

*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.*

+++++

## **1.0 Introduction**

This newsletter has slightly different format from previous newsletters to better serve members, to keep them 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 and requests related to this newsletter.

## **2.0 Natural Gas – Low Carbon Fuel**

### **2.1 India**

#### **2.1.1 Minister inaugurates CNG station**

19<sup>th</sup> May 2024. 06:19 pm IST – KOLLAM. THE HINDU BUREAU

Transport Minister K.B. Ganeshkumar on Saturday inaugurated the first exclusive compressed natural gas (CNG) station of AG&P Pratham at Kottarakara. The station is designed to cater to the growing CNG needs across various vehicle categories, including three-wheelers, four-wheelers, and light commercial vehicles (LCVs). AG&P Pratham is also set to construct an advanced hi-tech LCNG (Liquefied Compressed Natural Gas) plant at Chavara with construction beginning next month.

**Source:** <https://www.thehindu.com/news/national/kerala/minister-inaugurates-cng-station/article68190635.ece>

#### **2.1.2 Maruti Suzuki to introduce CNG variant of Swift in India**

18<sup>th</sup> May 2024. By Dwaipayan Roy.



*It will be launched in the coming months*

Maruti Suzuki has announced plans to launch a CNG variant of the recently introduced fourth-generation Swift in India. This new model will feature the Z12E engine, a 1.2-liter, three-cylinder, naturally aspirated petrol mill that makes 82hp/112Nm. The Z12E motor will be available with a 5-speed manual transmission, and an optional 5-speed automated manual transmission (AMT).

#### **Pioneer - Swift CNG to be first Maruti car with new engine**

The Swift CNG will be the first Maruti Suzuki vehicle in India to be equipped with the new Z12E engine. This engine is unique for its slightly lower power and torque output when operating in pure CNG mode. The introduction of this engine marks a significant milestone for Maruti Suzuki, as it expands its range of fuel-efficient vehicles.

#### **Cost and mileage - Pricing and fuel efficiency**

The current pricing for the new Swift ranges from ₹6.49 lakh to ₹9.64 lakh (ex-showroom). However, the CNG trims are expected to be about ₹90,000-95,000 costlier than their corresponding petrol variants. The new Swift boasts impressive mileage figures: 24.80km/liter with the manual gearbox, and 25.75km/liter with the automatic transmission.

The Swift CNG is tipped to offer a mileage of more than 32km/kg, outperforming its rivals Hyundai Grand i10 Nios and Tata Tiago which also offer CNG options.

**Source:** <https://www.newsbytesapp.com/news/auto/maruti-suzuki-swift-cng-to-be-launched-soon/story>

**Commentary:** NGV in India is still growing steadily with strong support and clear policies from the Government. CNG stations are still being built and many factory-fitted / OEM CNG vehicles are available. There are 32 factory-fitted / OEM CNG cars currently available for sale in India. The most popular CNG cars are Tata Punch, Maruti Ertiga, and Maruti Brezza.

Prices of CNG for vehicles are cheaper than petrol and diesel in India. In New Delhi, on 19<sup>th</sup> May 2024, prices of petrol was INR 94.72 per liter, diesel INR 87.62 per liter and CNG INR 75.61 per kg. Prices of petrol, diesel, and CNG varies in different locations / cities / states.

## 2.2 Nigeria

### **From Petrol To Gas: NADDC Set To Commence Accreditation Of CNG Conversion Workshops To Ensure Safety**

16<sup>th</sup> May 2024. By Obafemee80

**National Automotive Design and Development Council set to commence accreditation of CNG conversion workshops. The move is to ensure safety and standard amid plans let Nigerians use CNG as an alternative and cheaper transportation fuel. NADDC aims to sensitise converters on the guidelines for the CNG powered vehicle conversion to ensure best practices.**

**About one million CNG-powered vehicles expected to be produced by 2027 while over N3b investments would be realised in the sector.**



The National Automotive Design and Development Council (NADDC) has concluded arrangements to commence the accreditation and certification of Compressed Natural Gas (CNG) powered Vehicles Conversion Workshops in Nigeria.

The move is to ensure safety and standard amid efforts by the Federal Government to create enabling environment for the use of Compressed Natural Gas (CNG) as an alternative and cheaper transportation fuel.

The Director General NADDC, Mr. Oluwemimo Joseph Osanipin, disclosed this at a Stakeholders Engagement Meeting held at Transcorp Hilton Abuja on Wednesday 15th May, 2024.

Osanipin, who was represented by the Agency's Director Research, Dr. Fidelis Achiv, said that the meeting was to sensitise the converters on the guidelines for the CNG powered vehicle conversion to ensure best practices are followed in the conversion procedure.

The NADDC boss further stated that the workshop was necessitated by the sensitivity and inflammable nature of gas as a source of energy utilised at both domestic and mobility levels.

“You are all aware that the NADDC as the regulatory agency of the automotive industry is providing and creating an enabling environment for the use of CNG as an alternative and cheaper transportation fuel, and last year His Excellency President Bola Ahmed Tinubu launched the Presidential Compressed Natural Gas initiative as a successor to the National Gas Expansion”.

He also solicited the support of all relevant stakeholders to ensure that the renewed hope agenda of President Bola Tinubu on clean and alternative energy consumption is successful, as NADDC will not compromise quality service delivery in any workshop.

“Therefore, Nigeria must leverage on those natural gas resources and transform it to energy that will drive the automotive wheels of Nigeria and over the years, the Council organised sensitisation and awareness campaign on the safety and benefits of using AutoGas (CNG) as an alternative fuel to petrol and diesel,” he said.

In his remarks, the programme coordinator, regulatory compliance and facilitator, presidential compressed Natural Gas initiative (PCNGi) Engr. Zayyanu Tambari Yabo echoed the request for stakeholders cooperation to ensure the success of the PCNGi.

He added that by 2027, about one million CNG-powered vehicles would be produced while over three billion naira (N3 billion) investments would be realised in the sector.

Major Stakeholders who participated in the meeting were the Federal Ministries of Industry Trade and Investment, Finance & Transport. Agencies that participated includes Standards Organisation of Nigeria, FRSC, NMDPRA and NITT.

From the Private Sector were representatives from Nord Motors, Context Global, Greenville LNG, Autobahn Motors, Plantries Energy Group, Innoson Kiara Academy, Vgian etc.

**Source:** <https://autojosh.com/from-petrol-to-gas-nadddc-set-to-commence-accreditation-of-cng-conversion-workshops-to-ensure-safety/>

***Commentary:*** Nigeria is a new country to NGV programme. The Government of Nigeria has ambitious plan for NGV for vehicles as the Government abolished subsidies for petrol and diesel in the country. The national NGV programme started a year ago and on 29<sup>th</sup> May there will be an update and additional information on the programme known as PCNGi – Presidential Compressed Natural Gas Initiative. Besides Nigeria, Tanzania is also implementing a national NGV programme.

### **2.3 Liquefied Natural Gas (LNG)**

#### **HAM Group inaugurates new LNG mobile service station (Spain)**

16<sup>th</sup> May 2024. By Theodore Reed-Martin, Editorial Assistant. LNG Industry.

HAM Group has inaugurated a new LNG mobile service station in Torre-serona, Lleida, located on the A2 or Northeast highway, KP 463, one of the main radial highways in Spain, with significant traffic from transport fleets travelling from Madrid to Barcelona, passing through Guadalajara, Zaragoza and Lérida.

The new HAM Torre-serona mobile service station, Lleida, designed and manufactured by Vakuu, It has a hose that allows people to refuel LNG for trucks and heavy vehicles.

The gas station offers self-service 24/365. It is monitored remotely, offers the possibility of contacting the company’s technical service 24/7 by telephone and has security systems to guarantee its operation and the rapid resolution of incidents during refueling.

HAM Group reaffirms its commitment to the decarbonisation of transport and sustainable mobility with the opening of this new LNG gas station, which adds to the company’s international network of more than 140 LNG, CNG and biomethane service stations on the main Spanish and European transport routes.

Natural gas for vehicles allows carbon dioxide (CO<sub>2</sub>) emissions to be reduced by between 15% and 100%, fine particle emissions by 95% and nitrous oxide emissions by 35%, reducing the environmental impact and greenhouse effect. VNG is a real and efficient alternative to other more polluting and less environmentally friendly fuels.

**Source:** <https://www.lngindustry.com/liquid-natural-gas/16052024/ham-group-inaugurates-new-lng-mobile-service-station/>

**Commentary:** *One major challenge to Heavy Duty Vehicles (HDVs) running on compressed natural gas (CNG) is the long distance it needs to travel. Longer range is also a critical challenge to Battery HDVs as it needs bigger and heavier battery packs that adds considerable weight to the HDVs and will take longer time to recharge. LNG present a good solution to utilize natural gas as fuel for HDVs. Hundred thousands of LNG trucks are in operations in China and the numbers of LNG trucks are also growing in Europe and USA.*

## 2.4 Natural Gas Supply - CNG

### Industries, CNG stations: SSGC announces 24hr gas holiday in Sindh (Pakistan)

17<sup>th</sup> May 2024. Recorder Report.



KARACHI: Sui Southern Gas Company (SSGC) has announced 24-hours gas holiday for all industries including their power generation units and all CNG stations in Sindh from 08:00am on Sunday, May 19, 2024 to 08:00am on Monday, May 20, 2024.

“Due to the shortages of gas supplies in SSGC’s system, the availability of gas has decreased, resulting in the depletion of line pack, causing low pressures in the system,” SSGC said.

“SSGC will take strict action against any industry found violating this Gas Holiday Period and subsequently their gas supplies will be disconnected for at least 7 days.”

**Source:** <https://www.brecorder.com/news/40303827/industries-cng-stations-ssgc-announces-24hr-gas-holiday-in-sindh>

**Commentary:** *Adequate natural gas supply, at affordable price, to sustain the population of NGVs is importance for the sustainability of the NGV market in a country that implemented NGV programme. Early calculations and planning (esp. on amount of gas supply needed and pricing to end customers and stakeholders along the supply chain) are critical to the long-term success of any NGV programmes.*

*There are acute natural gas shortages in countries like Pakistan and Bangladesh that affected the supply and operation of CNG refueling stations. Importation of LNG do provide some relief but high cost and price of LNG importation do not provide satisfactory solution to the gas shortage situations.*

## 2.5 Safety

### 2.5.1 Man Critically Injured As Vehicle Catches Fire Amid CNG Filling (Pakistan)

7<sup>th</sup> May 2024. By Faizan Hashmi



*A worker of a CNG station was critically injured when a vehicle caught fire during filling of the gas at Al Shifa CNG station on Jamshoro road here on Tuesday*

HYDERABAD, (UrduPoint / Pakistan Point News - 7th May, 2024) A worker of a CNG station was critically injured when a vehicle caught fire during filling of the gas at Al Shifa CNG station on Jamshoro road here on Tuesday.

According to the police and Rescue 1122 officials, a Suzuki Bolan van caught fire when the station's worker was filling gas.

The police told that 27 years old Abdul Rauf, a resident of Manjhand town of Jamshoro was seriously wounded.

A video of the incident shared on social media shows Rauf writhing with pain lying on the stations' ground near the burnt vehicle. He was shifted to the burns ward of Liaquat University Hospital.

**Source:** <https://www.urdupoint.com/en/pakistan/man-critically-injured-as-vehicle-catches-fire-1822598.html>

### 2.5.2 Groom, 3 others charred to death as truck hits car (India)

12<sup>th</sup> May 2024. TNN / Updated. 01:04 IST

**Four individuals, including a potential groom and an 11-year-old boy, lost their lives in a car accident in Jhansi, Uttar Pradesh. The incident involved a CNG cylinder explosion after a truck rear-ended the car, causing a fire.**



JHANSI: Four persons, including a prospective groom and an 11-year-old boy, were charred to death and two others were seriously injured when their car's CNG cylinder exploded after an accident in Jhansi, Uttar Pradesh, late Friday night.

The incident took place when a truck hit the car from behind causing the CNG cylinder fitted on the car's rear side to explode and set it afire.

Six people were going from Eirach to Baragaon for the wedding when the accident occurred. Two of them managed to escape, while four were burnt alive on the spot. The deceased were identified as Akash Ahirwar (24), the prospective groom, his nephew Mayank (11), Akash's brother Ashish (26) and driver Jay Karan. Police admitted the injured to Jhansi medical college.

Superintendent of Police Gyanendra Kumar Singh said the bodies were sent for postmortem. "The injured are recovering. The truck driver fled and a search is on to arrest him," he said.

**Source:** <https://timesofindia.indiatimes.com/city/meerut/groom-3-others-charred-to-death-as-truck-hits-car/articleshow/110042476.cm>

### 2.5.3 Abiodun Tackles SON Over Ogun Gas Explosion (Nigeria)

29<sup>th</sup> April 2024. By Peter Moses.

**Ogun State Governor, Dapo Abiodun on Sunday criticised the Standards Organisation of Nigeria (SON) over Saturday's gas explosion which claimed one life and left two...**



*Gov Dapo Abiodun*

Ogun State Governor, Dapo Abiodun on Sunday criticised the Standards Organisation of Nigeria (SON) over Saturday's gas explosion which claimed one life and left two persons injured in Abeokuta, the state capital.



The explosion involving a gas truck with the inscription Gasco Marine Bar 250 at Ita Oshin junction a few metres from the roundabout, razed five vehicles, some buildings and shops by the roadside.

During his visit to the scene on Sunday, the governor questioned the safety of trucks carrying Compressed Natural Gas (CNG) across the country. Abiodun also questioned the SON whether the regulatory body is on top of its game as regards the fast evolution of the industry.

He asked if the body can adequately confirm that it has standards for the gas tanks that are being used for CNG, powering trucks, and vehicles across the country.

Abiodun ordered that some of the buildings affected by the gas explosion be evacuated. This, according to him, was to allow for integrity tests to be carried out on the affected buildings.

**Source:** <https://dailytrust.com/abiiodun-tackles-son-over-ogun-gas-explosion/>

***Commentary:*** *Safety of NGVs and NGV refueling stations are critical as incidents / accidents can caused damage to properties and injuries to people and derailed the programmes. Due to the flammable nature of natural gas and high storage pressure of compressed natural gas (CNG), safety must to be given top priority in the implementation of any NGV programmes.*

*To ensure safety, standards and regulations must be put in place at the beginning of the NGV programmes and related people including the emergency response personnel trained. Compliance to these standards and regulations must be enforced and monitored and penalty imposed on those violating it.*

*Eventhough NGVs in Pakistan and India have been in operation for around 30 years, safety incidents that resulted in property damage and fatal injuries still happened, occasionally. Thus authorities and related organizations in these countries must step up safety monitoring and enforcement. Safety standards and regulations must also be periodically updated to take into account development in technologies and field experiences.*

*The incident that happened in Nigeria was the first serious incident related to NGV since the national roll-out of NGVs in the country last year. It is reported that Standard Organization of Nigeria (SON) has established 80 standards related to NGVs. It is now up to the authorities and related organization to implement, enforce, and monitor adherence to these standards. However, there is a possibility that the NGV industry and players may find it tedious and expensive to comply with so many standards. Enforcement can also be a challenge.*

*Most countries adopted and adapted international standards and regulations (such as ISO standards and UN ECE Regulations) on NGV / CNG. Some also look at national standards of existing NGV countries e.g. USA, Italy, Germany, Argentina, etc., to adopt and adapt these national standards to produce their own national standards.*

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

#### **3.1 Spain**

##### **Biovic plans to develop €400m worth of biomethane projects**

3<sup>rd</sup> May 2024.

Biovic, a Grupo Gimeno company, plans to design large projects for new facilities worth around €400 million until 2027.



The Valencia-based company developed projects during 2023 valued at around €30 million euros, including major biomethane plants in different parts of Spain, such as Catalonia, Castilla-La Mancha, Murcia and Valencia.

In the words of Carlos Parrado, head of Agro business and R&D&I: "At Biovic we use the most advanced technologies to transform waste into energy, but also to close the cycle of resource use through the creation of a high quality organic fertiliser that returns essential nutrients to the soil, and from there the virtuous circle of circular bioeconomy begins again".

Luis Puchades, director of Biovic, commented that: "We are pioneers in the development of this type of engineering projects. We have paved the way and continue to innovate in a field in which Spain needs to invest. At Biovic we are aware, not only of the potential of the projects we undertake with our clients, but we are totally convinced of the strategic importance that clean energies, such as biomethane and biogas, bring to society and industry, in order to achieve the sustainable and autonomous energy model that the EU is calling for. All this must be done in perfect harmony with our primary sector".

Biomethane plant projects that Biovic engineering has produced include the Galivi project in Lorca (Murcia), which will inject up to 30 GWh of biomethane per year into the gas network; the Granollers plant, promoted by the Bioenergía Vallés Oriental (BioVO) project, which will produce 22 GWh of biomethane annually; and the Biometano Montes de Toledo plant, located in the municipality of Noez (Toledo), which will produce 40 GWh of biomethane annually, in addition to compost; and the Utiel project of AEMA Servicios Energéticos.

This last project will use agro-industrial waste to produce about 15 MWh of biomethane, and is aligned with the Valencian Biogas Route, which promotes the construction of 100 renewable gas plants in the region to produce 65% of the gas consumed by Valencian households.

The company also has international experience in markets as diverse as Holland, Israel, Germany, the United Kingdom and Latin America. In this period, it has also developed 12 upgrading plants and has participated in more than 300 consulting projects related to these materials.

**Source:** <https://www.bioenergy-news.com/news/biovic-plans-to-develop-e400m-worth-of-biomethane-projects/>

### **3.2 United States of America**

#### **Waga Energy: contract win in the USA**

15<sup>th</sup> May 2024.

Waga Energy announced on Wednesday that it had won a contract in the United States from Rockingham County (North Carolina) to produce biomethane at a landfill site.

In a press release, the French company stated that it had won a call for tenders issued at the end of 2022 to recover the gas from the landfill.

As part of this agreement, Waga plans to finance the construction of a purification unit, based on its Wagabox technology, to produce biomethane from the gas spontaneously emitted by the waste.

The company will operate the facility for at least 20 years, sharing the revenues generated by the sale of the biomethane with Rockingham County.

The unit, which will be commissioned in 2026, will be able to produce up to 60 GWh of biomethane per year, injected directly into the local gas network.

According to the U.S. Environmental Protection Agency's (EPA) calculation methodology, the production of this renewable gas will avoid the emission of around 13,500 tonnes of CO<sub>2</sub> per year.

The Rockingham County landfill, located around 450 kilometers southwest of Washington, D.C., processes around 100,000 tons of waste per year, produced by the area's 92,000 residents.

Listed on the Paris Bourse, Waga Energy shares reacted little to this announcement in early trading on Wednesday morning, posting a gain of around 0.4%.

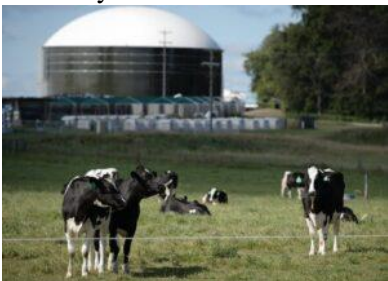
*Copyright (c) 2024 CercleFinance.com. All rights reserved.*

**Source:** <https://www.marketscreener.com/quote/stock/WAGA-ENERGY-128249926/news/Waga-Energy-contract-win-in-the-USA-46729361/>

### 3.3 Ireland

#### **“Ireland’s drive to reach national biomethane decarbonisation targets through the construction of 150-200 large scale AD plants”**

14<sup>th</sup> May 2024.



At a recent Renewable Gas Forum Ireland (RGFI) meeting, KPMG reported on how biomethane has gone from a niche market to mainstream and how the Irish government is now committed to supporting biomethane, with investors mobilising, and domestic and international developers getting involved ahead of policy being formalised. Corporates, including pharma, are being driven by their Net Zero targets to 2030. Some corporates invested heavily in gas boilers in 2015

and will want to make full use of them through biomethane rather than electrifying.

RGFI has worked with KPMG since 2019, producing An Integrated Business Case for Biomethane in Ireland which laid the foundation for government confidence in the value and feasibility of biomethane production to decarbonise industry thermal processes.

KPMG has also supported RGFI’s work on agri-food industry collaboration through Project Clover. This work and the united voice provided by RGFI for the whole biomethane industry has brought biomethane to the fore as a central part of Ireland’s decarbonisation effort, as well as supporting the circular bioeconomy and adding to Ireland’s future energy security.

Ireland’s National Biomethane Strategy is being finalised by the Department of Agriculture, Food and the Marine, the Department of Environment, Climate and Communications, supported by KPMG.

The national target of 5.7TWh biomethane production by 2030 will require the construction of 150-200 large scale AD biomethane plants. Co-products of digestate fertiliser and biogenic CO<sub>2</sub> have a strong role to play in valorisation and demand is high. However clear definitions and certification are urgently needed, as well as on-site recovery and separation facilities.



A concerted, collaborative effort is required, across government and industry to meet the target within the timeframe and to establish the industry support for the Circular Economy Action Programme (CEAP).

**Source:** <https://www.bioenergy-news.com/news/irelands-drive-to-reach-national-biomethane-decarbonisation-targets-through-the-construction-of-150-200-large-scale-ad-plants/>

### 3.4 Portugal

#### **Nordsol and Prodeval announce first bio-LNG production site in Portugal**

15<sup>th</sup> May 2024.



Nordsol, a leader in bio-LNG technology, together with Prodeval, a leader in biogas treatment and upgrading solutions, have announced a collaboration to construct a state-of-the-art bio-LNG production plant in the southern region of Portugal.

The new plant will serve an industrial facility in the olive oil production sector, utilising its organic waste to create clean, renewable energy. This facility is poised to commence

operations in early 2025.

The biogas plant and the bio-LNG installation are co-located, to maximise the value of the organic residues from olive oil production. The facility's projected output is set to reach 10 tons of bio-LNG and 21 tons of biogenic liquefied CO<sub>2</sub> daily from 1100 nm<sup>3</sup>/h of biogas, primarily sourced from olive waste water.

The liquefied state allows for efficient transportation of the biomethane to a gasification unit, linking it directly to the natural gas network. From this entry point, this biomethane will be utilised to decarbonise high-temperature, high-pressure industrial processes.

The bio-LNG production process involves upgrading biogas into biomethane using Prodeval's VALOPUR® membrane technology. This biomethane is then liquefied to bio-LNG using Nordsol's innovative, energy-efficient technology, providing a high energy density, sustainable alternative to fossil fuels.

The biogenic CO<sub>2</sub> captured during the process will be liquefied using Prodeval's V'COOL® FG system. This biogenic CO<sub>2</sub> will be used in the food and beverage industry where it will displace CO<sub>2</sub> from fossil resources.

The plant will integrate Prodeval's systems for biogas upgrading and CO<sub>2</sub> liquefaction with Nordsol's patented technology for biomethane purification and liquefaction, which has been in operation in Amsterdam for almost three years.

This process integration highlights the commitment of both companies to achieve the highest levels of energy efficiency and production reliability.

This project marks the third installation by Prodeval for a client in Portugal.

Léon Van Bossum, CEO of Nordsol, said: "We are pleased to partner with Prodeval, marking the introduction of our cutting-edge biogas liquefaction technology in Portugal. This collaboration showcases our high quality standards, technical expertise, and unparalleled energy efficiency within the industry."

“This project marks a significant stride in renewable energy innovation within the region, reinforcing Nordsol’s unwavering commitment to expanding bio-LNG production capacity across Europe with our established technology.”

Sébastien Paolozzi, CEO of Prodeval, said: “This is fantastic news regarding the implementation of this project in Portugal in collaboration with Nordsol. I’m particularly excited because this project aligns perfectly with our values of promoting the use of biomethane in all its forms. LNG is and will continue to be a significant method for harnessing the potential of biomethane, especially for mobility purposes. I eagerly await its commissioning!”

**Source:** <https://www.bioenergy-news.com/news/nordsol-and-prodeval-announce-first-bio-lng-production-site-in-portugal/>

### 3.5 China

#### **Pig farm converts waste into renewable natural gas**

16<sup>th</sup> May 2024. Source: SHINE Editor: Yang Meiping. Wei Lihua



*Shanghai Songlin Pig Farm has purified biogas from pig manure to national gas standards*

Songlin Pig Farm, Shanghai's largest environmentally friendly pig farm, has successfully purified biogas from pig manure to meet national gas standards and integrated 100,000 cubic meters of biomethane into the city's gas grid.

The farm, under the management of Shenergy Group's subsidiary, Shenergy Environment, has initiated the Shenergy Songlin Biogas Project, Shanghai's first large-scale farm-based biogas project.

As traditional large-scale livestock farming had substantial waste management issues, frequently resulting in environmental degradation, this initiative transformed waste management by converting excess biogas into sustainable natural gas, known as biomethane.

Turning waste into energy is a game-changer.

This program not only addresses the farm's waste problem but also significantly decreases harmful emissions such as methane, carbon dioxide, and sulfur dioxide, gaining recognition for its environmental impact.

The project is recognized as a perfect example of circular resource utilization, as it converts agricultural waste into valuable resources. This novel approach not only broadens the farm supply chain but also increases the green value of trash, making it a win-win for both the environment and the economy.

The project will create 1.75 million cubic meters of biomethane, lowering CO<sub>2</sub> emissions by 3,800 tons. It is also predicted to earn more than 4 million yuan (US\$554,400) in revenue from resource use, demonstrating that green initiatives can be economically viable.

This remarkable achievement demonstrates Shanghai's dedication to sustainability and establishes a precedent for creative waste management and clean energy production, ushering in new quality, productive forces and guaranteeing a brighter future for everyone.

**Source:** <https://www.shine.cn/news/metro/2405160768/>

***Commentary:*** Renewable Natural Gas (RNG) or Biomethane is upgraded biogas that has similar gas composition as fossil natural gas that is supplied by pipelines to power plants, industries, commercial establishment and also to natural gas vehicles.

*RNG / Biomethane is mainly produced from biogas generated from wastes. The gas is considered carbon neutral. RNG / Biomethane has even greater benefits when it's produced from organic waste that would otherwise decay and create methane emissions. By capturing more greenhouses gases than it emits, this RNG / Biomethane can be considered as carbon negative.*

*Since RNG / Biomethane composition is similar to piped fossil natural gas, this carbon neutral fuel can be used as drop-in fuel for current natural gas fuel in the form of bioCNG. RNG / Biomethane can also be liquefied as bioLNG to replace fossil LNG.*

*Countries that have not harness the value of their wastes / biogas to upgrade to RNG / Biomethane should seriously consider this option in their pursuit to achieve carbon neutrality and Net Zero Emissions, especially for hard to abate sectors such as the Transport Sector.*

## **4.0 Hydrogen – Zero carbon fuel**

### **4.1 Malaysia**

#### **Premier: Sarawak set to export 240,000 tonnes of hydrogen to Japan, Korea by 2028**

5<sup>th</sup> May 2024. BY SAMUEL AUBREY.



*Abang Johari delivers his speech at the dinner. Photo from Ukas*

KUCHING (May 5): Sarawak is set to export a total of 240,000 tonnes of hydrogen to Japan and Korea by 2028, said Premier Datuk Patinggi Tan Sri Abang Johari Tun Openg.

He was cited in a Sarawak Public Communications Unit (Ukas) report as saying that this would establish Sarawak as a leading producer of clean and renewable energy.

He pointed out that with a hydrogen energy source, Sarawak would indirectly become a major player in power generation, thus boosting Sarawak's Gross Domestic Product (GDP) through sales tax.

“We will export 240,000 tonnes of hydrogen to Korea and Japan, and for domestic use, we will retain 7,000 tonnes of hydrogen. “This means that if we export, we can impose sales tax, which will add to the state's revenue. Additionally, we will become a major producer in terms of renewable energy,” he said at the Aidilfitri gathering organised by the Sarawak Bumiputera Chamber of Entrepreneurs (DUBS) here yesterday.

He added that the government has made significant efforts to provide infrastructure for development and digital economy in large-scale projects for Sarawak entrepreneurs to benefit from.

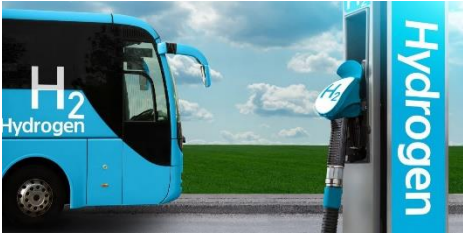
As such, he called on entrepreneurs to also master new technology. “There is no other way; we need to have skills in technology, whether it's digital technology or technology that adds value to our resources,” he said.

**Source:** <https://www.theborneopost.com/2024/05/05/premier-sarawak-set-to-export-240000-tonnes-of-hydrogen-to-japan-korea-by-2028>

## 4.2 Indonesia

### Plans announced to conduct hydrogen trials for transport in Indonesia

6<sup>th</sup> May 2024. Indonesia, Key Developments



The Ministry of Energy and Mineral Resources (Kementerian ESDM) plans to trial the use of hydrogen as a transportation fuel, focusing on trucks, buses, and heavy vehicles in Indonesia. The initiative aims to explore environmentally friendly transportation options

for the future, alongside biofuel and electric vehicles.

Despite challenges in electric vehicle adoption, including the availability of affordable models and charging infrastructure, the government sees potential in hydrogen-powered vehicles to contribute to sustainable transportation.

The pilot project is part of the country's efforts to advance its energy transition and promote cleaner transportation technologies.

**Source:** <https://southeastasiainfra.com/plans-announced-to-conduct-hydrogen-trials-for-transport-in-indonesia/>

## 4.3 South Korea

### South Korea hands out billions of won in hydrogen fuel subsidies to support struggling refuelling station owners

1<sup>st</sup> May 2024. By Polly Martin. Senior Reporter

**An average of 54 million won will be paid out to 152 companies over the next six months**



*A Hynet hydrogen filling station in South Korea. Photo: Hynet*

South Korea's Ministry of Environment has announced that it has allocated 8.2 billion won (\$5.9m) in subsidies to 152 hydrogen refuelling stations.

The fuel purchase subsidy, which was originally introduced in 2021, is paid twice a year following a review of the

income and costs associated with hydrogen refuelling stations during the previous six months.

On average, each company is set to receive payments amounting to 54 million won (\$38,968) from today. The support is reportedly set to last until 2025, although this could be extended if South Korea's hydrogen vehicle market continues to stagnate.

This latest subsidy allocation is likely to have been fuelled by an H<sub>2</sub> supply crisis in November last year.

Following a breakdown of three grey hydrogen production facilities at Hyundai Steel, which supplies 20-30% of the H<sub>2</sub> for transport in South Korea's central region, three quarters of refuelling stations in the country were forced to temporarily shut down — leaving fuel-cell vehicle drivers with nowhere to fill up their tanks.

Meanwhile, in July, the country's largest operator of hydrogen refuelling stations Hynet sparked fury as it hiked its prices from around 9,794 won (\$7.72) per kg to around 13,112 won (\$10.33).

The refuelling station operator in March saw its attempts to raise capital via a cash injection from leading shareholder Kogas shot down, with speculation that the loss-making company would have to seek government support.

However, despite the South Korean government also subsidising the cost of buying hydrogen-powered cars and easing safety restrictions on refuelling sites in an effort to reach its target for 300,000 fuel-cell vehicles on the road and 660 filling stations by 2030, this has not been enough to bolster a flagging market.

In January this year, only two fuel-cell passenger cars were sold across the entire country, although this increased to 331 in February as regional subsidy schemes were finalised.

(Copyright)

**Source:** [https://www.hydrogeninsight.com/transport/south-korea-hands-out-billions-of-won-in-hydrogen-fuel-subsidies-to-support-struggling-refuelling-station-owners/2-1-1636527?utm\\_campaign=2024-05-02&utm\\_content=hydrogen&utm\\_medium=email&utm\\_source=email\\_campaign&utm\\_term=recharge](https://www.hydrogeninsight.com/transport/south-korea-hands-out-billions-of-won-in-hydrogen-fuel-subsidies-to-support-struggling-refuelling-station-owners/2-1-1636527?utm_campaign=2024-05-02&utm_content=hydrogen&utm_medium=email&utm_source=email_campaign&utm_term=recharge)

**Commentary:** *To achieve Net Zero Emissions by 2050 / 2060 and to limit global temperature rise to 1.5 °C by 2100, the world has no choice but to move to utilize zero carbon renewable energies such as green hydrogen. Many countries in the world are now pushing for the use of hydrogen, however there are still many obstacles and challenges that need to be overcome. Thus a planned and deliberate transition from carbon energy sources to zero carbon renewable energy sources must be carefully formulated and implemented, and revised as necessary as it goes through the various implementation stages.*

## 5.0 Electricity – Electric Vehicles (EVs)

### China's EV makers taking longer to pay bills amid rising stress

20<sup>th</sup> May 2024. By Pearl Liu & Linda Lew / Bloomberg



(May 20): The time it's taking for some of China's electric car makers to pay suppliers is ballooning — a further sign of stress in the nation's increasingly cutthroat auto market.

Nio Inc was taking around 295 days to clear its receipts payable, the vast majority of which are owed to suppliers, at the end of 2023 versus 197 days in 2021, according to the most recent available data compiled by Bloomberg. Xpeng Inc, another US-listed Chinese EV maker, was taking 221 days to honour its obligations to vendors and related parties, up from 179 days, the data show.

Elon Musk's Tesla Inc, by comparison, only took around 101 days, and that period has remained largely stable in the past three years.

The extended payment cycles are indicative of the pressure many automakers are under in China, where economic growth remains sluggish and consumer sentiment is subdued. That's translated into reduced demand for electric cars, and the once fast-growing market is now beset with intense price wars and crunched profit margins.

Since Beijing phased out a national subsidy program for EV purchases in 2022, some smaller manufacturers have been pushed to the brink. WM Motors filed for restructuring in October,



and Human Horizons Group Inc., the owner of premium EV brand HiPhi, suspended operations for at least six months in February.

“Everybody’s suffering,” said Jochen Siebert, managing director at consultancy JSC Automotive. “For manufacturers, price reductions mean less money coming in. So the money they owe to their suppliers may be necessary for them to remain liquid.”

Representatives for Nio and Xpeng didn’t respond to requests for comment. Delayed payments are starting to have a knock-on effects at auto-parts suppliers, Siebert said.

“Tier-three or four suppliers really get bitten, because they can’t pass it on,” he said, adding the EV sector may see a “messy consolidation” as suppliers go bankrupt, quickly causing production issues for automakers down the line.

Indeed Jiaxing, Zhejiang-based Minth Group Ltd, a supplier of exterior body parts, saw its accounts and notes receivables surge more than 40% to 4.74 billion yuan (RM3.1 billion) as of December from the end of 2020, while its cash and equivalents shrank by almost one-third to 4.2 billion yuan over the same period, according to data compiled by Bloomberg.

Hunan Yuneng New Energy Battery Material Co, which is a major supplier to BYD Co, according to data compiled by Bloomberg, saw its accounts and notes receivables more than triple to 10.43 billion yuan at the end of 2022 from a year earlier, while cash reserves fell to 435.2 million yuan.

“The price war won’t end soon and the stress eventually will be delivered to suppliers,” said Zhu Lin, a Shanghai-based managing director with turnaround management firm Alvarez & Marsal. “We’ve seen more car components producers approaching us to improve their performance and some of them are thinking about offloading unprofitable businesses,” Zhu said. “The weak ones in the supply chain will face a high risk of being kicked out of the game.”

**Source:** <https://theedgemalaysia.com/node/712187>

**Commentary:** *Electric Vehicle (EV) population is growing and many countries are pushing for EVs offering generous subsidies and incentives for purchases of EVs and setting up of charging stations. Even with subsidies and incentives, the growth of EVs and charging stations has been below the projections. Even the manufacturing of EVs depends on subsidies and incentives. Some countries had taken steps to review these subsidies and incentives, some reducing it and some actually stopping it. These have resulted in further slowdown in the growth of EVs.*

*Meanwhile the world needs to drastically reduce carbon emissions to meet the target of 1.5 °C temperature rise by 2100. Thus, efforts must also be taken to increase the use of existing low carbon fuels and there is a great opportunity to deploy Renewable Natural Gas (RNG) / Biomethane, a carbon neutral fuel, for NGVs using existing infrastructure for fossil natural gas.*

*End*