

"Overview of Biogas Capture and Conversion into Bio-CNG in The Palm Oil Sector"

SYNOPSIS

Malaysia launched the Economic Transformation Programme, which consisted 12 National Key Economic Areas (NKEAs), in 2010 to boost the economy and achieve a high-income status by 2020. Biogas capture was one of the eight Entry Point Projects (EPPs) of the palm oil sector. The benefits of biogas capture include revenues from sale of bio-power, reduced carbon footprint and better market access of palm products to the European Union and the United States. Government incentives were provided to industrial and business entities to make use of biogas for generation of electric power (bio-power). All palm oil mills in Malaysia were expected to install biogas capture facilities by 2020. New biogas capture technologies have evolved from the simplest system of biogas capture and use as boiler fuel (and flaring the excess biogas). More efficient bio-digester systems are being developed to increase the production of biogas which is scrubbed and then used in combustion engines to generate electrical power (bio-power) for own use and for sale to the national grid. The industrial and business entities have successfully developed the technologies to convert the biogas into bio-CNG (purified and compressed biogas) which can replace fossil-based fuels such as diesel, petrol, compressed natural gas (CNG) and liquefied petroleum gas (LPG). Bio-CNG will become the green vehicle fuel of the future and could be the lifeline of the palm oil industry which will evolve into the new oil and gas (green, renewable) sector of our economy in the not too distant future.

SPEAKER

Ir. Ooi Ho Seng graduated from University of Malaya in 1972 with a B.E. and in 1974 with a M.Eng.Sc. He worked as a research officer on design of farm machinery, on mechanisation of crop production and on post-harvest processing of crops at MARDI from 1974 to 2005. He was a part-time lecturer at University Monash Malaysia in 2006 and 2007. Ir Ooi is a director of SGT Konsult Sdn Bhd, an engineering consultancy company, providing engineering solutions for the palm oil industry and a director of O3 Solutions Sdn Bhd, a Bio-Nexus R&D company, focusing on the management and microbial treatment of palm oil mill wastes. Since 2006, he was involved in projects related to evaluation, design, construction and operation of palm oil mills, biogas plants, POME polishing plant, EFB compost plants and many others. He is a member of the Industrial Advisory Board for the Chemical and Environmental Engineering Department of the University of Nottingham Malaysia since 2012 and has been active in AFETD since its formation in 2000.

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