIPPING

S. Korea to place first order for LNG-powered vessels by August

South Korea will place the first order for vessels powered by liquefied natural gas (LNG) by August to support more green shipping and develop associated industries, the oceans ministry said. The Ministry of Oceans and Fisheries said it is considering orders for two 200,000-ton class bulk carriers, which would sail between South Korea and Australia. The government has been seeking to develop the emerging marine transport sector to comply with the International Maritime Organization's sulfur cap on bunkers, set to be enforced in 2020. LNG-powered ships are considered an eco-friendly option to meet strengthened regulations, but high costs have posed challenges to private shippers. The ministry said it will also begin a test program to replace towing vessels, which use Bunker C or diesel, with LNG-powered ships and expand incentives and subsidies for eco-friendly ships. To improve the infrastructure, the ministry said it plans to establish bunkering facilities in major ports in Busan and Ulsan and to build a shipping facility at the LNG terminal in Tongyeong on the southwestern coast. South Korean shipyards have outstanding expertise in building LNG carriers and bunkering shuttles, but they are still in the early stages when it comes to LNG-powered ships and related bunkering infrastructure. Only one LNG-propelled vessel is operated in the country.

<https://www.hellenicshippingnews.com/s-korea-to-place-first-order-for-lng-powered-vessels-by-august/>