

PRE-AGM TALK ON "Biogas Capture & Its Utilization"

Organised by the Agricultural and Food Engineering Technical Division, IEM

BEM Approved CPD/PDP Hours: 2 Ref No: IEM16/HQ/519/T

Date : 3 December 2016 (Saturday)
Time : 9.00 am – 11.00 am (Refreshments will be served at 8.30am)
Venue : Auditorium Tan Sri Prof. Chin Fung Kee, 3rd Floor, Wisma IEM,
Petaling Jaya, Selangor
Speaker : Ir. Wan Wai Thong

SYNOPSIS

Major composition of biogas is 55% methane (CH₄); 35% carbon dioxide (CO₂); 5% N₂; balance are of H₂; O₂; H₂S.

CH₄ is over 20 times more effective at trapping heat in the atmosphere than CO₂. CH₄ is commonly produced through anaerobic digestion of organic material. In this process, bacteria in an oxygen deprived environment break down organic material into a mixture of gases, water, and a solid effluent.

Among the available organic waste, palm oil mill effluent (POME) contents highest organic load in term of COD and BOD₅, this is average 70,000 ppm and 32,000 ppm respectively. Organic load of human waste are 1100 ppm COD & 500 ppm BOD₅.

This paper will focus on:-

- The Environmental impact of biogas emission from a POME
- The processes biogas capturing from POME on both liquid line and gas line.
- Various utilization of the upgraded biogas as fuel gas will be presented too.

BIODATA OF SPEAKER

Ir. Wan Wai Thong graduated with a Bachelor in Engineering Hons. Agriculture in 1993 and he managed to complete the 3 years of Reserve Officer Training Unit in 1992 before graduated as an engineer.



Obtained his 2nd grade steam engineer in 1995 and 1st grade steam engineer in 1997. In 1996, he obtained his Diploma in Palm Oil Milling and management offered by PORIM. He had worked in power plant in MNI in Mentakab, Pahang as shift manager for 6 over years. Experienced in operation and maintenance of high pressure and temperature power plant, study and monitor boiler efficiency and related machineries. He further his engineering quest by obtaining Professional Engineer certification by Board of Engineer Malaysia (BEM) in year 2011 and is a member of Institute of Engineer Malaysia (IEM). Experienced in managing engineering works for 2 years in Sabah. Expert in mechanical problem solving and with strong leadership skill. Proficient in English, Malay and Chinese and Cantonese has significantly increased the communication and integration speed with those working under him. Well trained in safety, technical skills, knowledge and love to share experience and knowledge with those working under or together with him. At present, he works as a technical director in one of palm oil milling company in Malaysia.

Monitoring operation of 2 palm oil mills, upgrading of mills and managing company projects such biomass and biogas power plant.

Ir. Yong Hong Liang
Chairman
Agricultural and Food Engineering Technical Division, IEM

ANNOUNCEMENTS TO NOTE:

- Preferential admission to talk shall be accorded to IEM members (pre-registration and online registration are NOT required). Telephone and/or fax reservation will NOT be entertained.
- Non members may also attend the talk but will need to pay a registration fee of RM50 and an administrative fee of RM15. GST is inclusive.
- For members of affiliated organisations, there will be no registration fee payable. However, they are requested to produce their membership card as proof of membership. For the list of affiliated organisations, please refer to IEM website at www.myiem.org.my under International/MoU.
- Limited seats are available on a "first come first served" basis (maximum 100 participants).
- IEM members are required to produce membership cards for confirmation of attendance (CPD purpose).
- Latecomers will not be allowed to enter if the lecture hall is full nor be entitled to CPD.
- IEM members who fail to produce their membership cards will be charged a fee of RM25.00. GST is inclusive.*

ADMINISTRATIVE FEE

- Kindly be informed that an administrative fee of RM15 is payable for talks organized by IEM. GST is inclusive.
- The fee would be used to cover overhead costs, building maintenance expenses as well as contribute to Wisma IEM Building Fund.
- All contributions will be deeply appreciated by IEM.
- Student Members are however exempted.

PERSONAL DATA PROTECTION ACT

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.

CPD HOURS CONFIRMATION

Name:

Membership No:

Signature: