ANGOVA AND PACIFIC NATURAL GAS VISICUES ASSOCIATION

ASIA PACIFIC NATURAL GAS VEHCLES ASSOCIATION

To lead and promote Asia Pacific NGV Industry towards sustainable growth

ANGVA2U Info 18/2020 5th October 2020 (for ANGVA members only)

ANGVA2U Info aims to share information, data, and news related to NGV with ANGVA members. However, these information, data, and news are collected and shared in good faith, without any guarantee of accuracies. Members are advised to use these information and data prudently and at their own risks.

1.0 Selected News / Articles

1.1 India

CNG and piped cooking gas gets price cut in Delhi 3rd October 2020.

Along with automobile segment, the benefit of reduction in gas prices has been extended to the household segment also



New Delhi: Auto-rickshaws and cars line up at a CNG gas station, in New Delhi, Tuesday, Aug 25, 2020. (PTI Photo/Manvender Vashist)(PTI25-08-2020_000132B) (PTI)

New Delhi: CNG and piped cooking gas price in the national capital and adjoining cities was on Saturday cut in sync with a reduction in natural gas prices.

Indraprastha Gas Ltd in a statement said the CNG price in Delhi will be reduced by Rs 1.53 per kg in Delhi and by Rs 1.70 per kg in Noida, Greater Noida and Ghaziabad.

The new consumer price of Rs 42.70 per kg in Delhi and Rs 48.38 per kg in Noida, Greater Noida & Ghaziabad would be effective from 6.00 am on October 4, 2020, it said. The revised CNG price in Muzaffarnagar would be Rs 56.55 per kg, in Karnal & Kaithal would be Rs 50.68 per kg, in Rewari & Gurugram would be Rs 53.40 per kg and in district Kanpur would be Rs 59.80 per kg.

Along with automobile segment, the benefit of reduction in gas prices has been extended to the household segment also. IGL will cut piped cooking gas (PNG) prices effective October 4 across all cities.

The consumer price of PNG to the households in Delhi has been decreased by Rs 1.05 per scm from Rs 28.55 per scm to Rs 27.50 per scm, while the applicable price of domestic PNG to households in Noida, Greater Noida and Ghaziabad would be Rs 27.45 per scm, which has gone down by Re 1 per scm from Rs 28.45 per scm.

In Karnal and Rewari, the applicable price of domestic PNG would now be Rs 27.55 per scm, which has been reduced by Rs 1.05 per scm. The revised PNG price in Gurugram would be Rs 28.20 per scm, and in Muzzafarnagar would be Rs 32.75 per scm.

IGL is supplying PNG to around 9.5 lakh households in Delhi and around 5 lakh households in Noida, Greater Noida, Ghaziabad, Muzzafarnagar, Karnal and Rewari. "With the revised price, CNG would offer over 62 per cent savings towards the running cost when compared to petrol-driven vehicles at the current level of prices in Delhi. When compared to diesel-driven vehicles, the economics in favour of CNG at revised price would be over around 40 per cent," IGL said.

Source: <u>https://www.livemint.com/news/india/cng-and-piped-cooking-gas-gets-price-cut-in-delhi-11601738143241.html</u>

1.2 India

Ministry of Road Transport & Highway Allows H-CNG In CNG Engines 28th September.

The Ministry of Road Transport and Highways has allowed use of H-CNG (18% mix of hydrogen) in CNG engines. The Ministry has been notifying various alternate fuels under Clean Fuels for transportation. The Bureau of Indian Standards (BIS) has also developed specifications (IS 17314:2019) of Hydrogen enriched Compressed Natural Gas (H-CNG) for automotive purposes, as a fuel.

Certain CNG-engine were tested to understand the emission reduction using H-CNG as compared to 'neat' CNG. A notification for amendments to the Central Motor Vehicles Rules 1989, for inclusion of H-CNG as an automotive fuel has been published vide GSR 585 (E) dated 25th Sept 2020 by the Ministry. The draft rules in this respect were made available to the public on the 22nd July last. No objections and suggestions were received from the public in this respect.

Source: <u>https://www.business-standard.com/article/news-cm/ministry-of-road-transport-highways-allows-h-cng-in-cng-engines-120092800767_1.html</u>

1.3 Iran

Number of dual-fuel* cars reaches nearly 4m (*ANGVA note: dual-fuel means bi-fuel) 23rd October 2020.



TEHRAN – The number of dual-fuel cars in Iran has increased to 3,908,604 vehicles following the implementation of a program to turn public vehicles into dual-fuel cars, the data released by National Iranian Oil Products Distribution Company (NIOPDC) showed.

Back in December 2019, the National Iranian Oil Refining and Distribution Company (NIORDC) and Iran's state-owned Iran

Khodro Company (IKCO) signed a memorandum of understanding (MOU) to add new dual-fuel vehicles to the country's public transportation fleet.

The mentioned MOU was aimed to add 1.46 million dual-fuel vehicles to the public transportation fleet, of which so far 25,000 cars have been converted.

As reported, following the implementation of the mentioned program, the distribution capacity of compressed natural gas (CNG) in supply stations across the country has now reached about three million cubic meters per hour and on average, about 22 million cubic meters (mcm) of CNG is supplied on a daily basis.

Based on the NIOPDC data, as of September 22, a total of 24,621 public vehicles have become dual-fueled across the country, and 22,520 vehicles are waiting to be converted.

Iranian Oil Ministry considers CNG as the national fuel, therefore, the ministry has it on the agenda to increase the share of this fuel in the country's energy basket.

Iran has recently started a program for the rationing of subsidized gasoline and increased fuel prices to reduce the energy subsidies and to use the revenue for supporting underprivileged families.

The implementation of the rationing plan has led to the reduction of gasoline consumption while promoting CNG consumption in the country.

Iran's CNG consumption stood at 19 mcm per day before the implementation of the fuel rationing scheme, however, in mid-September, an official with NIORDC announced that the daily consumption of CNG has reached 25 million cubic meters in Iran.

There are currently 2,495 CNG stations across Iran that supply 22 percent of the country's fuel basket.

Source: https://www.tehrantimes.com/news/453162/Number-of-dual-fuel-cars-reaches-nearly-4m

1.4 India 20 PMPML buses to run on bio-CNG from mid-October

5th October 2020. By Joy Sengupta. TNN



Representative image

PUNE: Twenty buses of the Pune Mahanagar Parivahan Mahamandal Limited (PMPML) will run on fuel made from food waste collected from different hotels from October 20.

Called bio-CNG or CBG (compressed bio-gas), Indian Oil will supply it to the transport body, PMPML chairman- cum-

managing director Rajendra Jagtap told TOI, adding that the trials have been completed.

"There is a refuelling station in Talegaon, and buses from the Bhosari depot of the PMPML moving towards Talegaon area will be running on this fuel. Another fuelling station at Nigdi will be ready within three months. More than 50 buses in the PMPML fleet will run on bio-CNG. We are keen on use of alternative and eco-friendly fuel," Jagtap said.

In 2014, the Pune Municipal Corporation and the Pimpri Chinchwad Municipal Corporation got into an agreement with Noble Exchange Environment Solutions Private Limited to collect hotel food waste and convert it into bio-fuel.

"The PMPML buses have undergone trials twice. We want more than 100 buses to use this alternative fuel by next January. The buses, instead of the normal CNG, have been fuelled by bio-CNG. Permissions and approvals have been obtained from Central Institute of Road Transport and Automotive Research Association of India," the CMD added.

There are more than 1,500 CNG run buses in the fleet. "The costs for CNG and bio-CNG are almost the same. Work on construction of the fuel station at the Nigdi depot is going on. It has been approved by the board of directors," a PMPML official said.

Source: <u>https://timesofindia.indiatimes.com/city/pune/20-pmpml-buses-to-run-on-bio-cng-from-mid-october/articleshow/78481781.cms</u>

1.5 Singapore

Singapore firm aims to have 10,000 electric vehicle charging points islandwide by 2030

29th September 2020. By Zhaki Abdullah



One of Charge+ proprietary "ultra-slim" electric vehicle charging points. (Photo: Charge+)

SINGAPORE: A local firm aims to install 10,000 electric vehicle (EV) charging points across Singapore over the next decade, making it the single largest EV charging provider in the country.

Charge+ announced on Tuesday (Sep 29) that it plans to install its charging points in public housing estates and private developments such as condominiums, as well as in commercial and industrial buildings.

This comes after Deputy Prime Minister Heng Swee Keat announced in February that Singapore intends to <u>phase out internal combustion engine vehicles by 2040</u>.

Mr Heng also said at the time that the authorities aim to have 28,000 public EV charging points available by 2030 with help from the private sector, up from about 1,600 currently.

MOBILE APP FOR CHARGERS

A subsidiary of solar energy solutions provider Sunseap, Charge+ said it is now developing its own proprietary, ultra-slim charger, which it said can be installed in all existing carparks.

This will allow for more chargers to be installed, allowing for more EV users to be served, said Charge+, citing the "limited localised power supply" at many carparks here.

Once available, these charging stations - which Charge+ said will be the slimmest commercial EV charger in the world - would feature two charging points, each with a 7.4 kilowatt (kW) power rating.

This would allow a typical EV, with a depleted battery, to be fully charged in about three to four hours.

A cloud-based management system will remotely control and monitor all Charge+ EV chargers, while a mobile app will allow drivers to locate available chargers, start charging sessions and make payment.

In Singapore, promotional products and marketing services supplier Axxel Marketing, engineering company Ebenezer Group and self-storage operator StorHub have already signed up as clients, the company said in a release.

Singapore will serve as a launch market from which Charge+ intends to expand into other cities in Southeast Asia and beyond, it said.

Charge+ said it will leverage the existing "deep technical and commercial prowess" of Sunseap - which has solar projects across 4,000 buildings in Singapore - allowing the solar energy provider to diversify its clean energy business portfolio.

"Charge+ will build on Sunseap's vision of making clean energy affordable for everyone. Its roll-out plan, the largest to-date for Singapore's EV sector, will help spur the adoption of electric vehicles in the country," said Sunseap chief executive officer Frank Phuan.

INCREASE IN NUMBER OF FULLY-ELECTRIC CARS

The number of charging points has been expanding in recent years, in tandem with an increase in the number of EVs.

Dutch oil giant Shell has EV charging points at 10 of its petrol stations across the island, while energy provider SP Group aims to have 1,000 charging points islandwide by the end of this year.

And as of August, electric car sharing service BlueSG has 345 charging stations with 1,371 charging points islandwide, about 20 per cent of which are available for privately-owned EVs.

Figures from the Land Transport Authority show that as of August, there are 1,180 fully-electric cars registered in Singapore, up from just 12, four years ago.

A roadmap developed by the Nanyang Technological University's Energy Research Institute in 2016 suggested that converting 50 per cent of Singapore's vehicle population to EVs could cut vehicular pollution here by up to 30 per cent.

Source: <u>https://www.channelnewsasia.com/news/singapore/singapore-firm-10000-electric-vehicle-charging-points-13159162</u>

1.6 Netherlands

Hydrogen taxi fleet celebrates milestone

1st October 2020. By Molly Burgess.



The first hydrogen-powered taxi fleet in the Netherlands has travelled 1.5million kilometres.

Consisting of 40 Toyota Mirai vehicles, the Noot Personenvervoer fleet has been operating daily since June 2019 in The Hague.

Martijn Kersing, Director of Noot Passenger Transport, said, "Due to the large range of the Toyota Mirai and the fact that you can fill it up quickly, we can meet all the requirements of this type of transport."

"An additional advantage is that the car is spacious and comfortable. A bull's eye now, because with 1.5 million kilometres driven, the first hydrogen-powered taxi fleet in the Netherlands is justifiably a success."

Jan-Christiaan Koenders, Managing Director of Toyota importer Louwman & Parqui, commented, "We are of course very proud that the Toyotas Mirai are used so often."

"Our hydrogen car is therefore ideal for taxi transport: spacious, quiet, very comfortable and of course 100% electric without the car having to be at a charging station for a long time."

"All praise for Noot Passenger Transport who has successfully gone off the beaten track with his choice. This is a great milestone in the energy transition."

Source: https://www.h2-view.com/story/hydrogen-taxi-fleet-celebrates-milestone/

1.7 Korea

Hyundai ships hydrogen vehicles to Middle East

28th September 2020. ALL NEWS . By kyongae.choi@yna.co.kr



This photo taken Sept. 28, 2020, and provided by Hyundai Motor shows two Nexo hydrogen fuel cell electric vehicles and two hydrogen Elec City buses being loaded onto a ship for export to Saudi Aramco at the carmaker's port in Ulsan, 414 kilometers southeast of Seoul. (PHOTO NOT FOR SALE) (Yonhap)

SEOUL, Sept. 28 (Yonhap) -- Hyundai Motor Co., South Korea's biggest carmaker, said Monday it has shipped four hydrogen-powered vehicles to an energy company in the Middle East, paving the way for further exports of the eco-friendly vehicles.

Hyundai shipped two Nexo hydrogen fuel cell electric vehicles and two Elec City hydrogen buses to Saudi Aramco, the world's biggest oil producer, the company said in a statement.

The Saudi Arabian company will use the four hydrogen vehicles in its local pilot projects for such vehicles, it said.

It is the first time for Hyundai to export the hydrogen-powered Elec City bus.

Hyundai sold 10,698 Nexo hydrogen passenger cars -- 8,908 units domestically and 1,790 overseas -- in global markets from 2018 through August this year.

Source: <u>https://en.yna.co.kr/view/AEN20200928007100320</u>

1.8 Saudi Arabia Saudi Arabia exports 40 tons of blue ammonia to Japan... 27th September 2020.



Aramco and the Japan Energy Economics Institute (IEEJ), in partnership with SABIC, announced the successful production and export of the first shipment of blue ammonia from Saudi Arabia to Japan with the support of the Japanese Ministry of Economy, Trade and

Industry (METI), where 40 tons of high-quality blue ammonia were exported to Japan for use in Carbon Free Power Generation.

The announcement comes amid growing expectations for the role hydrogen will play in the global energy system. Ammonia, a compound consisting of 3 atoms of hydrogen and one atom of nitrogen, can contribute to meeting the challenges of rising global energy demand in a reliable, sustainable and affordable way.

The Saudi-Japanese blue ammonia supply network stretches across the entire value chain and includes converting hydrocarbons into hydrogen and then into ammonia, while capturing associated CO2 emissions.

The challenges associated with shipping blue ammonia to Japan for use in power plants were addressed, as 30 tons of carbon dioxide were captured during the process designated for use in methanol production at the SABIC Ibn Sina facility and another 20 tons of captured carbon dioxide was used to improve the oil extraction process. (EOR) in the Ottoman field.

This achievement highlights one of the many pathways within the Circular Carbon Economy (CCE) concept, which is a framework in which carbon dioxide emissions are reduced, removed, recycled and reused rather than released into the atmosphere.

"It is expected that the use of hydrogen in the global energy system will increase," said Ahmed Al-Khowaiter, Aramco's chief technical officer. This first worldwide shipment represents an important opportunity for Aramco to showcase the potential of hydrocarbons as a reliable source of low carbon hydrogen and ammonia. This achievement also highlights the successful partnership between Saudi Arabia and Japan.

He added: There is no doubt that such international partnerships are essential in achieving the circular carbon economy that the Kingdom supports during its current presidency of the G20. He added, "Aramco is working with various partners from all over the world in finding solutions by deploying advanced technologies to produce low-carbon energy to meet the global climate challenge."

Masakazu Toyoda, Chairman and CEO of the Japan Energy Economics Institute, said, "Blue ammonia is very important to Japan's ambitions to reduce carbon emissions in order to maintain a balance between the environment and the economy. About 10 percent of Japan's energy can be generated by 30 million tons of energy." Blue ammonia

He said, "We can start to release this substance co-fired in current power plants and then move on to mono burning of 100 percent blue ammonia." There are countries like Japan that cannot necessarily benefit from carbon capture, exploitation and storage or oil recovery process due to their geological conditions, but neutral ammonia / blue carbon hydrogen gas will help overcome this obstacle."

In turn, Dr. Fahad Al-Shuraihi, Vice President of Energy Efficiency and Carbon Management at SABIC, said: We can economically benefit from our existing infrastructure for hydrogen and ammonia production through carbon dioxide capture. Our experience in the complete supply chain along with integrated petrochemical facilities will play an important role in providing blue ammonia to the world.

Ammonia contains about 18 percent of hydrogen by weight and is a chemical that is widely traded internationally. They do not release carbon dioxide emissions when burned in the thermal power plant and have the potential to make a significant contribution to the future of clean, safe and affordable energy.

SABIC and Mitsubishi, represented in the Japan Energy Economics Institute study team, are overseeing the logistics transportation process, in partnership with: JGC Corporation, Mitsubishi Heavy Industries Engineering, Mitsubishi Shipbuilding and UBE Industries.

Source: https://alkhaleejtoday.co/saudi-arabia/5047374/Saudi-Arabia-exports-40-tons-of-blue-ammonia-to-Japan-%E2%80%A6.html

End