

ANGVA2U Info 09/2019. 12th August 2019. (for ANGVA members only)

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1.0 Transport Sector and Renewable Energy

The transport sector consumed up to 30% of final energy consumption of the world, yet it has the lowest renewable energy share among all sectors. More efforts need to be taken to increase the share of renewable energy in the transport sector. Besides renewable liquid fuels there is now opportunity to harness biogas as renewable gas fuel for the transport sector. Upgraded biogas, known as Renewable Natural Gas (RNG) or Biomethane, are now being deployed in Europe, America and many other parts of the world. RNG / Biomethane in the form of BioCNG and BioLNG can be quickly deployed for transport sector in the Asia Pacific Region using existing infrastructure of Natural Gas Vehicles (NGVs) - the major challenge is to make it commercially viable.

2.0 Selected News / Articles

2.1 Malaysia

Biotek Dinamik to invest RM350m to develop bio-CNG industry

By Farah Adilla. NST. July 31, 2019



Biotek Dinamik Sdn Bhd is investing RM350 million to develop bio compressed natural gas (bio-CNG) in FGV Palm Industries Sdn Bhd's (FGVPI) palm oil mills. NSTP picture by MUHD ZAABA ZAKERIA

KUALA LUMPUR: Biotek Dinamik Sdn Bhd is investing RM350 million to develop bio compressed natural gas (bio-CNG) in FGV Palm Industries Sdn Bhd's (FGVPI) palm oil mills.

FGVPI is an indirect subsidiary of Felda Global Ventures Bhd (FGV).

Biotek Dinamik managing director Eddy Yap Wai Hong said the investment included the development of 35 brownfield and greenfield sites owned by FGVPI over several years. "For brownfield sites, Biotek Dinamik will be investing RM7 million to build bio-CNG plant while for greenfield sites, the company is expected to invest around RM11 million to RM12 million to build both biogas and bio-CNG plants."

Yap was speaking to reporters after signing a memorandum of understanding (MoU) by FGV Palm Industries Sdn Bhd (FGVPI), Sime Darby Energy Solutions Sdn Bhd (SDES) and Biotek Dinamik Sdn Bhd.

The MoU will see the three parties collaborate to produce bio-CNG from waste biogas generated from palm oil mills effluent (POME) ponds.

FGVPI was represented by FGV chief operating officer (plantation) Syed Mahdhar Syed Hussain while Sime Darby Energy was represented by its general manager Habibullah Nordin.

Bio-CNG is a potential substitute for diesel in vehicles and also in the manufacturing industry.

FGV currently generates 170 million cubic metres of biogas a year from 30 mill sites, as a bi-product of the anaerobic digestion of POME. This is equivalent to 1.0 million to 1.5 million litres of diesel per palm oil mill annually.

FGV group chief executive officer Datuk Haris Fadzilah Hassan said once the project was fully rolled out, FGV would have the most bio-CNG sites in the world for a plantation company.

The project will also enable FGV to monetise biogas produced from its biogas plants.

Haris said the project was expected to generate substantial value for the group while helping the government to meet its renewable energy target of 20 per cent by 2020.

FGV has 68 mills nationwide.

Under the MoU, Biotek Dinamik will be the project developer, owner and operator of the bio-CNG and biogas plants while FGVPI will provide mill sites, biogas and POME supplies.

SDES, on the other hand, will be providing design and construction services as well as ongoing maintenance support for the project.

Source: <https://www.nst.com.my/business/2019/07/508744/biotek-dinamik-invest-rm350m-develop-bio-cng-industry>

2.2 United States of America

Houston firm invests in technology to transform cow manure into fuel for heavy duty truck fleets

by By Noi Mahoney. Freightwaves.com 8 August 2019



EIV Capital, a Houston firm that invests in energy businesses, is funding plants to transform cow waste into renewable natural gas for trucking fleets. Image: Jim Allen/FreightWaves

EIV Capital, a Houston firm that invests in energy businesses, recently helped raise \$75 million in funding that will research turning dairy cattle's recycled cow manure into usable, clean energy products.

The funding will be used by Amp Americas, a Chicago-based startup that is researching how to transform animal waste and convert it into biogas, then sell the biogas to trucking fleets.

“EIV has been a fantastic partner in project development, and we’re excited to embark on our next round of development with them,” said Grant Zimmerman, chief executive officer of Amp Americas in a press release.

With the new funding, Amp Americas will build two new dairy renewal natural gas facilities, doubling its capacity to produce energy from cow manure. The company is set to break ground on the two additional midwestern dairy biogas projects later this year, with operations set to begin in the fall of 2020.

The capital commitment was led by EIV Capital, but also included participation from existing Amp Americas investors.



Amp Americas creates renewable natural gas products using waste products from cows. Courtesy Amp Americas

Amp Americas creates renewable natural gas products for California trucking fleets, including UPS, under the low-carbon fuel standard, according to the company.

Amp Americas also operates 20 compressed natural gas stations around the United States, including eight in Texas. All of Amp America’s stations are open to the public, accessible by Class 8 trucks, and located near major trucking corridors.

Source: <https://www.freightwaves.com/news/houston-firm-invests-in-technology-to-transform-cow-manure-into-fuel-for-heavy-duty-truck-fleets>

2.3 United States of America

Renewable Natural gas continues to move passengers on the Big Blue Bus and at LAX

Clean Energy. August 7, 2019



CLEAN ENERGY

Clean Energy Fuels Corp. has secured contracts to provide its Redeem™ renewable natural gas (RNG) to power fleets across multiple sectors, including transit, trucking, airports, solid waste and service vehicles.

Redeem became commercially available in 2013 and is derived from capturing biogenic methane that is naturally created by the decomposition of dairy, landfill and wastewater treatment plant waste. As a vehicle fuel, Redeem enables at least 70- percent reduction in carbon emissions when displacing diesel or gasoline.

More fleets are transitioning to natural gas-powered vehicles (NGVs) for their performance, cost savings, environmental advantages and extensive nationwide fueling network, with sales this year on an upward trajectory, according to Clean Energy. As of May, year-to-date sales of NGVs surged 43 percent, according to ACT Research, and were also up 10 percent from April's numbers.

Greener Big Blue Bus fleet

Long-time customer and an early adopter of Redeem, the Big Blue Bus in Santa Monica has extended its contract with Clean Energy with an anticipated 2.3 million gallons of Redeem per year to fuel its 200 municipal buses.

Big Blue Bus transports 44,000 passengers daily across a 58-square-mile service area. Nationally recognized for its long-standing commitment to a cleaner environment, the entire fleet operates on alternative fuels, including liquefied and compressed natural gas (LNG/CNG), which helps to cut emissions by more than 70 percent.

"We're proud to continue our partnership with Big Blue Bus and share its commitment to sustainability," said Clean Energy Vice President Chad Lindholm. "Their natural gas buses are providing healthier air for people in and around Santa Monica and the use of Redeem is significantly reducing greenhouse gas and long-term climate change issues."

Clean Energy also supplies Redeem for other Santa Monica CNG fleet vehicles, including maintenance trucks, refuse trucks and shuttle buses.

Near-zero trucks roll in ports

Fleets in the ports of Los Angeles and Long Beach, the largest port complex in America, are taking delivery of 102 new, near-zero trucks fueled by Redeem.

With funding made available by the Carl Moyer Grant Program and other grant programs, port trucking companies are rolling out trucks equipped with the new Cummins-Westport (CWI) near-zero ISX12N natural gas engine. The ISX12N is certified by California Air Resources Board (CARB) to reduce smog-forming NOx emissions by 90 percent compared to the current engine standard.

"Fortunately for those who live in the area of the ports of Long Beach and Los Angeles, more near-zero trucks are operating on RNG which will help combat air pollution in Southern California," Lindholm said. "These near-zero natural gas trucks can have a huge positive impact on the environment and provide the level of performance that fleet operators expect."

Among the fleets taking delivery is Green Fleet Systems, which has committed to 20 near-zero trucks and RNG fuel at a fixed price well below diesel.

TTSI is starting to take delivery of 40 near-zero trucks under Clean Energy's Zero Now Program, which makes the cost of leasing or purchasing a new natural gas heavy-duty truck equal to the price or even lower than that of the same truck equipped with a diesel engine. In addition, truck fleets financed or purchased through Zero Now can purchase natural gas fuel at a fixed price significantly discounted to diesel.

Other companies that have or will be taking delivery of near-zero trucks include Tradelink Transport, Green Trucking, Overseas Freight, West Coast Trucking, Supra National Express and MDB Transportation, a division of AJR Trucking.

Source: <https://www.masstransitmag.com/bus/vehicles/gas-diesel-cng-lng/press-release/21091738/clean-energy-renewable-natural-gas-continues-to-move-passengers-on-the-big-blue-bus-and-at-lax>

2.4 Ireland

Renewable gas enters Ireland's first purpose-built facility in Co Kildare

By Sean O'Riordan. *Irish Examiner.* August 8, 2019.



Gas Networks Ireland has for the first time injected farm-produced biomethane into its national network at a site in Co Kildare and has just applied for planning permission for a second injection point in North Cork.

The renewable gas entered the network at Ireland's first purpose-built injection facility in Cush Co Kildare within the last few days.

It represents the first step in Gas Networks Ireland's €28m plan to roll out a network of renewable gas injection facilities across the country.

The company has just lodged a planning application for another injection point in Mitchelstown with Cork County Council.

When commissioned, the Mitchelstown facility will have the capacity to support up to 20 farm-based agri-anaerobic digestion biomethane plants within a 50 km radius of the town.

The general Mitchelstown area has a very high concentration of large pig and cattle farms. Once operational, renewable gas will be sourced from local farms and the Mitchelstown injection point will provide enough energy to heat 54,000 homes.

It forms part of Gas Networks Ireland's GRAZE (Green Renewable Agricultural & Zero Emissions) project, which has received €8.5m in funding support from the Department of Communications, Climate Action and Environment's Climate Action Fund.

Renewable gas, often referred to as biomethane, is a clean, renewable and carbon-neutral fuel.



Denis O'Sullivan, managing director of Gas Networks Ireland, said Ireland's challenge is to decarbonise in the most efficient way possible. "Renewable gas is a key pillar in our plan to fully decarbonise the gas network by 2050 through a combination of renewable gas, carbon capture and storage (CCS) and the use of hydrogen," Mr O'Sullivan said.

He said it's envisaged that renewable gas will contribute 20% of the total gas demand in the country by 2030 and this will be sufficient to decarbonise the heating needs of one million homes.

Mr O'Sullivan said its biomethane's potential as a renewable fuel for heat, electricity and transport is well-recognised and its use is in response to the EU's commitment to becoming a highly energy-efficient, low carbon economy.

It can replace heavily-polluting fossil fuels such as coal, oil and peat and is a direct substitute for natural gas, without the need to invest in alternative infrastructure.

The recently published Climate Action Plan outlines the government's commitment to set a target for renewable gas on the network by 2030 before the end of the year and to investigate the supports required to fund meeting this target.

The plan also calls for an increase in the number of Compressed Natural Gas (CNG) refuelling stations which will utilise renewable gas to provide a carbon-neutral fuel to the transport sector.

"We welcome the government recognising the potential and opportunity for renewable gas in the residential market," Mr O'Sullivan said.

He said providing a fifth of the country's needs in renewable gas by 2030 would create over 4,000 jobs, mostly in rural communities, and help the government achieve its carbon emissions targets by reducing Ireland's CO2 emissions by 5.7%.

Source: <https://www.irisht Examiner.com/breakingnews/ireland/renewable-gas-enters-irelands-first-purpose-built-facility-in-co-kildare-942683.html>

3.0 ANGVA related / participated events

- i. Biogas Upgrading and CBG Roundtable 2019. Chiangmai, Thailand. 14th – 15th August 2019. This event is organized by International Clean Energy and Sustainability (ICESN), Singapore and supported by ANGVA. More information on this event at: <http://www.icesn.com/thai2019/assets/BiogasThailand2019.pdf>
- ii. 9th Annual LNG Transport, Handling and Storage 2019. Padma Resort, Bali, Indonesia. 10th – 13th September 2019. This event is organized by All Events Group (AEG), Singapore and supported by ANGVA. More information on this event at: http://www.lng-world.com/lng_bali2019/
- iii. International Conference & Exhibition Wastes Management 2019 ((CEWM 2019), Shah Alam Convention Center, Selangor, Malaysia. 24th – 26th September 2019. Organized by ENSEARCH, Malaysia. ANGVA participating as Moderator of one of the panel discussion.
- iv. 12th Regional Environmentally Sustainable Transport (EST) Forum in Asia, 28th – 31st October 2019, Hanoi, Vietnam. Co-organised by Government of Vietnam, Ministry of the Environment of the Government of Japan (MOE-Japan); and the United Nations Centre for Regional Development of Division for Sustainable Development Goals/ UN DESA. The Forum theme is "*Achieving Smart and Resilient Cities through Low Carbon and Intelligent Transport System*". ANGVA participating as delegate.
- v. ANGVA 2019, The 8th ANGVA International Biennial Conference & Exhibition. Jakarta, Indonesia. 25th – 27th Nov 2019. Hosted by ANGVA and Indonesian CNG Association (APCNGI). ANGVA 2019 will be co-located with the Asia Pacific Biogas Forum 2019 and Electric and Fuel Cell Vehicles Forum 2019. For more information please contact angva@angva.org or aznita@angva.org or visit website www.angva2019.com

Note: Please note that the venue of ANGVA 2019 will be shifted to a new place that will be announced soon.

4.0 End

Any comments and suggestions on the topics and information covered and to be covered in future are most welcome. Please send your comments and suggestions to Lee Giok Seng at email: leegs@angva.org