

Report on the Biogas Asia Pacific Forum 2017, 15 – 19 May 2017, Kuala Lumpur, Malaysia

The Biogas Asia Pacific Forum 2017 was held at the JW Marriot Hotel, Kuala Lumpur, Malaysia. The actual forum was from 17th to 18th May 2017 followed by site visits on 19th May 2017 to a Palm Oil Mill Biogas facility and a Sewage Treatment Plant Biogas facility. On 15th and 16th May, there was the German IBBK’s 2nd Agro-Industrial Biogas Training Course. The event was organized by ICESN (International Clean Energy Sustainability & Network) with the supports of various organizations including the Asia Pacific Biogas Alliance and ANGVA. The event was attended by around 170 delegates and 9 exhibitors from Malaysia and overseas.



Top: At the Forum presentation

Highlights of the presentation at the forum:

1. According to the World Bioenergy Association (WBA), based in Sweden:
 - a. In 2014, bioenergy was the world largest Renewable Energy source at 14 %, followed by Hydro energy. From 2000 to 2014, Biofuels share in transport sector increased from 0.5% to 2.8 % while electricity for transport sector remained at ~1% since 2000.
 - b. Global production of biogas in 2014 was 58.7 bcm, with half of the production in Europe and 32 % in Asia.
 - c. The key instruments for achieving the Paris Agreement Goals were Fossil Exist Strategy and Carbon Tax. Decarbonizing transport sector is crucial and liquid biofuels and biogas have important role to plan in decarbonizing the transport sector.
2. Thailand’s Alternative Energy Development Plan (AEDP), 2015 – 2036, targeted 30 % renewable energy in the country final energy consumption by the year 2036. This included the production of 4,800 tonnes per day of compressed biogas (CBG or compressed Biomethane). As of 2016, six (6) tonnes per day of compressed biomethane had been achieved. A demonstration project on the utilization of biogas from chicken manure to generate electricity and to provide compressed Biomethane for vehicles (NGVs) and supplying biomethane through local distribution pipeline grid to households for cooking and heating has been successfully operated in the Rong Wau village in Chiang Mai by the Energy Research and Development Institute (ERDI), Chiang Mai University, Thailand.
3. In Indonesia, there were more than 800 Palm Oil Mills (POMs) and less than 10 % of these had biogas plants installed.
4. In Malaysia:
 - a. All POMs are required to be installed with biogas capture facilities by 2020. There were 449 POMs and 90 of these mills had been installed with biogas facilities.
 - b. Less than 30 % of the POMs are located within 10 km radius of the electricity grids.
 - c. Eight (8) of the POMs’ biogas plant were generating electricity to feed into the National Electricity Grids under the Feed-In-Tariff (FIT) scheme.

- d. One biogas plant was installed with a biogas upgrading facility to provide compressed Biomethane to a factory located around 50 Km from the biogas plant. Biomethane was supplied by road trailers to the factory. The biomethane was used to substitute for LPG usage by the factory. This factory has no access to piped fossil natural gas. Less than 40 % of the areas in Peninsular Malaysia were accessible to fossil natural gas distribution pipelines /grid.
- e. Under Phase 3 of the Government Advance Biogas Implementation Strategy (2016 – 2024), 70 % of the off-electricity grid POMs will be equipped with biogas upgrading facilities to produce biomethane. Under Phase 4 (2018 – 2028), liquefied biomethane and injection of biomethane into the local fossil natural gas distribution pipeline grids are targeted.
- f. The economic impact of Biomethane will be a value creation of 1.5 times with a product value of USD15/mmbtu.

Site Visits on 19th May 2017

The first site visited was to the Indah Water Konsortium Sdn Bhd (IWK) Regional Sewage Treatment Plant, Pantai I. This Plant is located at Pantai Dalam at south central end of Kuala Lumpur city next to the Klang River. This Sewage Treatment Plant (STP) was designed to treat sewage from a contributing Population Equivalent (PE) of 377,000 with an average flow of about 84,825 m³/d. An Anaerobic Digester was installed at this plant and the biogas produced was used to run a biogas engine to produce electricity to complement the grid electricity supply of the Plant.



Top: IWK Sewage Treatment Plant, Pantai Dalam (top right: Biogas engine facility)

The second site visited was a POM belonging to Felda Industries Sdn Bhd. This POM is located in Serting, Bahau, in the state of Negeri Sembilan, about 100 km south of Kuala Lumpur city. The biogas from the Palm Oil Mill Effluent (POME) is used to generate electricity using a biogas engine and the electricity feed into the grid under the FIT scheme.



Top: Felda Serting Palm Oil Mill – Biogas for supplying electricity into the electricity grid

Reported by: Lee Giok Seng, Executive Director, ANGVA, 5th June 2017.