



The Institution of Engineers, Malaysia

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TALK ON

"Technical Feasibility Study of Biomass Power Plants in Malaysia"

Organised by the Mechanical Engineering Technical Division, IEM

BEM Approved CPD/PDP Hours: 2

Ref No: IEM16/HQ/351/T

Date : 6 September 2016 (Tuesday)
Time : 5.30 pm – 7.30 pm (Refreshments will be served at 5.00 pm)
Venue : C&S and TUS Lecture Room, 2nd Floor, Wisma IEM, Petaling Jaya, Selangor
Speaker : Ir. Chia Chee Weng

SYNOPSIS

Malaysia is one of the largest palm oil producers and exporters in the world, which producing approximately 19.96 million tonnes of palm oil in 2015. Up-to 2015, there is total 5.64 million hectares (56,400 km²) of palm oil plantation in Malaysia, which is equivalent to about 78 times total land area of Singapore. As a consequence, average 104 million tonnes of Fresh Fruit Bunches (FFB) had been harvested, which is generating approximately 21 million tonnes of palm waste, which named as Empty Fruit Bunches. (EFB) This large amount of biomass waste (which is EFB) had a great potential to be converted into renewable energy, by burning the EFB in waste-fuel boilers and convert the steam to power via steam turbines.

The promotion of energy diversification is one of the important policy of Malaysian government. Originally, Malaysia's energy policy focused on four (4) element fuels, which is oil, gas, coal & hydro. In 2001, Malaysia had announced Five Fuel Diversification Strategy, with renewable energy fuels as the fifth (5th) component. Subsequently in 2011, the new renewable energy (RE) policy and act had been established to further strengthen the government's initiative to boost the renewable energy ecosystem in Malaysia. This policy/act was intended to transform Malaysia to become a nation that is able to satisfy its own energy needs from indigenous RE resources, be independent from fuel imports, and become a leader in green technology development.

In conjunction with this, several biomass power plant projects using the palm waste EFB as main fuel had been initiated by private sectors in Malaysia. However, most of these projects do not meet the objectives due to the unforeseen challenges and difficulties throughout the implementation stage. In fact, setting up of a typical palm based biomass power plant requires thorough feasibility study and customized designs, in order to suit different needs and constraints. The main objective of this two (2) hours talk is to share and discuss on the key factors that need to be considered in order to ensure the feasibility of the biomass power plant project. Key technical issues such as the plant sizing, heat mass balance, fuel availability analysis and also the lessons learned shall be further discussed in this talk.

BIODATA OF SPEAKER



Ir. CW Chia is a certified Professional Engineer by the Board of Engineers Malaysia (BEM) and also a corporate member with the Institution of Engineers Malaysia. (IEM) He graduated from University of Malaya (UM) with Bachelor of Degree in Mechanical Engineering.

Ir. Chia has more than ten (10) years of experience working in the renewable energy sector of Malaysia, focusing on areas of engineering, consultancy and project management of palm waste biomass power plants. Currently, he is running his own project management and engineering firm, covering the agriculture, energy and construction industry in South East Asia region.

Ir. Dr. Kannan M. Munisamy
Chairman
Mechanical Engineering Technical Division, IEM

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- 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.*

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- 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.

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