

ANGVA2U Info aims to share information, data, and news related to low carbon, carbon neutral, and zero carbon fuels towards Net Zero Emissions target and limiting earth temperature rise to 1.5 °C by the year 2100. These information, news, and insights, are shared in good faith, without any guarantee of accuracies. ANGVA members are advised to use these information, news, and insights, prudently and at their own risks.

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1.0 Introduction

This newsletter aims to keep members abreast with the latest news on NGVs, Renewable Natural Gas (RNG) / Biomethane, Renewable Fuels, and other related news. Members can contact ANGVA Secretariat if they have any comments related to this newsletter.

2.0 Natural Gas – Low Carbon Fuel

2.1 Vietnam

Hanoi approves ambitious green bus plan

11th July 2024.



Hanoi People's Council approved a plan to develop public transport by using electric buses and green energy on July 4.

The plan states that Hanoi aims to have half of its bus fleet electric and the other half running on liquefied natural gas or compressed natural gas (CNG) by 2026-2030, with an estimated budget of VND51 trillion

(\$2.1 billion). By 2035, the goal is for all buses in Hanoi to be electric.

Hanoi's current proportion of green energy buses is only about 13.6 per cent. Of the 2,034 subsidised buses, only 277 use clean energy, including 139 CNG buses and 138 electric buses. VinBus is the only company using large-capacity electric buses that it manufactures itself.

Speaking to local media, Dr Ha Thanh Tung from the University of Transport and Communications spoke about the three major challenges to implementing the green bus transition plan.

"The first challenge is investment capital. The price of an electric bus is about 3–4 times that of a diesel bus with the same capacity. Similarly, the price of a CNG bus is about twice that of a diesel bus. The battery of an electric bus accounts for about 40-50 per cent of the vehicle's value and will degrade after 4–5 years of use. The investment in charging stations, transformer systems, power supply, and control systems is also costly," said Tung.

Tung continued, "Secondly, infrastructure for electric buses, especially the charging station network, is limited. Meeting the set timeline requires 3–5 years to upgrade the electrical system and charging stations."

"Thirdly, authorities still lack mechanisms to guide businesses and investors in socialising investments for green energy infrastructure to support the transition to green buses," he added.

Speaking to VOV, the Vietnamese national radio broadcaster, associate professor Dam Hoang Phuc, director of the Automotive Engineering Training Programme at Hanoi University of Science and Technology, stated, "Hanoi needs to assess the feasibility and total investment of green energy sources for buses. A report from the US Environmental Protection Agency

showed that CNG vehicles still emit pollutants, producing only about 20 per cent less emissions than petrol vehicles. Moreover, a study by the California Air Resources Board found that CNG reduces emissions by only 12-17 per cent compared to diesel."

Hanoi's green bus conversion plan is an effort to implement the commitment that by 2025, 100 per cent of replacement/new buses in Vietnam will use electricity or green energy, as stated in Decision No.876/QD-TTg in 2022 on the action programme for green energy transition and reduction of carbon and methane emissions in the transport sector.

Speaking to VOV, Dr Tran Dinh Thien, former director of the Vietnam Institute of Economics, said, "Vietnam has made strong green transition commitments to the world, with the net-zero target by 2050 being one of them. Therefore, Hanoi's choice of vehicles for green transition should aim towards clean, environmentally friendly options. Vietnam needs and must accelerate green transition to achieve its goals. If the transformation isn't strong enough, Vietnam will struggle to fulfil its commitments, falling behind and being sidelined in the development race."

Source: <https://vir.com.vn/hanoi-approves-ambitious-green-bus-plan-112559.html>

2.2 India

2.2.1 City Gas Companies seek VAT relief to stay competitive against LPG, EVs: CNBC-TV18

12th July 2024. MONEYCONTROL NEWS

EVs and LPG falls under 5 percent GST as against the excise levy of 14 percent and VAT of 5-10 percent on CNG and PNG. CGD players have reportedly sought standardisation against this difference.



City gas distribution companies are demanding a waiving of standardising of high VAT rates for CNG and PNG

City Gas Distribution companies (CGDs) have reported sought relief measures like waiver or standardisation of high VAT rates on CNG and PNG to stay competitive against electric vehicles and LPG.

CNBC-TV18 reported citing industry sources that higher VAT rates are having a cascading effect, and mere convenience is not enough to encourage consumers to switch to PNG.

Demands are also being raised to reduce 28 percent GST On CNG vehicle sales to match up to the 5 percent rate that is currently levied on EVs, it is learnt.

EVs and LPG falls under 5 percent GST as against the excise levy of 14 percent and VAT of 5-10 percent on CNG and PNG. CGD players have reportedly sought standardisation against this difference.

On July 11, Rajasthan lowered the VAT it charges on CNG and PNG from 14.5 percent to 10 percent in the state budget that was presented.

The state of Uttar Pradesh levies 10 percent VAT on CNG purchase without any input tax credit, and 12.5% on CNG sales.

The managing director of MGL too had recently expressed hope for an excise duty cut on CNG and PNG, which the company said will be passed on consumers. An excise waiver on CNG may cause a Rs 8,000 crore revenue hit to the Centre, CNBC-TV18 reported, citing sources.

There has also been a continued demand for inclusion of CNG and PNG under the GST regime.

Industry sources are also demanding waiver on road tax and registration charges of CNG vehicles, in-line with EVs, and seeking LPG Free Zones wherever a PNG refuelling network is available.

City gas distributors have had to increase prices of compressed natural gas and piped natural gas in their respective geographical areas by at least Re 1 per kilogram on account of rising input costs.

Source: https://www.moneycontrol.com/news/business/city-gas-companies-vat-relief-lpg-ev-12767544.html#google_vignette

2.2.2 After Bajaj, TVS to launch its first CNG two-wheeler with Jupiter 125 CNG

11th July 2024. Written by Express Drives Desk. Source: Autocar India

TVS has reportedly set a modest target of selling 1,000 units per month of its CNG scooter when launched.



TVS Jupiter 125 (Image: TVS)



Bajaj Freedom 125 CNG bike (Image: Express Drives)

Bajaj is currently on a high since launching the Freedom 125 last week, the world's first CNG two-wheeler. Although it is yet to go on sale, Freedom 125 has already generated a positive buzz all over the Indian two-wheeler market and the internet. This has boosted the confidence of other two-wheeler OEMs in India.

As per a recent Autocar India report, TVS is working on a CNG-powered Jupiter 125. This will make it the first scooter in the world to come equipped with a factory-fitted CNG kit. The reports says TVS has been working on various alternate fuel technologies over the years and has already developed a CNG option.

Sources close to the development have revealed that the project codenamed U740, involving a 125cc CNG scooter, has already started taking shape. The report further mentions that this scooter can see the light of the day as early as late 2024 but not later than the first half of 2025. TVS apparently has set a modest target of selling about 1,000 units of CNG scooters per month.

Details of this CNG scooter are still under wraps but from the looks of it, TVS intends to offer its prospective buyers multiple options including petrol, fully-electric, and CNG-powered scooters. TVS is currently the third largest two-wheeler OEM with a market share of 18% and the second largest scooter manufacturer in India.

Like the Freedom 125, the Jupiter 125 CNG is expected to come with a CNG and a conventional petrol tank. However, it will be interesting to know how TVS packages the CNG tank in the scooter's body which will be the biggest challenge. Priced between Rs 95,000 and Rs 1.10 lakh (ex-showroom), Freedom 125 offers a CNG mileage of 102 km/kg with its 2kg CNG tank. The Jupiter 125 is expected to be priced at a similar ballpark.

Source: <https://www.financialexpress.com/auto/bike-news/after-bajaj-tvs-to-launch-its-first-cng-two-wheeler-with-jupiter-125-cng/3550478/>

2.3 Bangladesh

Severe gas shortage, power outage hits nation

12th July 2024. Staff Correspondent



Representational Photo

A significant reduction in natural gas supply to the national grid has caused severe gas shortages across the country, including Dhaka. Despite a daily demand of 4,000MMCFD (million cubic feet per day), only 2,200 to 2,250MMCFD of gas is being supplied for power generation.

This shortfall has led to widespread power disruptions in residential and industrial areas.

Residents have been experiencing gas shortages throughout the day across the country, forcing many to resort to alternatives like LPG cylinders or getting meals from hotels. The situation is particularly dire at CNG stations, where the low gas pressure has resulted in vehicles lining up for hours.

The industrial sector has also been hit hard, with numerous complaints of gas shortages affecting production processes.

The Bangladesh Power Development Board (BPDB) reported that some 25 gas-based power plants were partially or fully shut down on July 11 due to the shortage, reducing the power supply by 3,984MW. This caused extended load shedding in areas outside Dhaka, with even the capital experiencing two to three hours of load shedding over the past two days.

Petrobangla, the state-owned oil, gas, and mineral resources corporation, has attributed the gas shortage to a reduction in liquefied natural gas (LNG) supply that occurred for nearly a month and a half due to the shutdown of a terminal. On the night of July 9, a pipeline in Chattogram was punctured, further exacerbating the situation.

An announcement from the Energy and Mineral Resources Division on Friday morning says that the damaged 42-inch diameter Anwara-Faujdarhat pipeline of Gas Transmission Company Limited (GTCL) had been repaired, and gas commissioning was completed at 7:20am.

The division assured that the gas supply would normalise from the afternoon, with the transmission and gas pressure gradually increasing in proper synchronisation with the LNG supply and the gas grid pressure. The pressure currently rests at 70 PSI.

Petrobangla's current supply of 3,000MMCFD against the demand of 4,000MMCFD includes 1,100MMCFD from two floating LNG terminals in Maheshkhali, Cox's Bazar.

One of these terminals was sent to Singapore for repairs, reducing the daily supply to 550MMCFD. Since July 9, the supply has further decreased to 250MMCFD, lowering the total gas supply to 2,250MMCFD.

Summit Group's LNG terminal, damaged by Cyclonic Storm Remal on May 27, has been out of operation, reducing the supply by 500MMCFD. After returning from repairs, it is expected to resume gas supply in mid-July.

The Managing Director of Rupantarita Prakritik Gas Company Limited (RPGCL), Rafiqul Islam, informed The Business Post that the terminal might return to the country by July 15, potentially alleviating the gas shortage.

State Minister for Power, Energy and Mineral Resources Nasrul Hamid also expressed optimism, stating that the gas crisis would be resolved by mid-July.

Meanwhile, due to the severe gas shortage, the country has been hit by widespread load shedding as power generation has decreased. According to BPDB statistics, at 1am on July 11, some 1,836MW of load shedding was implemented. At noon, there was a shortfall of 1,795MW in the power supply, which increased to 1,895MW by 2pm.

Source: https://businesspostbd.com/power-energy/severe-gas-shortage-power-outage-hits-nation#google_vignette

2.4 Nigeria

CNG: FG on course to convert one million vehicles by 2027 – official

12th July 2024. By Obas Esiedesa, Abuja



The Federal Government is on course to achieve the target of converting one million vehicles to compressed natural gas fuel, the Commercial Operations Manager, Presidential Compressed Natural Gas Initiative, PCNI, Mr. Omo Imoukhuede has said.

Imoukhuede, who spoke to journalists on Friday during a tour of CNG kit conversion workshops in Abuja, said more centres would be opened across the country in the coming days.

He stated that PCNI “has been very strategic in everything that we have done in pushing the CNG initiative to ensure that the adoption and awareness comes to light. We are starting with Abuja and we will be rolling out in other states across the Federation. Hopefully and as you can see, work is ongoing, the task will be accomplished”.

He noted that the first focus is on mass transit and commercial transport operators as they were key to the government’s target of reducing transportation cost.

Speaking to journalists at the NIPCO Plc CNG station, Assistant Manager, NIPCO Gas, Mr. Sunday Ayoola, said the installation of the conversion kit takes about five hours to complete.

He disclosed that the kit allows the vehicle to run with both petrol and CNG without any hitches, adding it costs about N4,000 to fill the cylinder at N200/standard cubic meter. He said with a full cylinder the vehicle could cover more than 150Km.

He assured motorists of the safety of the CNG cylinders, adding that “in case of impact nothing happens to this storage because it is 7mm (millimeter) thick. The cylinder has been designed to withstand impact and to withstand temperature.

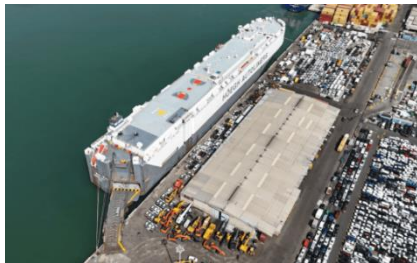
“People are always apprehensive about natural gas, petrol and their volatility. Natural gas is lighter than and once it escapes from the cylinder it goes up above air making sure that there is no spool around unlike petrol. When there is leakage of petrol it creates a spool within the vehicle and any slight source of ignition, the vehicle is ignited. This is not so with natural gas and because of that basic property it is safer when compared to petrol”, he explained.

Source: <https://www.vanguardngr.com/2024/07/cng-fg-on-course-to-convert-one-million-vehicles-by-2027-official/>

2.5 Jamaica

100 new Compressed Natural Gas buses arrive for the JUTC

15th July 2024. By Clement Reid



Transport Minister Daryl Vaz says the 100 new Compressed Natural Gas, (CNG) buses which were promised last month arrived on the island this morning.

The buses will be added to the Jamaica Urban Transit Company (JUTC) fleet.

The minister announced the arrival of the buses on his X formerly Twitter page, noting that they are among improvements to public transportation he promised earlier this year.

According to the minister, this is the largest investment in vehicles for the public transport system without the use of loans. He said the shipment brings the total number of buses procured for the JUTC since last year to 170.

Source: <https://iriefm.net/100-new-compressed-natural-gas-buses-arrive-for-the-jutc/>

2.6 India - Liquefied Natural Gas (LNG)

LNG as a fuel for heavy commercial vehicles looks brightest, says IOC Director Sujoy Choudhary

18th July 2024. By Kiran Murali

“The major area where we are seeing significant traction is LNG. This is a sunrise area that we are seeing. LNG by road is a journey that is definitely going to be there,” said Sujoy Choudhary from Indian Oil Corp.



Liquefied Natural Gas (LNG) stands out as a promising alternative fuel option for large trucks and other heavy-duty commercial vehicles and is a sunrise segment in clean transportation, according to Sujoy Choudhary, Direct for Planning & Business Development at Indian Oil Corp.

“The major area where we are seeing significant traction is LNG. This is a sunrise area that we are seeing. LNG by road is a journey that is definitely going to be there. In the heavy vehicle

segment, LNG appears as the brightest spot,” Choudhary, while speaking at the Indian Commercial Vehicle Conclave 2024 organised by CII on Thursday.

The commercial vehicle industry and the government are looking at LNG fuel as an alternative fuel option in long-haul trucks and buses, where diesel is a dominant fuel. LNG is significantly cleaner than diesel and is usually cheaper. In countries like China, LNG is being successfully used in these vehicles.

Automakers including Ashok Leyland, Tata Motors and Blue Energy have already rolled out their LNG trucks in the market. Currently, there are around 10 LNG dispensing stations in the country. Choudhary believes the availability of LNG fuel is not a big challenge as oil marketing companies are coming up with more LNG stations along the Golden Quadrilateral and other major highways.

“Already 50 LNG stations are being planned across the golden quadrilateral, of which Indian Oil is setting up 16. We have already commissioned our first station and another 5-6 stations are in the last stages of completion,” he said.

On the higher costs for LNG trucks, Choudhary noted that though LNG trucks incur higher acquisition costs when compared to diesel trucks, vehicle operation results in lower costs for fuels and the total cost of ownership is lower for LNG trucks. “We have seen that if the vehicle runs for 8,000 km a month or 1 lakh km a year you get the payback by two years,” he said.

Earlier this year, the government’s policy think tank Niti Aayog suggested some fiscal and non-fiscal incentives such as priority lanes and reduction in tax for LNG trucks to promote LNG in medium and heavy commercial vehicles. India's truck market is expected to more than quadruple to around roughly 17 million units by 2050 from 4 million trucks in 2022.

Recently, the government inaugurated the first small-scale liquefied natural gas (SSLNG) unit at GAIL (India) Ltd’s Vijaipur complex in Madhya Pradesh. Such units supply LNG in trucks and small vessels to industrial and commercial consumers in regions not connected by pipelines. Supply of LNG to areas not connected by pipelines is a major hurdle in scaling up LNG consumption.

Source: <https://www.autocarpro.in/news/tata-tech-wins-battery-design-development-contract-from-global-ev-battery-manufacturer-121557>

3.0 Renewable Natural Gas (RNG) / Biomethane – Carbon Neutral Fuel

3.1 Australia

ENA makes recommendations for Future Gas Strategy

16th July 2024. By Katie Livingston.



Featured image: Scharfsinn/Shutterstock.com

Energy Networks Australia (ENA) has released three priority recommendations for further development of renewable gas as a solution to decarbonise Australia by 2050.

ENA’s paper, Renewable Gas for a Future Made in Australia, outlines its support for the Australian Government’s Future Gas Strategy and provides three expanded recommendations to policy makers, aimed at further

supporting a renewable gas market and outlining a decarbonisation pathway for industry and manufacturing.

With gas use currently comprising 18 per cent of Australia’s total emissions, the paper highlights that renewable gases still have a critical role to play – chiefly hydrogen and biomethane – in achieving the nation’s decarbonisation goals.

ENA General Manager Networks, Dominic Adams said, “To meet our net zero commitments, we must recognise that electrification will play a huge role, but cannot decarbonise our entire everything. It is vital that we determine a way for Australian industry to effectively decarbonise.”

“70 per cent of our gas use is from industrial activities, so we need least-cost decarbonisation options to protect our Australian-made future. Currently, many industrial emissions are too difficult or expensive to electrify, making renewable gases essential.

“Gas will continue to play a significant role through 2050 and beyond, especially in manufacturing and large-scale industrial applications. Renewable hydrogen and biomethane are crucial for providing the necessary high temperatures in these sectors that cannot be replicated by electricity alone.

“We must act now to ensure progress by 2030, and our three recommendations provide a pathway to achieve that progress.”

ENA’s key recommendations are:

- **A certification scheme for all renewable gases** – emission reductions from a market-based approach for renewable gas to be recognised under the National Greenhouse and Energy Reporting scheme (NGERS).
- **Expanding the \$4 billion Hydrogen Headstart Program to include biomethane** – include biomethane in the program, with additional funding, to boost its scale-up and development.
- **Renewable Gas Target (RGT) for Australian industry by 2030** – incorporate policy designs for an RGT in the Commonwealth sectoral plans, as part of Australia’s Net Zero Plan, ensuring appropriate targets are set by 2030.

“Implementing these steps will drive innovation, reduce costs through economies of scale, and accelerate the development of renewable gas infrastructure and supply chains, securing Australian jobs and ensuring a sustainable future,” Mr Adams said.

[Source: https://utilitymagazine.com.au/ena-makes-recommendations-for-future-gas-strategy/](https://utilitymagazine.com.au/ena-makes-recommendations-for-future-gas-strategy/)

3.2 The Netherlands.

Loan for Green Gas

16th July 2024. Author: Marieke Ziedses des Plantes. Sr. Press Officer ABN AMRO. +31 20 6288900



ABN AMRO has played a crucial role in providing a green loan of €120 million to SFP Group.

The financing, which was provided in collaboration with ING and Zencap Asset Management, is intended for the construction of two large-scale biomethane plants in

the Netherlands. Because of these plants SFP Group can produce approximately 800 GWh of biomethane annually, enough to supply green gas to more than 50,000 households.

Mark van Zon, Director of Project & Infrastructure Finance at ABN AMRO, emphasizes: "We are proud to support SFP Group in this groundbreaking project, which aligns with our ongoing commitment to the energy transition in the Netherlands."

This initiative underscores ABN AMRO's dedication to sustainable financing and promoting renewable energy sources.

Source: <https://www.abnamro.com/en/news/loan-for-green-gas>

3.3 India

3.3.1 Shri C.R. Paatil leads dialogue with CBG Operators to review the progress of the GOBARDhan Initiative

18th July 2024. By PIB Delhi. (Release ID: 2034087)

Government is dedicated to supporting and advancing this crucial sector to achieve India's long-term environmental goals: Shri C. R. Paatil



In a significant step to review progress and gather feedback on the progress of the GOBARDhan Initiative, Union Minister for Jal Shakti Shri C. R. Paatil, in New Delhi today, interacted with Compressed Biogas (CBG) producers and key stakeholders of the sector. The meeting signifies the importance the Government attaches to the GOBARDhan initiative, which is aimed at transforming organic waste into valuable resources such as CBG and organic manure.

The event saw participation from multiple key stakeholders, including representatives from the various stakeholder Ministries/Departments, CBG operators and leading organizations in the sector. This interaction aimed to strengthen collaboration and address the challenges faced by CBG producers, demonstrating the government's unwavering support for innovative and sustainable waste management solutions.

Addressing the gathering, Shri Paatil thanked Prime Minister Shri Narendra Modi for his vision in conceptualising the GOBARDhan initiative, which embodies Government's commitment to sustainable development and circular economy. The Minister further added, "By converting organic waste into valuable resources, we are not only protecting our environment but also generating employment and promoting health and wellbeing. Our government is dedicated to supporting and advancing this crucial sector to achieve India's long-term environmental goals."

During the interaction, CBG operators shared their challenges with the Minister, particularly highlighting the excessive use of chemical fertilizers and the lack of a well-defined mechanism for promoting the system of trading in carbon credits in the CBG sector in the country. The CBG industry talked about the excessive use of chemical fertilizers specifically drawing attention to the deficiency of carbon in the soil and the role of FOM (Fermented Organic Manure)/ LFOM (Liquid Fermented Organic Manure) in restoring this carbon balance.

They suggested that by promoting bio-fertilizers, this degradation in soil health could be restored. Accordingly, they requested for more Farmer Educational programmes in this regard

as well as to look into the possibility of bundling fertilizers. The industry talked about the carbon credit system as being a substantial revenue earner for the sector and requested the Government to quickly establish mechanisms so that this fledgling sector could be further incentivized. This would not only support India's vision of achieving net zero but also enhance the economic viability of these projects.

The CBG industry appreciated the substantial work done in the sector by the Government and pointed out to the increasing number of people/entities who are now willing to enter this sector. They pointed out that the announcement in the Union Budget 2023-24 to establish 500 new waste-to-wealth plants was a major shot in the arm for GOBARDhan.

In furtherance of the same, presently 113 CBG plants are functional, with 667 plants in various stages of development and 171 plants under construction. There has been an impressive year on year growth in number of CBG units over the past few years, from only 19 functional CBG plants in 2020 to 113 functional CBG plants currently. Various policy enablers have been implemented to ensure the viability and growth of these plants, promoting a circular economy and sustainable development.

In the end, the Minister thanked the CBG stakeholders for their inputs and assured the gathering that the Government would ensure that this sector would develop and soon become a sunrise sector for the economy.

Key Initiatives & Highlights of the GOBARDhan Initiative:

- **Market Development Assistance (MDA) of D/o Fertilisers** promotes organic fertilizers by providing financial support of Rs. 1500/MT for sale of FOM/LFOM produced from GOBARDhan plants
- **Financial Assistance Schemes of M/o Petroleum and Natural Gas** supports development of pipeline infrastructure for injection of CBG in city gas distribution networks at an upper ceiling of Rs. 28.75 Cr/ Project.

They also facilitate the procurement of biomass aggregation machinery at a maximum financial assistance of 50% of procurement cost of the biomass machinery.

Financial assistance of Rs 1.8 crore per 4 tonne/day (TPD) CBG capacity project with a capping of Rs 9 crore per project on pro-rata basis.

SATAT Scheme provides offtake of CBG by Oil Marketing Companies (OMCs) at an assured price of Rs.54/ Kg + GST.

The Excise Duty Exemption for CBG blended in Compressed Natural Gas (CNG) prevents double taxation.

The CBG blending Obligation (CBO) of CBG blending in CNG (Transport) and PNG (Domestic) initiated with an annual target that is kept at 1 %, 3% and 4% of total CNG/PNG consumption for FY 2025- 26, 2026-27 and 2027-28 respectively.

- **M/o New and Renewable Energy's** Waste to Energy programme provides central financial assistance for BioCNG projects at maximum CFA of Rs 10 crore/project.
- **D/o Agriculture and Farmers Welfare** ensured standardization and inclusion of bioslurry in the Fertilizer Control Order. The Agri-Infra Fund (AIF) provides 3% per interest subvention on loans up to Rs. 2 cr. for setting up of CBG plants.

- **Indian Council for Agricultural Research** has facilitated development of Package of Practices (PoP) for FOM/LFOM application for various crops.
- **M/o Housing and Urban Affairs** offers central assistance of 25%/33%/50% (based on ULB population) with a maximum cap of Rs.18 crore per 100 TPD feedstock.
- **D/o Drinking Water and Sanitation’s** Unified Registration Portal has streamlined efforts for one to avail benefits of any of the CBG schemes of Government of India. They have launched a Unified Registration Portal for CBG/Biogas plants (<https://gobardhan.co.in>).
Source: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2034087>

3.3.2 How Uttar Pradesh emerged as front runner in generating Compressed Biogas energy

18th July 2024. By DTE Staff.

UP has abundant resources like pressmud (a sugar industry byproduct), agricultural residue, municipal solid waste, and cattle dung, besides a progressive Bioenergy Policy of 2022

Uttar Pradesh is emerging as a front runner in India’s transition to clean energy.

Abundant resources like pressmud (a sugar industry byproduct), agricultural residue, municipal solid waste, and cattle dung position the state as a prime producer of Compressed Biogas (CBG). This renewable fuel source holds immense potential to reduce reliance on fossil fuels.

By harnessing these readily available feedstocks, Uttar Pradesh can strive for energy self-sufficiency. Furthermore, the state’s progressive Bioenergy Policy of 2022 actively incentivises the development of CBG plants, paving the way for a greener future.

Source: <https://www.downtoearth.org.in/energy/how-uttar-pradesh-emerged-as-front-runner-in-generating-compressed-biogas-energy>

3.4 China

Massive investment in biogas revolutionizes the market

19th July 2024.



energynews .



China's commitment to biogas is driving significant growth in the energy market. This development is marked by strategic investments in industrial and domestic projects.

The growth of the biogas market in China is largely attributed to sustained government support. Since 2000, subsidies have gradually increased, reaching up to 6 billion yuan per year. Initially focused on small domestic digesters, policies have evolved to include large industrial biogas projects, facilitating increased biomethane production.

The European Union and the United States have also put in place favorable policy frameworks that have encouraged the growth of biogas. In Europe, tax credits and subsidies support the food supply chain and renewable electricity production. In France, the private sector is also banking on biogas, with Engie boosting its biogas production in collaboration with Wase. In

the United States, the market has seen a significant increase in biogas projects, with a total investment of \$39 billion by 2023.

Biogas Potential in Africa

Africa offers considerable potential for biogas development, particularly in rural areas. Agriculture, which employs half the working population, generates a substantial quantity of organic residues. The Maximize Market Research report estimates that Africa could produce around 50 Mtoe of biogas by 2040, mainly from domestic and agricultural digesters.

This expansion is supported by specific subsidy policies and development financing initiatives. Domestic digesters play a crucial role in improving access to energy in rural areas, thus contributing to sustainable development goals.

Challenges to overcome

Despite its advantages, biogas faces a number of challenges, including the high initial cost of installations and a lack of technical know-how. In India, for example, although biogas has the potential to transform the agricultural sector, its adoption is hampered by a lack of awareness and technical capacity.

Government initiatives, such as the National Biogas and Fertilizer Management Program (NBMMP), are essential to overcome these obstacles. Efforts are needed to improve training and awareness, invest in research and development, and promote public-private partnerships.

Global Outlook

The global biogas market is on a steady growth trajectory. Increased agricultural operations and organic residues are boosting demand for biogas. The Maximize Market Research report provides a detailed analysis of regional trends, consumer preferences and the competitive landscape, offering valuable insights for market players.

Source: <https://energynews.pro/en/china-massive-investment-in-biogas-revolutionizes-the-market/>

4.0 Hydrogen – Zero carbon fuel

4.1 South Korea

Hydrogen fuel consumption rises almost 50% in South Korea amid H2 bus boom

5th July 2024. By Leigh Collins. Editor, Hydrogen Insight.

Environment ministry says it expects cumulative H2 bus registrations to exceed 1,000 by the end of this week

The consumption of hydrogen fuel by road vehicles in South Korea grew by 46% in the first half of the year, compared to the same period a year earlier, according to the country's Ministry of Trade, Industry and Energy (Motie).

While the 3,798 tonnes of H2 fuel sold in the country represents a new national high, the ministry expects demand in the second half of this year to be up to 8,400 tonnes.

The news comes after the Ministry of Environment (MOE) announced that it expects the number of hydrogen-powered buses registered in the country to exceed 1,000 by the end of this week.

A total of 339 H2 buses were “distributed” in the first half of 2024, giving a total of 989, up from 650 at the end of 2023 and 283 a year earlier.

The increase in hydrogen bus registrations has led Hyundai — the only maker of the vehicles in South Korea — to increase its annual manufacturing capacity to 3,000. The country still plans to get 20,000 hydrogen buses on the road by 2030.

“The government is continuously building a virtuous cycle structure for hydrogen vehicle distribution and production/supply/charging infrastructure in order to achieve the goal of distributing 300,000 hydrogen vehicles, including about 20,000 hydrogen buses, by 2030,” said Jeong Seon-hwa, director general of the MOE’s Air Quality Policy Bureau.

And while a hydrogen fuel shortage in the country last year contributed to a 54% drop in the number of fuel-cell electric vehicles (FCEVs) sold in 2023 — Motie is confident that such problems will not happen this year, with a supply chain now in place to deliver up to 13,000 tonnes to the country’s fuelling stations.

“With the completion of the world’s largest liquefied hydrogen plant in Incheon in the first half of this year, hydrogen supply capacity has been significantly expanded, and the supply of hydrogen buses, a means of public transportation used by many people, is in full swing,” said Lee Ho-hyun, head of Motie’s energy policy department.

“The government will closely monitor the hydrogen supply and demand situation in the second half of the year to prevent supply and demand problems from occurring during periods of high vehicle movement such as the summer vacation period and Chuseok [an annual harvest festival where people traditionally travel to their hometowns to pay respect to the spirits of their ancestors], and will cooperate closely with related ministries, local governments, and companies.”

Hydrogen-powered vehicles and H2 filling stations are both heavily subsidised in South Korea.
Source: https://www.hydrogeninsight.com/transport/hydrogen-fuel-consumption-rises-almost-50-in-south-korea-amid-h2-bus-boom/2-1-1673408?utm_campaign=2024-07-09&utm_content=hydrogen&utm_medium=email&utm_source=email_campaign&utm_term=recharge

4.2 Australia

Fortescue hits brakes on green hydrogen plans

18th July 2024. By: Bloomberg. Edited by Bloomberg



Andrew Forrest

Billionaire Andrew Forrest is scaling back his plans to turn Australian miner Fortescue into a green hydrogen heavyweight, blaming high energy prices for a setback that has prompted an overhaul of the group and 700 job cuts.

Forrest, the company’s founder and executive chairman, has been attempting to pivot from iron-ore, which still generates the vast majority of revenue, by investing heavily in green technologies. The company has been hit by a slew of senior departures over the past couple of years, however, raising questions over its strategy.

A Fortescue spokesperson told Bloomberg that the goal of producing 15 million tons of green hydrogen a year by 2030 was being put on hold until electricity prices fell, and that activity on the technology was being slowed down across the board.

The world's fourth-largest iron ore miner announced the job cuts in a statement on Wednesday as part of an overhaul to simplify the businesses's structure, but didn't say which parts of the group would be affected.

"It's a business that's run hard around its decarbonisation strategy," said Jon Bishop, an analyst at Jarden Securities. "And whilst they haven't pointed to which divisions are affected, that part of the business has continued to burn a lot of capital."

Green hydrogen - produced by splitting water into hydrogen and oxygen molecules using renewable energy - is yet to be commercially produced anywhere in the world. Fortescue currently makes a relatively small amount at a plant in the Pilbara region of Western Australia and last year made a final investment decision on three other projects at a cost of around \$750 million.

"Our vision for Fortescue has not changed," Forrest said in a separate statement provided to Bloomberg. "I truly believe in the power that green hydrogen will unlock for decarbonizing hard-to-abate industry," he said, adding that Fortescue would continue to focus on green electricity in the Pilbara and North Africa and green hydrogen in places like Brazil and Norway.

Fortescue also announced on Wednesday that it would appoint Apple Paget as group chief financial officer and Shelley Robertson as chief operating officer. Paget has been acting CFO for the last 11 months.

The Australian Financial review quoted Forrest as saying on Wednesday that wars in Ukraine and the Middle East had forced up global energy prices making green hydrogen production, at scale, unviable. "In that environment you're not going to bring in major sources of green hydrogen which relies on cheap energy prices," he told the newspaper.

Source: <https://www.miningweekly.com/article/fortescue-hits-brakes-on-green-hydrogen-plans-2024-07-18>

4.3 Europe

EU's renewable hydrogen plan needs a 'reality check'

19th July 2024. By Matthew Connatser

Member nations aren't on the same page, investors are confused, and nobody understands the real costs

The European Court of Auditors (ECA) has found the European Union's program to develop a renewable hydrogen program needs a reality check due to use of "overly ambitious" benchmarks and numerous other issues.

Hydrogen can be used to make electricity without producing carbon dioxide when expended. It can also be used in the steel production process, replacing coal. The gas is therefore of considerable interest as the world transitions away from fossil fuels.

The element is usually isolated using electrolysis – passing an electric current through water – which separates hydrogen and oxygen. But if the electricity used to conduct electrolysis is not sourced from renewables, hydrogen is obviously not carbon neutral.

Figuring out how to obtain "green" hydrogen at scale is thus the focus of many scientific and industrial minds. In 2020 the European Union created a Hydrogen strategy, updated it two years later, and made the element part of its plan to achieve its 2050 zero CO2 target,

The ECA conducted an audit of the progress of that plan, and on Tuesday published its findings.

The news wasn't great as the audit found numerous problems. Among them:

- A lack of robust analyses before setting production and import targets, which were not realistic and therefore likely won't be achieved;
- No target price for hydrogen was set;
- EU member states have their own targets and plans, which don't always align with the bloc's ambitions;
- Development of production capacity has been slow, because investors are uncertain of demand, which in turn makes would-be users of hydrogen wary.

Other issues included bureaucratic intrigue, which saw the European Commission (EC) fail to follow up a report authored by the European Clean Hydrogen Alliance – a body it had established. People who attended Alliance roundtables emerged uncertain about what they were required to do, resulting in "general slowdown in activity."

Infrastructure worries

Just how many electrolyzers will be needed to achieve Europe's hydrogen dreams is also unknown, and hard to calculate.

The audit considered the cost of hydrogen storage and pipelines, noting Germany alone has assessed its costs at €19.8 billion (£17 billion, \$22 billion). The audit suggests other projects and nations have set unrealistically low budgets.

The ECA concluded it's time for a "reality check." For one thing, four years have elapsed since the publication of the Hydrogen strategy, and improvements to technology mean previous assumptions may no longer be accurate.

The court therefore suggested a set of recommendations to be completed between mid-2025 and mid-2026, which boil down to the EU updating its targets to be "ambitious but realistic," establishing a roadmap that member states are required to follow, and monitoring members' plans and progress.

Implementing these changes will be up to the EC and individual member states of the EU. Although there are substantial structural issues at play, the audit did note that the original plan actually had "good first results" – which may indicate that the whole project for green hydrogen isn't doomed. ®

Source: https://www.theregister.com/2024/07/19/eu_renewable_hydrogen_audit/

4.4 Germany

Explosion and fire severely damages hydrogen refuelling station in Germany just days after it opened to the public

26th June 2024. By Leigh Collins. Editor, Hydrogen Insight.

The facility, which received €2m of state funding, is now 'closed until further notice'



*The local fire brigade pouring water onto the source of the fire at the hydrogen refuelling station in Gersthofen, Bavaria.
Photo: Gersthofen Fire Brigade*

A brand new hydrogen refuelling station (HRS) in southern Germany has been severely damaged after an explosion caused a fire at the facility yesterday morning, according to local police.

The station in the Augsburg “freight village” — an area with a large number of nearby freight companies — in the town of Gersthofen, Bavaria, had only been opened last week by German company Tyczka Hydrogen and was its first HRS.

Source: https://www.hydrogeninsight.com/transport/explosion-and-fire-severely-damages-hydrogen-refuelling-station-in-germany-just-days-after-it-opened-to-the-public/2-1-1667531?utm_campaign=2024-06-27&utm_content=hydrogen&utm_medium=email&utm_source=email_campaign&utm_term=recharge

5.0 Electricity – Electric Vehicles (EVs)

5.1 Vietnam

Hanoi looks to replace all diesel-powered buses with electric vehicles by 2035

6th July 2024.

Hanoi sets a target of phasing out diesel-powered buses and replace them with electric vehicles in the 2031-35 period, according to a plan approved at a meeting of the municipal People’s Council on Thursday.



Passengers on a bus in Hanoi. Photo: Pham Tuan / Tuoi Tre

Pursuant to a scheme on the city’s public transport development using green energy, 70-90 percent of the city’s diesel-powered bus fleet will go green by 2030.

The Vietnamese capital city expects half of its buses to be all-electric and the other half to run on liquefied natural gas or compressed natural gas between 2026 and 2030. The city will spend VND43 trillion (US\$1.7 billion) on this phase. Buses operating in the downtown urban area will gradually transition to electric power. According to the city’s plan, buses on new routes will utilize clean energy.

In January 2024, the Hanoi Department of Transport proposed testing electric buses on nine routes for one year after their bidding packages for route operation expire this year. The nine routes include numbers 05, 15, 17, 36, 39, 43, 54, 47A, and 59.

In Hanoi, some 68 gasoline-powered bus routes will see their bids expire by 2025.

Source: <https://tuoitrenews.vn/news/society/20240706/hanoi-looks-to-replace-all-dieselpowered-buses-with-electric-vehicles-by-2035/80813.html>

5.2 Europe

EV Sales Growth Stalls In Europe

18th July 2024. By AFP - Agence France Presse

Europe is supposed to fully switch to electric vehicles in little over a decade but sales growth of the climate-friendly vehicles stalled in the first half of the year, data showed Thursday.

Instead, data from the European Automobile Manufacturers' Association (ACEA) showed that the modest 4.4 percent overall growth in the sales of new cars in Europe came primarily from hybrid vehicles.

Sales of hybrids, not including plug-in hybrids, rose by 21 percent to just over 2 million, or nearly 30 percent of the market.

Sales of battery electric vehicles ticked 1.6 percent higher, to 954,094 units, or 13.9 percent of the market.

Petrol vehicles remained the biggest segment with a market share of 35.2 percent, but sales dipped 1.5 percent. Sales of diesel vehicles fell by 7.9 percent.

Sales of vehicles using fuel cells, natural gas, liquefied petroleum gas, super-ethanol and other fuels bounded 6.9 percent higher.

European carmakers have committed to shifting production to battery electric vehicles but have recently appeared disappointed by the lack of sales growth despite introducing more models.

The stall in consumer uptake comes as government incentives to purchase electric vehicles have dropped in some countries and while there are still few models affordable to those on modest incomes.

The ACEA said that while overall sales in the European car market expanded modestly in the first half of the year to nearly 6.9 million vehicles, they remain considerably lower than pre-pandemic levels.

Some 8.7 million vehicles were sold in Europe in the first half of 2018.

Source: <https://www.barrons.com/news/ev-sales-growth-stalls-in-europe-f211a512>

6.0 Energy Transition

United States of America

A Bet Against the “Energy Transition”

16th July 2024. By Mark P. Mills. Eye on the News

Modern civilization depends on abundant, affordable, and reliable energy. Policies that ignore this won't turn out well.

Starting this month, everyday citizens, not just hedge fund managers and traders, will be able to make direct bets on “big” issues ranging from basic economic indicators to the weather. Based in Greenwich, Connecticut, the global trading firm Interactive Brokers has won U.S. federal approval to run a “prediction market” platform allowing users to make bets on everything from consumer sentiment to the national debt to “atmospheric carbon dioxide.” As the Wall Street Journal reported, “Interactive Brokers said it believes that it ‘can help establish a collective view’ on ‘controversial issues.’”

Let’s hope for an opportunity to bet on whether the energy transition, the linchpin of the ruling energy orthodoxy, will in fact happen. The orthodox view, of course, is that it’s already underway, and the world will radically reduce, if not eliminate, the use of oil, natural gas, and coal. This narrative is firmly embedded in plans, policies, and rhetoric on both sides of the partisan divide. Conferences, studies, and consultancies are framed around the transition.

Even “Big Oil,” from Exxon to Chevron, genuflects to the narrative. The only substantive debate about the energy transition concerns how fast it’s happening and what should or shouldn’t be subsidized to hasten the inevitable.

Meantime, hydrocarbons still supply over 80 percent of America’s and the world’s primary energy needs, roughly the same proportion as two decades ago. But that fact understates reality. Hydrocarbons are used, in one way or another, in everything we build and use to sustain civilization.

The goal of the energy transition is not only to eliminate the ubiquity of hydrocarbons but also to do it fast. That is the central objective of the misnamed Inflation Reduction Act (IRA). This is a government enterprise arguably unprecedented in American history, and certainly in the history of industrial programs.

A proper accounting of the IRA reveals that its real costs—\$2 trillion to \$3 trillion—will be far greater than the costs its advocates claim. For context, in inflation-adjusted terms, the U.S. spent about \$4 trillion to prosecute World War II. This level of spending, complemented by similar pursuits in about two dozen states, makes the IRA one of the defining issues of our time. It is no exaggeration to say that the realities of energy systems—the physics, the engineering, and the economics—are now central to the future of the U.S. economy, and thus central to our policy and political debates.

Society as we know it would not exist if not for vast supplies of energy. Energy is consumed by every invention, product, and service that makes life safe, interesting, convenient, enjoyable, and even beautiful.

Energy policies are bets on whether there’s enough energy to meet people’s demands both now and in the future. But underlying that observation is a foundational truth relevant to forecasters and policymakers: throughout history, innovators have invented far more ways to consume energy than to produce it.

One of humanity’s remarkable capabilities is to invent future wants—that is, to invent new energy demands. There was no energy demand for air conditioning before its invention. We used no energy for flying until the airplane. The same is true for the car, pharmaceuticals, and computing. The global computing ecosystem now uses more energy than global aviation, and it is growing far faster. And now comes artificial intelligence: in energy terms, AI is to computers what jet engines are to aircraft.

Energy policies are thus also bets on what it is possible to build to supply those needs. Supply follows demand, but a lack of supply can also kill demand. The past and present offer ample evidence that the latent energy demands of billions of people across the globe remain underserved.

An ironclad hierarchy pertains when it comes to supplying energy. Call it a triumvirate of needs. First, you need enough energy. You can’t consume what you don’t produce. Energy abundance is key. Energy shortfalls stifle economic growth; severe shortfalls are lethal.

Second, abundant energy needs to be cheap. Affordability matters. The visible political touchstone for that reality is the price of a gallon of gasoline. More hidden is the industrial touchstone, which is the combined price of hydrocarbons and electricity. Ignoring this hidden reality has led the U.K. and Germany to sink into economically destructive deindustrialization.

Third, energy needs to be reliable at all scales and timeframes. Reliability is about meeting the energy demands of people, machines, and systems not only minute-by-minute but also over days, weeks, months, and years. The absence of energy when it is needed can crash both machines and economies.

Reliability is the inverse of fragility in energy supply chains. It is the sine qua non that lets low-cost abundance be taken for granted. High reliability allows the energy issue seemingly to disappear from our daily concerns, but behind the scenes it is a Sisyphean struggle. A society must always be designing and building energy supply chains to combat the realities of relentless, often malevolent, interference from nature, accidents, or human choices.

It takes a complex and delicate dance to build systems that can simultaneously balance the triumvirate of needs: abundance, affordability, and reliability. The rules to that dance are dictated by the physics of energy and how it is manifested in the machinery we can build and afford. You could call it the physics of money.

You may have noticed that I've made no mention of the environment in the ironclad energy hierarchy. Abundant, affordable, and reliable energy creates the conditions for wealth that in turn make possible the time and capital required for everything beyond mere survival— from health care to entertainment to the modern luxury of environmental protection. Break the triumvirate of needs, and we know what happens. Throughout history and across the world, we see the correlation between environmental degradation and poverty.

When it comes to energy forecasts, the elephant in the room is the climate debate—the ultimate motivation for energy transition goals. But it doesn't matter what one thinks about climate science when it comes to analyzing the physics and economics of the energy systems that we know how to build. They are entirely separate magisteria.

Thus, it was predictable that energy pundits would rediscover the ironclad hierarchy with the rapid expansion of the most recently invented energy-using infrastructure. I'm referring of course to artificial intelligence. It's a pure example of the invention of energy demands. Electric utilities around the country are now reporting epic jumps in forecasts for near-term power demand. The end of the interregnum of flat growth in electric usage comes not because of enthusiasm for electric vehicles (EVs), or because of the repatriation of semiconductor factories, though both are significant new demand vectors. It comes because the so-called virtual world of software can exist only within the physical world of energy-hungry hardware.

The cloud, whether measured in terms of the size of the network, the capital deployed, or the energy used, is on track to become the biggest infrastructure ever built by humanity. Global capital spending on energy-using hardware to build the cloud and its networks now exceeds global capital spending by all electric utilities on energy-producing power plants and those networks. For context, today's global cloud already consumes ten times more electricity than all the world's EVs combined. Even if EV adoption expands at the rate that enthusiasts assume, the cloud will still significantly outpace that new demand for electricity, especially with the rush to buy AI hardware.

And we are still in the early days of AI adoption. To continue the AI and jet-engine analogy, the aviation industry had been booming for three decades before the 1958 introduction of the first viable commercial passenger jet, the Boeing 707. After that transformative event, flying, measured in passenger air-miles, grew more than tenfold in under a decade and kept soaring. Of course, energy use followed.

Marc Andreessen, Silicon Valley pioneer and venture capital potentate, said more than a decade ago that he expected “software would eat the world.” He meant that software would disrupt “large swathes of the economy.” He was right, but he may not have imagined that the hardware that makes the software possible would eat the grid.

And do you think AI is the last energy-using innovation that will ever emerge? The question answers itself—and that says nothing about the energy implications of billions of people who seek basic economic growth, to rise out of poverty and come to enjoy the benefits of yesterday’s inventions, from air conditioning to cars to airplanes. In timeframes that matter, new demands for energy are practically unlimited. And if we employ common sense, so, too, are new supplies.

To return to Andreessen: he has more recently issued a long, impassioned Techno-Optimist Manifesto which includes a specific exploration of energy. “We believe energy should be in an upward spiral,” he observes. “Energy is the foundational engine of our civilization. The more energy we have, the more people we can have, and the better everyone’s lives can be.” Amen.

Back to betting markets. I’d take the bets—and I hope Interactive Brokers will offer them—that in the near future we’ll see: global energy use rise, not shrink; global production and use of hydrocarbons expand, not contract, in parallel with rising alternative energy production; the abandonment of the idea of an “energy transition.”

These bets all derive from the iron law of the energy hierarchy. Policymakers who bet against reality will face unpleasant consequences.

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This essay is based on the author’s opening remarks at the RealClear Energy Future Forum.

Source: <https://www.city-journal.org/article/a-bet-against-the-energy-transition>

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