

NGS' NG/LNG SNAPSHOT

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NATIONAL

CITY GAS DISTRIBUTION-RETAIL CNG/LNG & AUTO LPG

- PM lays foundation stone for CGD projects/CGD to benefit 20L people in DK district
- Volkswagen India bets on CNG over electric
- 38 new CNG pumps for Jind, Sonapat, says MP
- Adani Gas shares up 41.5% in four sessions on bagging of CGD rights
- Think Gas' firm to provide CNG in city
- Companies line up ₹8,000 cr. for gas networks
- Auto LPG body wants LPG included in city gas projects
- Transport panel clears 50 diesel buses for CNG switch - Nagpur
- Over 3 months on, city yet to get new CNG gas station
- CNG price up 40 paise in Delhi, down 45 paise in UP suburbs on tax cut

see page 2 - 4

NATURAL GAS/PIPELINES/COMPANY IN THE NEWS

- ONGC bucks global trend with record gas output
- GEECL plans to exploit shale worth \$2.78 billion at West Bengal block
- To meet divestment target: \$2 billion share sale of ONGC, IOC & OIL in the pipeline

see page 5

LNG DEVELOPMENT / SHIPPING

- Gail India proposes swap of Cove Point LNG cargoes in Q1 –sources

see page 7

POLICY MATTERS/ GAS PRICING/ OTHERS

- How Modi government's natural gas plan is giving no relief to smog-choked cities
- Operational and connectivity issues pull down RIL CBM block output
- Auto firms laud EV draft policy, but flag infra, incentive concerns

see page 7 - 8

INTERNATIONAL

NATURAL GAS / TRANSNATIONAL PIPELINES / COMPANIES / OTHERS

- Russia's \$11 billion natural gas pipeline is primed to fuel Europe
- Ukraine seeks to become gas exporter by 2025: PM
- Finland eyes imports of piped Norwegian gas via Baltics, Poland
- Black Sea Oil & Gas signs Romanian gas sales agreement with Engie

see page 8 & 14

NG/LNG UTILISATION - ROADWAYS / E-MOBILITY

- Jiangsu's first service area LNG refueling station opens
- Spanish alliance creates first network of multi-fuel service stations
- HAM opens LNG and CNG filling station in Zaragoza
- Italy: Snam opens the first CNG/LNG refueling station in Pesaro
- From London to Luton with the first UK fleet of natural gas minibuses

see page 9 - 10

LNG AS A MARINE FUEL/BUNKERING/ LNG SHIPPING

- CNG Optimum ABS testing nears completion
- Teekay Corporation reports third quarter 2018 results
- Tankers storing LNG in Asian waters double as pre-winter demand disappoints
- World's most powerful and green CSD vessel unveiled in the Netherlands
- South Korean shipbuilders' lock on LNG tanker market to hold for years
- Seoul to order 140 LNG ships to make work for shipyards

see page 12 - 14

LNG DEVELOPMENT

- Iran says China's CNPC replacing France's Total in gas project
- Cheniere opens Texas Corpus Christi LNG export plant
- Pakistan: LNG import sees 123 percent surge
- Total signs MOU with Papua New Guinea on LNG Project
- Argentina to join ranks of LNG exporters next year
- Saudi Aramco aims to become gas exporter with \$150 billion investment drive

see page 11 - 12

TECHNOLOGICAL DEVELOPMENT FOR CLEANER ENVIRONMENT

- Nikola announces new hydrogen fuel cell truck for European market
- World's first cruise line will power ships with biogas from dead fish
- Finland: grocery store uses its own biowaste to power delivery truck

see page 10 & 13

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PM lays foundation stone.

Prime Minister Narendra Modi symbolically laid the foundation stone through video conferencing to mark the start of work for CGDs in 65 GAs (geographical areas) in 129 districts at Vigyan Bhawan in New Delhi. Modi declared that the nation was now moving towards Gas-Based Economy. The prime minister highlighted the steps taken by the Centre, including strengthening the Gas infrastructure in the country, especially increasing the number of LNG terminals, creating nation-wide Gas Grid and creation of City Gas distribution network. Modi, launching the 10th CGD bidding round, said the Gas networks created a new ecosystem, one that generated employment to youth, enabled gas industries among others. He vowed to fulfill the targets for clean energy and gas-based economy. He added that such targets were need for the whole of humanity and the future generation.

CGD to benefit 20L people in DK district

The piped natural gas network will cover 46 per cent of India's population when the ninth City Gas Distribution (CGD) bidding round will be completed. The network will cover cent per cent of the population by the end of 10th CGD bidding round, Union Minister for Statistics and Programme Implementation D V Sadananda Gowda said. He was addressing the gathering after unveiling the foundation stone of GAIL (India) Limited's CGD project in Dakshina Kannada district at Town Hall. Gail had won the authorisation of CGD project in DK district during the ninth round of bidding, awarded by Petroleum and Natural Gas Regulatory Board (PNGRB). Gowda said the natural gas consumption in India is 6.2 per cent as against the 23.4 per cent globally. GAIL Chief General Manager Vivek Wathodka said 20 lakh population would be saved from the hassle of booking gas cylinders. Vijay said the gas supplied from GAIL's Kochi-Koottanad-Bengaluru-Mangaluru project to their proposed terminal in MCF will be reduced to 92 kg per hour. The pressure will be further reduced to 21 milli bar when it reaches the house, he said and appealed to the builders to consider piped natural gas network in the planning phase.

<https://www.deccanherald.com/cgd-benefit-20l-people-dk-704452.html>

Volkswagen India bets on CNG over electric

The German group doesn't see business viability for electric vehicles (EV) in the volume segment, primarily due to high battery costs and, secondly, a lack of clarity "on what the government intends doing". "Right now, the economics of electrics work for premium cars, and not for everyday cars. Those just do not work. In Europe also, everyone is trying to make the economics work. But it's really tough," says Gurpratap Boparai, chief of the Volkswagen Group in India. Volkswagen has an "open mind" as far as electric mobility go. According to Boparai, the Group plans to launch models from all brands in the EV space and will evaluate when is the right time to bring any of them of them to India. He also adds, however, that in India an electric car's CO2 footprint is "no less" than that of a BS VI car. And that's because of fossil fuel as a major source of electricity generation in India. Also because EV batteries have to be imported, Boparai sees CNG as "an excellent option" for a country like India.

<http://www.autocarpro.in/news-national/volkswagen-india-bets-on-cng-over-electric-41457>

38 new CNG pumps for Jind, Sonapat, says MP

MP Ramesh Kaushik on Thursday said 38 new CNG pumps and 98,000 PNG domestic connections would be released in Jind and Sonapat areas in the next eight years. He was addressing participants during a programme organised at Khark-

hoda where city gas distribution projects in 63 geographical areas across India was being launched in five places in Haryana through a remote device from Vigyan Bhawan in New Delhi. Kaushik said under the gas economy programmes, 20 to 25 per cent of the natural gas was being used in the world for various activities; whereas it was only six per cent in India. The Union Government under the leadership of Prime Minister Narendra Modi had planned to increase its use to 15 per cent in the country by 2030, he said. Deputy Commissioner Vinay Singh stressed the use of gas in place of oil to curb air pollution. He informed that the CNG pumps had been opened and PNG pipelines laid in Sonapat and the work for laying pipelines in Kharkhoda was in progress, Dulip Patnaik, Executive Director of Hindustan Petroleum, announced that under the ninth city gas distribution bidding round, 7,13,213 new PNG connection would be released and 249 CNG pumps would be set up in Haryana by 2026.

<https://www.tribuneindia.com/news/haryana/38-new-cng-pumps-for-jind-sonapat-says-mp/688046.html>

Think Gas' firm to provide CNG in city

With an objective to supply natural gas in the city, 'Think Gas', a Gas Infrastructure Development and Marketing Company, has taken the responsibility of erecting Piped Natural Gas (PNG) for cooking and domestic use, Compressed Natural Gas (CNG) for auto rickshaws, cars, taxis, buses, and other commercial vehicles

and Natural Gas (NG) for industries and commercial establishments, in the district. As per the Centre Government's initiative to significantly increase the share of natural gas in the nation's energy mix, the company will lay a network of pipelines across the six districts in Punjab to connect households and commercial establishments to PNG and installing a network of CNG retail outlets. Jasbir Singh, senior advisor of the company, said: "The natural gas is a significantly cleaner and economical alternative to the fuels that were currently being used in the districts for cooking, heating, transportation and industrial production." Talking about the benefits of PNG he said: "It's a pollution-free, economical and safer fuel that can be used uninterruptedly at any time." In-addition, as per the objective of the government, green fuel (CNG) stations will be set up by the company in the district," he added. Singh said, after the launch of project on Thursday, the company will start working on it, so that CNG could be used in place of petrol and diesel to run vehicles.

"The company will set up retail outlets at key locations so that customers can access the fuel with ease across the district. The benefit of CNG fuel is that there will be easy to convert dual fuel system, where standard conversion kits can be used to convert existing vehicles so that they can run on CNG as well as diesel or petrol", Jasbir added.

<https://www.tribuneindia.com/news/jalandhar/think-gas-firm-to-provide-cng-in-city/686648.html>

Adani Gas shares up 41.5% in four sessions on bagging of CGD rights

Shares of Adani Gas, which got listed on November 5, have risen more than 41.5% in the last four sessions, largely driven by allotment of city gas distribution rights for 13 geographical areas under the recently-concluded ninth bidding round. The stock closed 14% up at Rs 111.35 on the Bombay Stock Exchange on Thursday, November 22. Since its listing on November 5 at a price of Rs 73, the stock has risen 52.43%, while the market cap of the company rose to Rs 12,246 crore at the close of the trading on the BSE on Thursday. The stock was admitted to the 'T' Group category with circuit filter of 5%, which was revised to normal trading segment 'B' with 20% circuit filter on November 20. On Wednesday, Adani Gas said it received authorisation from the Petroleum and Natural Gas Regulatory Board (PNGRB) to expand its city gas footprint in 13 new geographical areas. The company has also won nine geographical areas in its joint venture company with Indian Oil Corporation, Indian Oil-Adani Gas. The new geographical areas granted to Adani Gas for city gas infrastructure are in the six states of Gujarat, Haryana, Karnataka, Tamil Nadu, Rajasthan and Odisha. In FY18, Adani Gas reported a turnover of Rs 1,395 crore and Ebitda of Rs 374 crore. The volumes increased by 17% year on year to 479 mmscm (million metric standard cubic metres). The company achieved a y-o-y volume growth of 12% in the CNG segment and 23% in the PNG segment. The group currently runs CGD networks in Ahmedabad, Vadodara, Faridabad and Khurja. Its network size

currently stands at more than 6,000-km pipeline and 70 CNG stations catering to more than 3.15 lakh households, 1,250 industrial units and 2,400 commercial units. "With the Government planning to offer additional geographical areas for gas distribution next year coupled with rapid urbanisation, AGL expects to impact around 10% of the population by 2023," the statement noted.

<https://www.financialexpress.com/industry/adani-gas-shares-up-41-5-in-four-sessions-on-bagging-of-cgd-rights/1390866/>

Companies line up Rs.8,000 cr. for gas networks

Bharat Gas Resources Limited (BGRL), Maharashtra Natural Gas Limited (MNGL) and Unison Enviro Private Limited (UEPL) have lined up investments of Rs.8,000 crore in setting up city gas distribution (CGD) networks across the country as the government launches the 10th round of bids for CGD projects. Bharat Petroleum Corporation Limited (BPCL), parent of Bharat Gas Resources Limited (BGRL) alone has lined up investments of Rs.4,000 crore to strengthen its presence in the sector. Rajendra P. Natekar, Executive Director (Gas), BPCL said, "This month, Petroleum and Natural Gas Regulatory Board (PNGRB) will launch the 10th CGD bidding round for 50 geographical areas (GAs) spread across 14 states. This would cover some areas in Maharashtra and a significant portion in the east. The areas will be plotted closer to the existing gas pipelines. This would increase coverage of city gas distribution to 70% of the country's population and 53% of its area. BPCL will be investing around Rs.4,000 crore and the trio, BPCL, MNGL

and UEPL will be investing between Rs.7,000 and Rs.8,000 crore." Prime Minister Narendra Modi will lay the foundation stone for CGD projects across 129 districts to boost availability of gas supply for half of the country's population in 26 States and Union Territories on Thursday and launch the 10th CGD bidding round in 50 GAs spread over 124 districts in 14 States, said a government statement. MNGL is a joint venture between BPCL and Gail India, while UEPL is a subsidiary of Ashoka Buildcon. "Natural gas roughly covers 6.2% of the country's energy basket, which is 24% globally. For States like Gujarat, about 25% of their energy exclusively comes from natural gas," said Mr. Natekar.

<https://www.thehindu.com/news/cities/mumbai/companies-line-up-8000-cr-for-gas-networks/article25552359.ece>

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Auto LPG body wants LPG included in city gas projects

CGD bid rounds provide for giving licences on companies setting up CNG dispensing stations to fuel automobiles. Ahead of Prime Minister Narendra Modi launching CNG projects in 65 cities and initiating 10th city gas licensing round, the apex body of auto LPG suppliers has urged the government to give them a level-playing field as LPG is as effective as CNG in curbing vehicular pollution. "Why include only CNG in #CityGasBidding rounds? #AutoLPG is much more feasible and low hanging fruit! Can impact air quality almost immediately. It needs to be part of the next bid round," Indian Auto LPG Coalition director general Suyash Gupta tweeted. Both compressed natural gas (CNG) and auto LPG are alternatives to polluting diesel and petrol. CNG is the compressed form of natural gas, which is nothing but greenhouse gas, methane. Gupta said setting up a LPG station takes just two months and the time auto LPG takes to fill a vehicle is equal to time taken to fill a petrol and diesel vehicles. CNG on the other hand takes greater time and has led to queues in cities in Delhi and operators giving discounts on price to encourage vehicles to refuel after midnight. In Turkey, 40 per cent of all private cars run on auto LPG. LPG as a fuel in automobiles is cleaner than CNG and is easier to handle, he said adding 27 million vehicles globally run on auto LPG. India has 1,200 auto LPG outlets and these can increase if the government allows city gas operators a choice of CNG and auto LPG outlets, he said. Auto LPG can reduce vehicular pollution and the fuel can be transported easily and does not require pipelines and other infrastructure. An auto LPG dispensing station can be set up within existing petrol pumps. Auto LPG emits up to 120 times lesser particulate emissions than diesel vehicles, 96 per cent lesser nitrogen dioxides (NOx) than diesel and 68 per cent lesser NOx than petrol.

<https://auto.economicstimes.indiatimes.com/news/oil-and-lubes/auto-lpg-body-wants-lpg-included-in-city-gas-projects/66687495>

Over 3 months on, city yet to get new CNG gas station

More than three months have passed since the announcement by the Punjab Pollution Control Board (PPCB), a new CNG gas station is yet to come up in the city. Owing to this, members of the United Auto-rickshaw Workers' State Union have been on an indefinite strike for the past four days. Earlier after examining the quality of air in various cities, including Jalandhar, from January to June, it was found that the air quality in the city was not up to the mark. Therefore in July this year, the PPCB had prohibited the registration of diesel and petrol auto-rickshaws in the city. The step was taken to reduce pollution and dependence on petrol and diesel. The PPCB had also announced to set up more CNG gas stations. Auto-rickshaw drivers said the lone CNG gas station was located at the Pathankot bypass chowk, which was insufficient to supply gas to the increasing number of eco-friendly autos. Due to this, the price of the CNG gas had increased, they added. Many drivers have been protesting near the gas station with their auto-rickshaws with their demand for keeping a check on the price of CNG fuel. Two months ago, the price of CNG fuel was Rs62 per kg, but now it has reached Rs87.90 per kg. Inderjit Singh, a CNG auto-rickshaw driver, said, "Due to lack of an adequate required number of CNG pumps, we have to limit our routes. Daily wages have also decreased due to unavailability of desired amount of fuel. Therefore, there is a need for more CNG pumps in the district." Ravi Sabharwal, president, United Auto-rickshaw Workers' State Union, said, "The price of CNG fuel has increased Rs16 within 15 days. But in Amritsar and Mandi Gobindgarh districts, the price of CNG fuel is Rs57 kg and Rs55 per kg, respectively. So, the administration should set up more CNG pumps in the city as the extra cost of fuel has put more burden on us." Krunesh Garg, member secretary, PPCB, said, "The company — Jay Madhok — has been given the contact to open new CNG gas stations in Jalandhar. Thereafter, it will receive its statutory clearances. Three more such stations will come up by the end of this month."

<https://www.tribuneindia.com/news/jalandhar/over-3-months-on-city-yet-to-get-new-cng-gas-station/685476.html>

Transport panel clears 50 diesel buses for CNG switch - Nagpur

The Nagpur Municipal Corporation (NMC) transport committee on Saturday gave nod to civic administration's proposal to convert 50 diesel-run buses into CNG on trial basis. Now, the proposal will be tabled before the general body, said committee chairman Narendra alias Buntu Kukde, adding that NMC was targeting to launch the CNG buses on city roads on January 26. Recently, the NMC steering committee gave nod to a proposal submitted by Rawmatt Industries Private Limited to convert diesel buses into CNG. Kukde said that the firm had, in principle, agreed to bear the expenditure of installing CNG kits costing between Rs3 lakh and Rs3.25 lakh. "The firm will be recovering the amount from the operators by charging Rs5 extra for every kilogram of the gas. The cost of CNG will be Rs60 per kg," he said. He said currently diesel buses are giving a mileage of 3km per litre of diesel while it will be 4km per kg of CNG. This move will also reduce the NMC's expenditure on Aapli Bus. Currently, for operating 150 standard buses NMC pays Rs52 per km per bus to the three Red bus operators. With CNG, this cost will reduce to Rs 45-47 per km. The panel also gave nod to run three bio-fuel buses, said Kukde. To a query, he said the NMC is also trying hard to resume ethanol-run buses and standing committee chairman Virendra Kukreja has earmarked Rs5 crore for the Green Bus operator Scania Commercial Vehicles India Pvt Ltd for the purpose. <https://timesofindia.indiatimes.com/city/nagpur/transport-panel-clears-50-diesel-buses-for-cng-switch/articleshow/66669302.cms>

CNG price up 40 paise in Delhi, down 45 paise in UP suburbs on tax cut

Indraprastha Gas Ltd has raised CNG price in Delhi and Rewari by 40 paise per kg to offset higher input costs but reduced the rates by 45 paise in Noida, Greater Noida and Ghaziabad in the capital's neighbourhood by passing on the benefit of tax cut announced by the UP government. CNG will cost Rs 44.70 per kg in Delhi and Rs 54.45 per kg in Rewari from Sunday. The new prices in UP's Noida, Greater Noida and Ghaziabad will be Rs 50.80 per kg, the company said in a statement. According to the company, its costs went up due to revision in the proportions of cheaper domestic gas allotted for run-

ning CNG service as well as other operating expenses since the last price revision. Explaining the decrease in CNG prices in UP, the company said it was passing on to consumers the benefit of 2% additional VAT revoked by the state government after adjusting higher operational costs. IGL said even after the latest revision, CNG would be 58% cheaper than petrol at current price level and 37% economical than diesel. The latest revision has narrowed the difference between CNG rates in Delhi and its suburbs by 33% from Rs 9.49 per kg in November 2017 to Rs 6.35. But this gap is still lucrative enough for commercial vehicles from Noida, Greater Noida and Ghaziabad to refill in Delhi, which adds to the long queues at the Capital's CNG stations. CNG price has gone up by Rs 4.99 per Kg, or over 12%, in Delhi since November 2017. Prices have increased by Rs 1.60 per Kg, or just 3%, in Noida, Greater Noida and Ghaziabad. IGL is refuelling over 10.5 lakh vehicles in the NCR through a network of 452 CNG stations and supplying PNG to nearly 10 lakh households in Delhi and NCR.

<https://timesofindia.indiatimes.com/business/india-business/cng-price-up-40-paise-in-delhi-down-45-paise-in-up-suburbs-on-tax-cut/articleshow/66672400.cms>

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and have been duly
acknowledged.**

ONGC bucks global trend with record gas output

Once oil prices began sliding in 2014, explorers around the world scrambled to cut costs by rolling back investment plans and shedding jobs. While global upstream funding fell a quarter off its \$800-billion peak over the next two years, two companies continued to drill and pump money into new projects. Russian giant Rosneft and India's flagship explorer ONGC. Kremlin-backed Rosneft enjoyed the benefit of low production cost, a large domestic base for oilfield services and the safety net of mostly rouble-denominated payments. ONGC had no such comfort but it made up by contracting for new fields and expansion projects of existing ones at bargain prices. The strategy is paying off now, with the company's natural gas production hitting an all-time high of 70 MMSCMD this month, marking more than 6% year-on-year growth rate against global average of 3-4%. Gas sales also hit record level at 56 MMSCMD, with captive consumption accounting for the rest. Company executives said gas output will rise to 116 MMSCMD in the next three years as new projects and a rash of discoveries are brought on stream quickly. To put things in perspective, the cur-

rent production volume can run CNG and PNG services in 10-11 markets the size of Delhi-NCR or run power plant of 12,000 MW. The uptick coincides with the government's push for expanding CNG and PNG services to cover 70% of the country's population and raise the share of natural gas in the energy basket to 15% from 6% with a view to reducing India's carbon footprint.

<https://timesofindia.indiatimes.com/business/india-business/ongc-bucks-global-trend-with-record-gas-output/article-show/66834440.cms>

GEECL plans to exploit shale worth \$2.78 billion at West Bengal block

The company's flagship Raniganj block has an estimated shale resource of 6.63 TCF under a high estimate, 3.51 TCF under best estimate, and 1.40 TCF under low estimate. London-listed Coal Bed Methane (CBM) producer Great Eastern Energy Corporation (GEECL) today announced a resource upgrade at its Raniganj (South) block in West Bengal saying it has found prospective shale resources with a valuation of over \$2.78 billion. "We are delighted to report this significant uplift in the Original Gas-In-Place for our Raniganj

(South) block of up to 9.25 trillion cubic feet (TCF) and with an undiscounted value of \$13.78 billion and a discounted value of \$4.31 billion," Prashant Modi, managing director and chief executive officer at GEECL said at a media briefing. He said the shale resources are worth \$2.78 billion. The company added that ARI, an independent petroleum evaluator, has conducted the assessment in accordance with the classification guidelines set out in the Society of Petroleum Engineer's Petroleum Resource Management System. According to the assessment, the company's flagship block holds estimated shale resource of 6.63 TCF under a high estimate, 3.51 TCF under best estimate, and 1.40 TCF under low estimate. Modi added the company is currently planning initial exploration programme for exploiting shale in its block and will make a further announcement in due course when it is commenced. The company plans to invest Rs 2,000 crore to complete drilling of the remaining 144 wells at the Raniganj (South) license area.

<https://energy.economicstimes.indiatimes.com/news/oil-and-gas/geecl-plans-to-exploit-shale-worth-2-78-billion-at-its-raniganj-south-block/66636544>

To meet divestment target: \$2 billion share sale of ONGC, IOC & OIL in the pipeline

This would be on top of the proceeds generated from a likely Rs 10,000-crore share buyback by these companies. The government is considering a plan to sell shares worth \$2 billion in Oil and Natural Gas Corp (ONGC), Indian Oil Corp (IOC) and Oil India Ltd (OIL) to help meet this year's divestment target, according to people familiar with the matter. This would be on top of the proceeds generated from a likely Rs 10,000-crore share buyback by these companies. The finance ministry is planning the mix of share sales and buybacks by state oil companies with about a fourth of the Rs 80,000-crore asset-disposal target having been met thus far, said the people. The government is considering the sale of about 5% equity stake in ONGC, 3% in Indian Oil and 10% in Oil India, people with knowledge of the matter said, cautioning that the quantum could vary by the time the government launches offers for sale. The timing of the sale is currently unclear but it could take place in a month or so. Both will depend on investor sentiment and details of the buyback plans, the people said. A 5% stake in ONGC was worth about Rs 10,000 crore at the end of trade on Thursday, November 15 with the stock falling 1.6% to Rs 158.45, while a 3% stake in IOC was worth Rs 4,200 crore with the stock up 0.7% at Rs 146.35. A 10% stake in Oil India was worth Rs 2,300 crore — the stock was up 0.25% at Rs 203.50. That would mean, at current market rates, a planned share sale could fetch about Rs 16,500 crore (\$2.3 billion). The government is likely to offload these shares at a 5% discount to market rates, sources said. Earlier this month, the government sold a 3% stake in Coal India via the offer for sale (OFS) or auction route. If the share sale goes forward at the levels mentioned above, the government's stakes would fall to 62.48% in ONGC, 53.75% in IOC and 56.13% in Oil India. Oil India will consider a buyback proposal on November 19, the company has said in a regulatory filing. The exercise is likely to raise about Rs 1,100 crore, sources said. ONGC will probably buy back shares worth Rs 4,800 crore and Indian Oil's buyback could be about Rs 4,000 crore in size, they said. The companies are said to have initially resisted the buybacks but are said to have come round, said the people cited above. Executives had warned the government of a dividend cut this year if they were forced to repurchase shares. But, according to sources, companies will have to at least match last financial year's payout. The companies had opposed the buyback plan on the grounds that they didn't have enough cash reserves and needed internal resources to fund their capex plans. But these arguments do not seem to have cut any ice with the government.

<https://energy.economicstimes.indiatimes.com/news/oil-and-gas/to-meet-divestment-target-2-billion-share-sale-of-ongc-ioc-oil-in-the-pipeline/66645875>

Auto firms laud EV draft policy, but flag infra, incentive concerns

Some also pointed to the high cost of electric buses and the financial ability of state transport corporations to buy these. Automobile makers have good words for the draft policy that has set a target for at least a fourth of new vehicles sold in Delhi to be run on electricity by 2023. However, they are skeptical on the issue of the required charging infrastructure and the lack of clarity on the incentive each vehicle category will get under the FAME (Faster Adoption of Manufacturing of Electric Vehicles) scheme. Some also pointed to the high cost of electric buses and the financial ability of state transport corporations to buy these. In its current form, the policy targets only two-wheelers and vehicles used for public transport. Private cars and utility vehicles are not in its purview. For a city that has been struggling with poor air quality, it's a step in the right direction but the challenge is in the execution, say environment experts. Anumita Roychowdhury, executive director at the Delhi-based Centre for Science and Environment (CSE), said: "Our personal exposure to vehicles is very high; so, if these vehicles become zero emitters, the local impact (of pollution) will definitely wane. Globally, we have seen that intent alone doesn't work; you need specific targets." "The primary objective of the Delhi EV Policy 2018 is to bring about a material improvement in Delhi's air quality by bringing down emissions from the transport sector. To do so, this

policy will seek to drive rapid adoption of Battery Electric Vehicles (BEVs) in a manner where they contribute to 25% of all new vehicle registrations by 2023," according to the draft policy. The policy also seeks to put in place measures to support the creation of jobs in driving, selling, financing, servicing and charging of EVs, it added. Sohinder Gill, director-general at the Society of Manufacturers of Electric Vehicles (SMEV), said: "While it's a good policy and gives the industry a direction, it should have been more specific on incentives. Instead of saying 50 per cent of FAME, they could have spelt the absolute amount, as we don't know what will happen to the FAME scheme after April 1, 2019." Adding: "The policy targets a third of new buses to be electric. Given the space required and costs involved in setting up infrastructure for them, I doubt the targets would be met." The policy offers an additional 'top-up incentive' of up to 50 per cent of the FAME India incentive to vehicles with swappable batteries for a period of three years from the date of notification of this policy.

Karthick Athmanathan, head for EVs and eMobility solutions at Ashok Leyland, said while the intent to convert a large part of buses and last-mile transport solutions to electric propulsion was good and "most of the things mentioned in the policy are doable, there are lots of ifs and buts". For instance, someone needs to fund the incremental costs, as these are outside the FAME scheme. Globally, such buses are subsidised. Also, before anything else, power grid connectivity needs to be strengthened; else, the whole sys-

tem will collapse.

Besides offering fiscal incentives to several categories of e-vehicles, the 20-page document also touches upon a scrappage incentive scheme for two-wheeler (internal combustion engine) owners. Setting up a dedicated cell in Delhi, levying of a congestion charge of up to 2.5% of fares on all trips originating or terminating from Delhi, an air quality parking surcharge, cess on petrol and diesel vehicles and EV recycling are some of the aspects. Mahesh Babu, chief executive officer at Mahindra Electric Mobility, said the company would give its inputs on including cars in the fleet segment to be made part of the policy. "It looks very promising and we see ourselves playing an important role in it," he said. Adding that his company's electric auto rickshaw had been received very well in Delhi and adjoining areas.

In 2013, the Government of India announced a National Electric Mobility Mission Plan 2020. Under this, FAME was launched in March 2015 for two years, subsequently extended to end-March, 2019. Despite central and state government incentives, pure EV penetration (2017 data) remains low in India. It is 0.1% for cars, 0.2% for two-wheelers and near-zero for commercial vehicles. "The government is pushing it in the right direction and in a timely manner," said K N Sreevatsa, head of the EV charging business at engineering major ABB India.

https://www.business-standard.com/article/economy-policy/auto-firms-laud-ev-draft-policy-but-flag-infra-incentive-concerns-118112900089_1.html

TECHNOLOGICAL DEVELOPMENT FOR CLEANER ENVIRONMENT

Nikola announces new hydrogen fuel cell truck for European market

In response to widespread interest from European customers, Nikola Motor Company has created a hydrogen fuel cell truck for European markets. Guests at the April 16-17 Nikola World in Phoenix will be able to view a prototype display of the Nikola Tre, along with other new zero-emission products from Nikola including the production intent Nikola Two. "This truck is a real stunner and long overdue for Europe," said Nikola Motor Company Founder and CEO Trevor Milton. "It will be the first European zero-emission commercial truck to be delivered with redundant braking, redundant steering, redundant 800Vdc batteries and a redundant 120 kW hydrogen fuel cell, all necessary for true level 5 autonomy. Expect our production to begin around the same time as our USA version in 2022-2023." Nikola is currently working with Nel Hydrogen of Oslo to provide hydrogen stations for USA. "Nel has been good to work with for our USA station design and rollout. We will work with Nel to secure resources for our European growth strategy. We have a lot of work ahead of us, but with the right partners, we can accomplish it," said Kim Brady, Nikola Motor Company CFO. By 2028, Nikola is planning on having more than 700 hydrogen stations across the USA and Canada. Each station is capable of 2,000 to 8,000 kgs of daily hydrogen production. Nikola's European stations are planned to come online around 2022 and are projected to cover most of the European market by 2030.

<http://www.ngvjournal.com/s1-news/c7-Ing-h2-blends/nikola-announces-new-hydrogen-fuel-cell-truck-for-european-market/>

How Modi govt's natural gas plan is giving no relief to smog-choked cities

India's drive to clean up some of the world's worst air by burning more natural gas appears to be faltering. Despite an overall rise in use over the past three years, infrastructure, policies, weak domestic production and competition from coal have conspired to keep the fuel's share of the total mix stagnant. That's complicating efforts to rid the nation of smog and risking investments estimated at 1.7 trillion rupees (\$24 billion). Prime Minister Narendra Modi, who won a United Nations environmental award in September for promoting solar power, has struggled to curtail pollution that non-profit Health Effects Institute estimate contributed to the deaths of more than 1.1 million Indians in 2015. After coming to power in 2014, Modi's government set a target to more than double the share of gas in the energy mix to 15 percent by 2030. But after peaking just above 10 percent six years ago, it's slid back toward 6 percent. Abundant coal supplies help the fuel dominate the nation's power industry, accounting for 56 percent of its primary energy. Meanwhile, gas use retreated after domestic output crashed earlier this decade, which the nation has struggled to replace with imports. "The market is price sensitive and cheap coal still poses a challenge to gas consumption," Kaushik Chatterjee, senior analyst at Wood Mackenzie Ltd. said in an email, adding that the 2030 target seems achievable if some infrastructure and policy issues are resolved. Driven by power and industrial demand, India's use of natural gas is estimated by the International Energy Agency to grow 4.9 percent per year through 2040 to 171 billion cubic meters, placing it as the second-biggest consumer in the region after China. "But the share of gas in the energy mix remains less than 10% in 2040," the IEA said in its annual World Energy Outlook earlier this month. "While the low share of gas today implies huge scope for growth, strong competition from coal and renewables for power generation, the lack of policy measures to push out coal and challenges around infrastructure developments all hamper this potential from being fully realized." Domestic exploration for new sources of supply have been damped by regulated prices. Most gas is pegged to a weighted basket of international prices and is revised ev-

ery six months, most recently at \$3.36 per million British thermal units. Gas produced from fields that are considered "difficult" is allowed a higher ceiling, currently at \$7.67 per million Btu. India must fast-track gas infrastructure, Wood Mackenzie's Chatterjee said. A uniform tariff policy for pipelines would create a level playing field for distribution while higher taxes on coal may help gas compete in power generation. The higher cost of imported fuel means India used barely a quarter of its nearly 25 gigawatts of gas-fired generation capacity, as the plants can't compete with electricity from coal. India's power industry follows a so-called merit order dispatch system, which mandates that utilities buy the cheapest electricity available first. "We need to have a more holistic definition of merit," B.C. Tripathi, chairman at GAIL India Ltd., the nation's largest gas carrier, said at a conference last month. "Unless we do that, we will not be able to take advantage of the 1.7 trillion rupees of committed investments in the sector."

"In our country," he said, "what's cheapest becomes meritorious, even if it's the most polluting."

https://www.business-standard.com/article/economy-policy/how-modi-govt-s-natural-gas-plan-is-giving-no-relief-to-smog-choked-cities-118113000125_1.html [Edited]

Operational and connectivity issues pull down RIL CBM block output

Gas output at Reliance Industries' coal bed methane (CBM) block has fallen way short of the planned ramp-up due to a combination of operational issues and poor pipeline connectivity. Production at RIL's CBM block in Madhya Pradesh contracted to 0.94 MMSCMD in July-September from 1mmscmd in the April-June period. The poor show by RIL's CBM block, its depleting KG-D6 block, along with Focus Energy's underperforming block in Rajasthan, resulted in a 13% decline in natural gas output from fields controlled by private players between April and October, according to the oil ministry's monthly report on production data. State-run Oil India's gas production also declined 7% this year from last year but ONGC, country's largest oil and gas producer, increased gas output by 3%. India's natural gas output fell 1% in April-October from last year. The oil ministry's monthly report on production data cites "under-performance of CBM wells and the constraint imposed by Iffco on

CBM offtake from September 22" as the key reasons for lower output at Sohagpur West CBM Block of Reliance Industries. IFFCO is GAIL's customer and variation in the fertiliser maker's gas requirement impacts the amount of gas RIL's CBM fields can produce or its facilities can receive from GAIL. Once more customers join the pipeline, Reliance plans to undertake drilling of new wells and build additional infrastructure to boost its coal bed methane output, sources said. Another help would come when a pipeline gets ready to pump gas from Reliance Industries' fields to the western states. At present, gas only travels from the western coast to interiors. CBM wells also yield a lot of water and Reliance has undertaken dewatering process to achieve the ramp-up, which typically takes 18-36 months, sources said.

<https://economictimes.indiatimes.com/industry/energy/oil-gas/operational-and-connectivity-issues-pull-down-ril-cbm-block-output/articleshow/66834469.cms>

NATIONAL: LNG DEVELOPMENT/ SHIPPING

Gail India proposes swap of Cove Point LNG cargoes in Q1 – sources

Gail India is proposing to swap three LNG cargoes across the first quarter of next year, trade sources said. The Indian importer has 20-year deals to buy 5.8 MMTPA of U.S. LNG, split between Dominion Energy's Cove Point plant and Cheniere Energy's Sabine Pass site. With few LNG tankers available to ferry the fuel to India, Gail has already struck swap deals for a chunk of its Sabine Pass and Cove Point volumes. Under the proposed swap, Gail would sell its share of output from U.S. export plant Cove Point in return for taking delivery of LNG into India. Gail is offering a cargo a month from Cove Point for loading in the first quarter of next year in exchange for corresponding deliveries to India, one of the traders said. Participants must submit offers by Dec. 3, the sources said.

<https://www.reuters.com/article/us-g20-argentina-china/trade-deal-possible-at-g20-but-chinese-paper-says-us-must-be-fair-minded-idUSKCN1N0Z32>

Finland eyes imports of piped Norwegian gas via Baltics, Poland

Finland could in future receive gas from Norway via a network of pipes being planned through the Baltic countries and Poland, as part of an effort to reduce its dependency on gas imports from Russia. Helsinki and Tallinn are constructing a gas pipeline under the Gulf of Finland to Estonia, called Baltic-connector and with a capacity to transport 7.2 MMSCMD. "The plan is for Finland to get fully connected to the European gas network and access gas from other sources such as ... Norwegian gas," Herkko Plit, CEO of Baltic Connector Oy, one of the two owners of the planned pipeline, told Reuters. Baltic-connector would allow such imports of piped gas via a pipeline between Poland and Lithuania called GIPL, due to be completed by December 2021, which in turn could be connected to the planned Baltic Pipe linking Poland to Norway, via Denmark. The investment decision for the Baltic Pipe, a project with an estimated value of 2.1 billion euros (\$2.37 billion), is expected by its partners, Polish and Danish transmission system operators Gaz-System and Energinet, by the

end of 2018. Plit was speaking by phone from Warsaw, where he was meeting the partners of the Baltic Pipe to present information about the Baltic-connector. Finland and eastern European countries have in recent years tried to reduce their dependence on Russian gas, partly over concerns that Moscow could use its gas monopoly for political influence, after a similar spat with Ukraine about a decade ago. Finland imports all its gas from Russia, with gas accounting for five percent of its total energy needs. Baltic-connector's commercial operations are scheduled to start on January 1, 2020. It is co-owned by the Finnish natural gas transmission system operators, Baltic Connector Oy, and its Estonia counterpart, Elering AS. <https://www.hellenicshippingnews.com/finland-eyes-imports-of-piped-norwegian-gas-via-baltics-poland/>

Black Sea Oil & Gas signs Romanian gas sales agreement with Engie

Romanian-based Black Sea Oil & Gas, controlled by private equity firm Carlyle Group LP

- Says signs gas sales agreement with ENGIE through its subsidiary Engie Energy Management Romania for natural

gas supply from the Midia Gas Development Project (MGD).

- Says ENGIE will purchase gas from the Ana and Doina gas reservoirs over a minimum of 10 years.
- Says expected contractual volumes at project completion represent 0,5 bcm per year.
- Says agreement is subject to a final investment decision regarding the project.
- Black Sea Oil & Gas CEO Mark Beacom says an assessment of an offshore bill recently approved by parliament on the project's economic viability remains "a key part" in determining whether a final investment decision will be made.
- MGD will consist of five offshore production wells, a subsea gas production system, an offshore production platform, a 126 km offshore and onshore gas transmission pipeline and an onshore gas treatment plant.
- In 2017, Black Sea Oil & Gas said it aimed to start production at two gas fields off Romania by 2019, becoming the first company to tap the country's offshore resources.

<https://www.hellenicshippingnews.com/black-sea-oil-gas-signs-romanian-gas-sales-agreement-with-engie/>

Russia's \$11 billion natural gas pipeline is primed to fuel Europe

In the shadows of a long-silent East German nuclear reactor on the edge of the Baltic Sea, engineers are drilling, dredging, and digging in a forest clearing. As one set of workers shifts contaminated concrete and other radioactive materials from the Soviet-designed Greifswald plant, half a kilometer away contractors for Gazprom PJSC are building the latest monument to Europe's growing dependence on Russia for energy: the controversial Nord Stream 2 gas pipeline. Germany could receive more gas pumped directly from Siberian fields as soon as late next year. The \$11 billion pipeline is one of three giant projects helping the world's biggest gas producer strengthen its grip on Europe and Asia. Thousands of miles to the east, the Power of Siberia pipeline will connect with China, and a project under the Black Sea will deliver fuel to Turkey and southeast Europe. Russia has sold gas to Europe since World War II, meeting more than a third of the Continent's demand last year. That share could rise to 40% by 2025 if increased demand from China and its Asian neighbors, and higher prices, continue to tempt liquefied natural gas tankers eastward, says Jonathan Stern, a distinguished research fellow at the Oxford Institute for Energy Studies. "Expensive energy is back, mainly driven by China," says Fatih Birol, executive director of the International Energy Agency. "We're seeing record gas imports from Russia." The decline of Groningen, the giant Dutch gas field, has also increased Europe's import demand. President Donald Trump, keen to sell natural gas to Europe and capitalize on the U.S. shale boom, has described Germany as "captive" to Moscow. Last year he signed legislation giving him the right to sanction companies involved in Nord Stream 2, including five European partners that are helping fund it. Russian President Vladimir Putin said on Oct. 3 that the pipeline, whose older sibling runs roughly along the same route and began delivering fuel in 2011, would be built even if the other companies pulled out. Nord Stream 2 also has detractors closer to home. Poland, which has a fractured relationship with its former Soviet ally, nixed the formation of a joint venture of European energy companies that would work with Gazprom on the pipeline. The country still buys Russian gas but plans to replace it with fuel from Norway and other countries when its contract expires by the end of 2022. The German government and its biggest utilities point to a commercial relationship with Russia that's survived the Cold War as well as increasing tensions over Ukraine. Russian natural gas exports to Europe are having another banner year, after the country shipped a record 6.8 trillion cubic feet in 2017. But Andree Stracke, chief commercial officer at the trading unit of German utility RWE AG, isn't worried by Gazprom's increasing hold on the market. "At some point, politicians need to say if they are concerned, but for us it is business," he says. "It is a free accessible market. Whoever wants to sell is welcome to sell their volumes." Gazprom has also had to adjust to how the European market has evolved. Since gas is now its own traded commodity, its price is less closely linked to the cost of crude oil and more informed by local natural gas prices. Demand for gas could soar after Germany shuts down its last nuclear reactor by 2022 and retires more coal plants, according to Ralf Bickel, a senior energy adviser at Nord Stream 2. "Having additional supply from Russia puts Europe in a much more comfortable situation," he says.

[Source: LNG Global](#)

Jiangsu's first service area LNG refueling station opens

On November 26th, the LNG (Liquefied Natural Gas) refueling station of the Jiayangyin Bridge Service Area officially opened, becoming the first service area in Jiangsu Province to open a LNG refueling station. The Jiayangyin Yangtze River Bridge is a suspension bridge over the Yangtze River. The project relies on the gas station reconstruction and expansion project, and interfaces with the LNG filling station to expand and upgrade the service functions based on the original fueling business, further consolidating the public service function and promoting the "green+" transportation development. The total investment of the project is more than 9 million yuan (USD 1.3m). The total area of the refueling and gas station is 2,800 square meters. There are two LNG filling dispensers at the station, and the fire-fighting equipment and other safety facilities are equipped as standard. The daily air volume can reach 20,000 cubic meters. It can meet the refueling requirements of 100 heavy trucks. LNG is condensed into a liquid by cooling it to -160 ° C in a gaseous natural gas under normal pressure. Natural gas liquefaction can greatly save storage and transportation space, LNG with the same capacity is faster than CNG (compressed natural gas), and has the characteristics of large heat value and high performance.

[Source: NGV Global](#)

Spanish alliance creates first network of multi-fuel service stations

Transport services company Andamur and energy company Molgas have signed an agreement to set up a new partnership with the aim to build and operate a network of multi-energy refueling stations offering LNG and CNG, in addition to conventional fuels. The new venture is going to have a pioneering role, responding to the demands of fleets both of trucks and light vehicles and that may refuel any kind of fuel. The new refueling stations will be built at the beginning of 2019, at Andamur's Service Areas located in La Junquera (Gerona), Guarromán (Jaén), Pamplona (Navarra) and San Román (Vitoria). More than 500,000 trucks are refueled at these facilities every day, and those companies may now include natural gas in their fleets, thus anticipating market trends and being able to obtain an increased competitive

advantage. Miguel Ángel López, Andamur CEO, has expressed his satisfaction with this agreement and said: "With the 'We look after what really matters' initiative, we do not only help clients to anticipate market trends, but also provide sustainable alternatives for light and heavy vehicles, promoting the reduction of CO2 emissions." In this extremely encouraging scenario for sustainable mobility, where more and more Spanish transport fleets add vehicles powered by natural gas, AlFuels Iberia 2019 will take place on 11-14 June at IFEMA Trade Center, Madrid. It will be an event consisting of first level conferences and exhibition of vehicles of all kinds, refueling stations, components, plants, road and marine engines, as well as the entire universe of the alternative fuels industry with the latest technological developments, multiple options for networking, business and new advances. <http://www.ngvjournals.com/s1-news/c4-stations/italy-first-cng-lng-refueling-station-starts-operations-in-pesaro/>
<http://www.ngvjournals.com/s1-news/c4-stations/spanish-alliance-creates-first-network-of-multi-fuel-service-stations/>

Italy: Snam opens the first CNG/LNG refueling station in Pesaro

The new facility offers CNG and LNG and is the first of its kind in Pesaro, Italy. It is managed by Acema and is also Snam4Mobility's first LNG station. With this opening, attended by the Mayor Matteo Ricci, Pesaro will be able to test a new sustainable mobility model based on natural gas. The opening ceremony was also attended by the managing director of Acema Lorenzo Ponselè, the senior vice president of Snam4Mobility Andrea Ricci, the head of Sales for Great Customers and LNG of Liquigas Massimiliano Naso and the Business Line Medium & Heavy Manager of IVECO, Alessandro Oitana. The event also featured the exhibition of CNG and LNG vehicles, including the IVECO Stralis NP 460, which was awarded "Sustainable Truck of the Year 2019" at Ecomondo. In addition, the new station will be able to bring natural gas to an existing service station located on a nearby motorway, which has been appropriately upgraded with shelter and distribution islands to supply CNG. Both facilities will supply a particularly high performing CNG, which ensures greater autonomy and a quicker supply. Liquigas, leader in Italy in the distribution of LNG for industrial and transport use, will guarantee the supply of the product to Acema. Acema has been managing fuel distribution and integrated services for service stations

for over 70 years, while Snam4Mobility is Snam's subsidiary aimed at promoting development of natural gas and biomethane as transport fuels. The company currently has about 50 refueling stations under construction.

<http://www.ngvjournals.com/s1-news/c4-stations/italy-first-cng-lng-refueling-station-starts-operations-in-pesaro/>

From London to Luton with the first UK fleet of natural gas minibuses

Blue Bus Innovations has become the first company in the UK to operate CNG minibuses after ordering three IVECO Daily Line Hi-Matic vehicles. The NGVs provide the Luton-based start-up with performance comparable to diesel, while also offering green benefits: 12% fewer NOx emissions, 76% less particulate matter and up to 95% less CO2 emissions when using biomethane. Blue Bus provides seats on its shuttle coaches from strategic pick-up and drop-off points in central London, to-and-from Luton Airport between 7am and 11pm daily. The 16-seater CNG vehicles (Daily 50C14GA8's) are built on a 4,100mm wheelbase and are powered by IVECO's 3.0-liter, 140 hp engine. Both passengers and driver will enjoy the benefits of the quieter natural gas engine – which is at least 4dB lower than its diesel equivalent, as well as cutting noise pollution, which is a major benefit particularly for late-night drop-offs. The minibuses have been equipped with the eight-speed Hi-Matic automatic transmission which guarantees maximum performance with low operating costs. Offering absolute driving pleasure, the Hi-Matic gearbox is faster and more precise than a traditional manual transmission, offering gear changes without torque interruption and in less than 200 milliseconds for high-level performance. It also returns an additional 2.5% fuel saving versus the same specification vehicle with a manual transmission.

<http://www.ngvjournals.com/s1-news/c3-vehicles/from-london-to-luton-with-the-first-uk-fleet-of-natural-gas-minibuses/>

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HAM opens LNG and CNG filling station in Zaragoza

HAM, a leader in the CNG/LNG/NGVs, has opened a new gas station in Zaragoza, in the town of Alfajarín, for the supply of liquefied natural gas (LNG) and compressed natural gas (CNG) to trucks and vehicles. Located in the El Saco Industrial Park, N-II kilometer 341, it occupies a strategic point within the national geography for the refueling of vehicles that travel between Madrid and France, passing through Guadalajara, Zaragoza, Lleida, Barcelona and Girona. This service station has a double liquefied natural gas (LNG) pump for trucks and a double compressed natural gas (CNG) pump for trucks and light vehicles. The innovative dual-fuel system of LNG and CNG, designed and manufactured by HAM, allows refueling of two LNG vehicles from a single pump. The gas station in Alfajarín joins the 22 stations currently operated by HAM, confirming the company's commitment to the environment, betting on promoting LNG and CNG as an alternative, clean and sustainable fuel. Using natural gas fuel reduces nitrogen oxide emissions and eliminates fine particles and sulfur oxides, improving the quality of the air and reducing the negative impact on the environment. In addition, the use of natural gas is cheaper and saves between 30-50% compared to the use of fossil fuels derived from oil. The Ham Group, which built the first LNG station on the Iberian Peninsula, says it is currently the company with the most experience in Europe in the vehicular LNG sector and which commercializes a greater volume of liquefied natural gas for vehicular use. As such, it has become a reference for other companies in the sector.

[Source: NGV Global](#)



TECHNOLOGICAL DEVELOPMENT FOR CLEANER ENVIRONMENT

Finland: grocery store uses its own biowaste to power delivery truck

The grocery store chain Lidl and the energy company Gasum are partnering to promote the circular economy. As part of their collaboration, Lidl will deliver its stores' biowaste to biogas plants where they are used to produce environmentally friendly biogas. "Grocery stores can also implement the circular economy by producing renewable energy from biowaste generated by them," said Jani Arala, Senior Manager, Sales, Road Fuels, from Gasum. Lidl has also started using a truck that will be fueled by liquefied biogas produced from Lidl stores' own waste. "The biogas-powered tractor unit is an excellent addition to our fleet: we're able to deliver goods with low emissions and drivers appreciate the low noise level of the tractor unit. Based on our experiences so far, we may increase our natural gas-fueled stock quite rapidly," commented Eeva Virtanen, CEO, Antiokia Oy, the transport company that owns the vehicle running deliveries for Lidl. Using environmentally friendly biogas to fuel vehicles makes it possible to cut the greenhouse gas emissions generated over the fuel life cycle by up to 85% compared with traditional fuels. The new truck will help Lidl reduce its emissions by an annual total of up to 193 tons. One ton of CO2 emissions equates approximately to driving a diesel car for 7,500 km – the distance from Helsinki to Paris and back.

"The new biogas truck is first used for grocery store deliveries from the Janakkala and later mainly from the Järvenpää distribution center. We're happy to gain access to a new-generation low-emission transport fleet. This cooperation supports our investments in environmental friendliness and the efficient utilization of recycled fractions," said Lidl Project Manager Anna Liittäinen.

<http://www.ngvjournals.com/s1-news/c3-vehicles/finnish-grocery-store-deploys-truck-powered-with-biogas-from-its-own-waste/>

World's first cruise line will power ships with biogas from dead fish

With a growing fleet of 17 ships, Hurtigruten is the world's largest expedition cruise line. The company has invested heavily in green technology and is considered the world's greenest cruise company. The next step is powering cruise ships with bio-LNG, produced from dead fish and other organic waste, being these vessels the first in the world to operate with this renewable fuel. By 2021, Hurtigruten plans to operate at least six of its ships on a combination of biogas, LNG and large battery packs. "What other see as a problem, we see as a resource and a solution. By introducing biogas as fuel for cruise ships, we will be the first cruise company to power ships with fossil-free fuel," said Hurtigruten CEO Daniel Skjeldam. "While competitors are running on polluting heavy fuel oil, our ships will literally be powered by nature. Biogas is the greenest fuel in shipping, and will be a huge advantage for the environment." After celebrating the 125-year anniversary, 2019 will mark two green milestones for Hurtigruten: introducing the world's first battery-hybrid powered cruise ship, and starting a large-scale green upgrade project, replacing traditional diesel propulsion with battery packs and natural gas engines on several Hurtigruten ships. Moreover, Hurtigruten is currently building three hybrid powered expedition cruise ships at Norway's Kleven Yard, which will be delivered in 2019, 2020 and 2021. The company expects to invest more than 850 million USD in building the world's greenest cruise line.

<http://www.ngvjournals.com/s1-news/c7-lng-h2-blends/worlds-first-cruise-line-will-power-ships-with-biogas-from-dead-fish/>

Cheniere opens Texas Corpus Christi LNG export plant

U.S. liquefied natural gas (LNG) company Cheniere Energy Inc officially opened its \$15 billion Corpus Christi LNG export facility in Texas. The company, however, would not say when the first cargo will actually leave the facility, which produced its first LNG on Wednesday, November 14. There is an LNG vessel, the LNG Golar Tundra, docked at the plant that analysts say will take the project's first cargo soon. At a celebration marking the opening of the facility, Cheniere's President and CEO Jack Fusco was joined by Texas Governor Greg Abbott, U.S. Secretary of Commerce Wilbur Ross and other state and local officials. Corpus Christi is the third big LNG export terminal to enter service in the lower 48 U.S. states. The first was Cheniere's Sabine Pass terminal in Louisiana, which sent out its first cargo in February 2016. Since then, Sabine has delivered almost 500 cargoes to 29 countries and regions around the world, Fusco said at the celebration. The company has said it expects Corpus 1 and the fifth liquefaction train at its Sabine Pass LNG export terminal in Louisiana to enter commercial service in the first quarter of 2019, followed by Corpus 2 in the second half of 2019 and Corpus 3 in the second half of 2021. Each of Cheniere's trains is capable of liquefying about 0.7 BCFD of natural gas. One billion cubic feet is enough to fuel about 5 million U.S. homes for a day. U.S. LNG exports have almost quadrupled from 183.9 BCF in 2016 to 706.4 BCF in 2017, worth about \$3.3 billion, and are on track to rise to over 1,000 BCF in 2018, making the United States one of the world's biggest exporters of the super-cooled gas. Total U.S. LNG export capacity is expected to jump to 5.2bcfd

by the end of 2018, 8.9 bcfd by the end of 2019 and 10.3bcfd by the end of 2020 from 3.8 bcfd now, which should make the United States the world's third-biggest LNG exporter by capacity in 2019. Cheniere has said it is also developing a sixth 0.7-bcfd train at Sabine Pass and seven smaller 0.2-bcfd trains and other opportunities at Corpus.

<https://www.hellenicshippingnews.com/cheniere-opens-texas-corpus-christi-lng-export-plant/>

Pakistan: LNG import sees 123 percent surge

The import of liquefied natural gas (LNG) has registered an increase of 123.30% during first four months of the current fiscal over the corresponding period of the fiscal 2017-18. According to the data released by the Pakistan Bureau of Statistics (PBS), the import of petroleum group including petroleum products, petroleum crude, natural gas liquefied (LNG) and petroleum gas liquefied increased by 16.82% during first four months of the fiscal 2018-19 over the same period of the previous fiscal. According to the data the total import of Petroleum group was \$ 5.18 billion during July to October 2018 against the import of \$4.7 billion of the corresponding period of the previous fiscal. The import of petroleum products were decreased by 15.52 percent, during the first four months of the current financial year, from 6,117,362 Metric Tones worth \$ 2.6 billion in the months of July to October of fiscal 2017-18 to 3,650,521 Metric Tones worth \$ 2.2 billion in current fiscal. During the period under review, in terms of cost the import of Petroleum Crude increased by 44.97 percent from \$ 1.2 billion to \$ 1.7 billion. However the quantity of imported crude was decreased by

11.13% from 3,569,051 Metric Tones, in July-October fiscal 2017-18, to 3,171,784 during same period of the current fiscal. The import of Natural Gas Liquefied (LNG) was increased by 123.30 percent in the first four months of 2018-19 against the corresponding period of the last fiscal. The total import in the July-October period of the current fiscal was \$ 1.2 billion against the import of \$ 535 million during the same period of the previous fiscal. The import of Liquefied Petroleum Gas was decreased by 13.45% during July to October period of the current fiscal from \$ 97 million to \$ 70 million.

<https://www.hellenicshippingnews.com/pakistan-lng-import-sees-123pc-surge/>

Total signs MOU with Papua New Guinea on LNG Project

Port Moresby – Total and its partners ExxonMobil and Oil Search have signed a Memorandum of Understanding (MoU) with the Independent State of Papua New Guinea defining the key terms of the Gas Agreement for the Papua LNG Project. The MoU was signed during the Asia Pacific Economic Conference (APEC) in Port Moresby, in presence of Peter O'Neill, Prime Minister of Papua New Guinea, and Patrick Pouyanné, Chairman and CEO of Total. The proposed Gas Agreement is expected to be finalized by Q1 2019. Total is the operator of the Elk and Antelope onshore fields and is the largest shareholder in PRL-15 with a 31.1% interest, alongside partners ExxonMobil (28.3%) and Oil Search (17.7%), post the State back-in right of 22.5%. The Papua LNG Project will encompass two LNG trains of 2.7 MTPA each and will be developed in synergy with the existing PNG LNG project facilities. Total and its partners have agreed to launch the first phase of the engineering studies of this project. "The MoU signed by the State of PNG and the partners of the Papua LNG project is an important step in all the parties' commitment to the project", said Patrick Pouyanné, Chairman and CEO of Total. "Investing in LNG is a long term enterprise and our objective is to be able to make the project as competitive as possible. Total being the second-largest world private LNG player, we are fully committed to the success of the Papua LNG project, which benefits from a favorable geographical location close to Asian markets."

<http://www.oilandgasrepublic.com/2018/11/16/total-signs-mou-with-papua-new-guinea-on-lng-project/>

Iran says China's CNPC replacing France's Total in gas project

China's state-owned CNPC has replaced France's Total in Iran's multibillion-dollar South Pars gas project, Iranian Oil Minister Bijan Zanganeh said, according to the semi-official news agency ICANA. "China's CNPC has officially replaced Total in phase 11 of South Pars but it has not started work practically. Talks need to be held with CNPC about when it will start operations," Zanganeh told ICANA, without giving further details. Total, which had a 50.1 percent stake in the project, and CNPC could not immediately be reached for comment. The French company said in August it had told Iranian authorities it would withdraw from the South Pars gas project after it failed to obtain a waiver from U.S. sanctions against Iran. In May, industry sources said CNPC was ready to take over Total's stake in the project. The offshore field, which Iran calls South Pars and Qatar calls North Field, holds the world's largest natural gas reserves ever found in one place. CNPC already holds a 30 percent stake in the giant field, while National Iranian Oil Company subsidiary PetroPars holds the remaining 19.9 percent.

<https://www.hellenicshippingnews.com/iran-says-chinas-cnpc-replacing-frances-total-in-gas-project/>

Argentina to join ranks of LNG exporters next year

Argentina is due to begin exports of liquefied natural gas from a part of its vast Vaca Muerta shale gas resource next year through a floating LNG liquefaction (FLNG) vessel provided by Exmar, the Belgian shipping company said. The operations, due to start in the second quarter of 2019, will introduce Argentina into the small club of around 20 countries exporting LNG while the FLNG will be only the world's fourth and the smallest. The country's state-controlled oil company YPF signed a 10-year agreement with Exmar to deploy the barge-based FLNG, formerly known as the Caribbean FLNG, at Bahia Blanca on the east coast about 400 miles south of Buenos Aires. The port hosted South America's first LNG import terminal, a floating storage and regasification unit (FSRU) provided by U.S. company Excelerate. However that FSRU, the Excelerate Exemplar, left the port on Oct 30, according to Refinitiv Eikon data. Argentina will continue to have the ability to import LNG through the Excelerate Expedient FSRU moored in Escobar, close to Buenos Aires. The new import vessel will now be named Tango FLNG and is expected to ship up to eight cargoes a year. "Thanks to the commercial relationship with Exmar, we are now able to add value to the resources extracted from Vaca Muerta, and take full advantage of the seasonal opportunity with Asian markets and our unique location to serve demand centers," YPF President Miguel Gutierrez said in the statement. Vaca Muerta is

similar to the shale gas deposits that have rejuvenated the U.S. energy industry. The Argentine play is one of the largest reserves of unconventional hydrocarbons on the planet, though much of its oil and gas remains untapped.

[Source: LNG Global/Reuters](#)

Saudi Aramco aims to become gas exporter with \$150 billion investment drive

Saudi Aramco's gas expansion strategy needs \$150 billion worth of investments over the next decade as the company plans to increase output and become an exporter, its chief executive said on Tuesday, November 20.

Aramco is pushing ahead with its conventional and unconventional gas exploration and production program to feed its fast growing industries, freeing up more crude oil to export or turn into chemicals. The state oil giant plans to boost its gas production to 23 billion standard cubic feet (scf) a day from 14 billion scf now, its CEO Amin Nasser told a chemicals industry event in Dubai. "Our gas program... will attract investments of about \$150 billion over the next decade," he said. "We also have world-class unconventional gas resources that are rapidly supplementing our large conventional resources." A big part of this unconventional gas is rich in both liquids and ethane, which will play an important role in the growth of the Saudi's chemicals sector, he said. Aramco is a major gas player but much of the company's production

is used domestically, he added. "We are looking to shift from only satisfying our utility industry in the kingdom, which will happen especially with the increase in renewable and nuclear to be an exporter of gas and gas products." Saudi Arabia aims to produce 10 percent of its power from renewable sources in the next five to six years to diversify its energy mix and free up more crude oil for export. The drive by the world's top oil exporter will see the country developing 30 solar and wind projects targeting 9.5 GW of renewable energy by 2023. The kingdom also plans to build 17.6 GW of nuclear capacity by 2032. "We have plans to create an integrated international gas business, which is backed by the vast conventional and unconventional domestic resources," Nasser said. He added that Aramco now has 16 drilling rigs focusing on unconventional gas, with more than 70 wells completed this year. Nasser also said Aramco plans to invest \$100 billion over the next 10 years in chemicals globally, in addition to potential acquisitions. Aramco aims to become a global leader in chemicals with plans to expand its refining operations and petrochemical output. The company is considering acquiring a strategic stake in Saudi Arabia's SABIC, the world's fourth-largest petrochemicals maker. It also plans to raise its total refining capacity - inside the Saudi and abroad - to 8-10 million barrels per day (bpd) from around 5.4 million bpd now, Nasser told Reuters in an interview on Monday, November 19.

[Source: LNG Global](#)

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

CNG Optimum ABS testing nears completion

Global Energy Ventures Ltd (GEV), an Australian developer of global integrated compressed natural gas (CNG) projects, reports the Long-term Fatigue Test and 6,000 cycles Notched Burst Test for its high-strength line-pipe by ABS have been successfully completed. Only the Cooled Burst Test remains to gain full CNG Optimum cargo system approval. The abovementioned tests mark the significant positive progress made to close out the three Cycle Fatigue Tests which are the final tests required before obtaining American Bureau of Shipping (ABS) full class design approval. GEV Chairman & CEO Maurice Brand said: "Based on the completion of the tests in September, October, and November we have now proved the CNG Optimum design. GEV is now working with shipyards to obtain ship construction costs; delivery schedules and construction options. GEV will now commence together with Clarkson's, GEV's ship broker, on structured financing options." As stated in GEV's 2018 AGM presentation, CNG Optimum is a 'fit for purpose' solution, with ships and fleets sized to fit the initial market. CNG Optimum ships are equipped with dual-fuel engines which run on natural gas from their own cargo. As a result these ships will be among the cleanest running in the world. Reducing emissions from the shipping industry is a key focus of the International Maritime Organisation, who as of January 1 2020 will be enforcing strict regulations on marine fuels.

<http://www.ngvglobal.com/blog/cng-optimum-abs-testing-nears-completion-1123>

Teekay Corporation reports third quarter 2018 results

The Company's consolidated results during the quarter ended September 30, 2018, compared to the same period of the prior year, were positively impacted primarily by higher cash flows from the Banff and Hummingbird FPSO units due to the commencement of oil price-linked production tariffs in those charter contracts on August 1, 2017 and October 1, 2017, respectively, higher cash flows due to scheduled maintenance for the Foinaven FPSO unit in the third quarter of 2017, higher income and cash flows from Teekay LNG as a result of the deliveries of 11 liquefied natural gas (LNG) and four liquefied petroleum gas (LPG) carrier newbuildings between July 2017 and September 2018 and the commencement of short-term charter contracts for certain of the vessels in Teekay LNG's 52 percent-owned joint venture with Marubeni Corporation (the Teekay LNG-Marubeni Joint Venture), and higher income and cash flows in Teekay Tankers, as a result of higher average spot tanker rates. These increases were partially offset primarily by lower income and cash flows in Teekay Tankers, as a result of the expiry of time-charter out contracts for various vessels which subsequently traded in the spot market at lower rates, and costs associated with Teekay Tankers'

sale-leaseback of six Aframax tankers, and lower income and cash flows in Teekay LNG primarily as a result of a decrease in earnings in 2018 on seven multi-gas carriers upon Teekay LNG's termination of their previous charter contracts due to non-payment by the charterer. As at September 30, 2018, Teekay Parent had total liquidity of approximately \$389.9 million (consisting of \$191.1 million of cash and cash equivalents and \$198.8 million of undrawn revolving credit facilities) and, on a consolidated basis, Teekay had consolidated total liquidity (excluding Teekay Offshore) of approximately \$789.6 million (consisting of \$385.4 million of cash and cash equivalents and \$404.2 million of undrawn revolving credit facilities).

[https://www.hellenicshippingnews.com/teekay-corporation-reports-third-quarter-2018-results/\[Edited\]](https://www.hellenicshippingnews.com/teekay-corporation-reports-third-quarter-2018-results/[Edited])

Seoul to order 140 LNG ships to make work for shipyards

The South Korean government will order 140 liquefied natural gas (LNG) vessels by 2025 and provide 1.7 trillion won (\$1.5 billion) in financial aid to prop up the country's ailing shipbuilding industry. The shipbuilding assistance package was announced Thursday after a government meeting chaired by Prime Minister Lee Nak-yeon. While measures in April were aimed to help large shipbuilders, the lat-

est scheme is geared more toward small and mid-sized builders, the government said. There are 78 such companies in Korea, whose combined revenue stood at 601.2 billion won last year. The government plans to order a total of 140 LNG vessels by 2025, a deal estimated to be worth about 1 trillion won. To start, it will replace two large emissions-emitting tug boats with cleaner LNG-fueled ships next year. It is also reviewing a mandate to direct all state-owned ships to shift to LNG from 2020. Seoul's push for LNG coincides with the global movement toward tighter emissions regulations. LNG is rapidly being adopted as a marine fuel with the expansion of emission control areas, sea areas where sulfur emissions are more strictly regulated than at open sea. Ships operating in these areas must use ultra-low sulfur diesel or advanced scrubbers, prompting the transition to cleaner fuel alternatives like LNG. To aid financially-strapped shipbuilders and equipment makers, the government will also put aside a 700 billion won fund and extend maturing loans worth about 1 trillion won. By Lim Sung-hyun and Kim Hyo-jin

<https://www.hellenicshippingnews.com/seoul-to-order-140-lng-ships-to-make-work-for-shipyards/>

South Korean shipbuilders' lock on LNG tanker market to hold for years

South Korean shipyards have boxed out their Japanese rivals from the market for building large ships carrying liquefied natural gas (LNG), winning all of the orders for the next three years worth more than \$9 billion. Three South Korean yards – Daewoo Shipbuilding & Marine Engineering (DSME) (042660.KS), Hyundai Heavy Industries (009540.KS) and Samsung Heavy Industries (010140.KS) – have won the more than 50 orders placed for new large-scale LNG tankers for delivery in the next three years, according to data from the companies and two tanker brokers. The bulging orderbook illustrates the dominance the South Korean yards have achieved over their competitors, especially in Japan. It is also sign of how the companies have rebounded from a sector-wide slump only two years ago and how they are positioned to command the sector in the



future. "The demand for LNG carriers surged followed by increased global demand of LNG," said Park Hyung-gun, vice president of DSME. "There is a bright outlook ahead for LNG demand and South Korean shipbuilders will be able to excel in the LNG market." Including floating LNG storage and support vessels, ship brokerage Braemar estimates South Korean yards have bagged 78 percent of all LNG-related orders this year, with just 14% and 8% going to Japan and China, respectively. A set of data collected by another ship broker, who did not want to be identified, showed all of this year's orders for large LNG tankers went to South Korea, at a combined value of over \$9 billion. The new ships will increase the global LNG fleet by around 10 percent. Dominating this segment is key for shipyards, as gas consumption outgrows that of other fuels such as oil or coal. The South Korean shipbuilders have

outperformed their Japanese competitors this year with the equities for all three Korean firms rising while the Japanese builders are either flat or down.

[https://www.hellenicshippingnews.com/south-korean-shipbuilders-lock-on-lng-tanker-market-to-hold-for-years/\[Edited\]](https://www.hellenicshippingnews.com/south-korean-shipbuilders-lock-on-lng-tanker-market-to-hold-for-years/[Edited])

Tankers storing LNG in Asian waters double as pre-winter demand disappoints

Tankers storing LNG in Asian waters have more than doubled in number since late October as traders have been caught off guard by warmer-than-expected temperatures that have capped demand and pulled down prices. Spot market demand ahead of winter has been slowed by the forecasts for warmer temperatures this year in North Asia, with on-shore storage tanks filling up. "People were expecting China to buy as much as last year in the spot market, but the weather so far has been quite mild and I don't think they were anticipating that," a Singapore-based LNG trader said. LNG prices LNG-AS last year climbed steadily from mid-July to January as China's gasification push for winter heating sparked higher imports. But this year, buyers from the world's top natural gas importer – via pipeline and tanker – have been spreading out their purchases more. Now about 15 to 20 LNG tankers holding at least 2 million cubic metres of LNG worth more than \$400 million at spot market prices are floating in Asian waters, industry sources said. That's up from a half-dozen tankers being used for storage in Asia three weeks ago. Globally, the number of such LNG tankers stands at 20 to 30, one of the sources said. This has helped to drive up LNG tanker rates to record highs, the ship broking and trading sources said. Most of the traders storing cargoes in the tankers are "seeking better winter pricing ... holding out against rising charter rates to achieve an acceptable profit on the molecules," shipbroking firm Braemar said in a weekly LNG report last week. This is "creating pain for those producers who are still forced to lift cargoes from terminals which are approaching tank tops." Refinitiv Eikon data shows at least eight tankers storing LNG in Singapore waters while two were in Malaysian waters. More than five vessels that had been storing LNG are now on the move or have discharged the cargoes, the data shows. The contango, which was at about \$1 per MMBtu last month, has since narrowed to about 50 cents or less, traders said. Not all the cargoes are stranded without buyers. Some of the companies likely secured the tankers during the summer when shipping rates were far lower, and stored them in anticipation of a pick-up in prices, traders said.

<https://www.hellenicshippingnews.com/tankers-storing-lng-in-asian-waters-double-as-pre-winter-demand-disappoints/>

World's most powerful and green CSD vessel unveiled in the Netherlands

'Spartacus', Belgium based DEME's giant cutter suction dredger (CSD), has been successfully launched at the Royal IHC shipyard in Krimpen aan den IJssel in the Netherlands. With a total installed capacity of 44,180 kW, 'Spartacus' is the most powerful and environmental friendly CSD that has ever been built. It is also the world's largest and the first to be powered

by LNG. The four main engines can run on LNG, marine diesel oil (MDO) and heavy fuel oil (HFO); while the two auxiliary engines also incorporate dual-fuel technology. As the principle LNG-powered CSD in the world, 'Spartacus' sets a new benchmark in the industry. It also features several additional innovations,

such as a waste heat recovery system, a one-man operated dredge control and a heavy-duty cutter ladder that can reach a dredging depth of 45 m. moreover, it has already received its first nomination for an award with DEME being shortlisted in the 'dredger of the year' category by the Dredging and Port Construction Awards. A number of pioneering vessels recently entered the DEME fleet, including the LNG dual-fuel dredgers 'Minerva' and 'Scheldt River' in 2017. "The new additions to the fleet are part of our continuous efforts to further increase efficiency, both in terms of production and environ-

mental performance. 'Spartacus' stands out because of her unrivalled power and high-tech features on board. The CSD will drive new levels of performance and will provide our customers with flexible solutions for dredging projects in even the most harsh and remote environments," said Alain Bernard, Director and CEO of DEME. IHC's CEO Dave Vander Heyde also commented: "IHC is known for its willingness to push boundaries to develop and produce high added-value equip-



ment and vessels for our customers. The combination of power, size and innovation makes 'Spartacus' a perfect example of such a project. DEME was once the first dredging company to put a 'jumbo' dredger in the market which has led to a new generation of dredging vessels. As 'Spartacus' will soon be the world's largest and most powerful LNG-powered CSD in operation, DEME will again have set a new standard in the market."

<http://www.ngvjournal.com/s1-news/c7-lng-h2-blends/worlds-most-powerful-and-eco-friendly-csd-vessel-in-the-netherlands/>

INTERNATIONAL: NATURAL GAS/ TRANSNATIONAL PIPELINES/COMPANIES/ OTHERS

Ukraine seeks to become gas exporter by 2025: PM

Ukraine, which currently imports natural gas, aims to turn into gas exporter by 2025, Ukrainian Prime Minister Volodymyr Groysman said on Thursday, November 22. "We want to become a gas producing country that satisfies its own needs and exports. We can do it by 2025," Groysman was quoted as saying by the government's press service. Ukraine, which has vast gas reserves, owns a powerful gas transit system capable of pumping up to 146 billion cubic meters of gas to Europe annually, Groysman said, noting that to become gas exporter Ukraine needs foreign investment. Last year, the East European country consumed 32.2 billion cubic meters of gas, of which 20.8 billion cubic meters were produced domestically. Ukraine's potential natural gas reserves are estimated at 5.6 trillion cubic meters, with an extractable amount of 924 billion cubic meters.

<https://www.hellenicshippingnews.com/ukraine-seeks-to-become-gas-exporter-by-2025-pm/>