



## **EETD Inaugural WeekendTalk: Primary Energy Mix Options for Electricity Generation for Peninsular Malaysia**

by Dr Wong Jian Hui, Grad. IEM

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### **Primary Energy Mix Option for Electricity Generation in Peninsular Malaysia**

IEM Electrical Engineering Technical Division organised technical talk “Primary Energy Mix Options for Electricity Generation for Peninsular Malaysia” on 9<sup>th</sup> January 2016 at Wisma IEM, Petaling Jaya, Selangor. A total of 63 participants attended the event. The second speaker, Ir. Lalchand is an Electrical Engineer graduated from the Brighton College of Technology, United Kingdom. He has over 37 years of experience serving the Tenaga Nasional Berhad (TNB) in Distribution Management, Corporate Planning and Corporate Audit. He has been actively involved in the activities related to policy development and promotion of energy efficiency, renewable energy and sustainable development for buildings, infrastructure and power supply.

Ir. Lalchand started the talk with a brief overview of energy mix in Malaysia, the issues and challenges. As mentioned earlier, Malaysia is currently adopting the 5<sup>th</sup> Fuel Diversification Strategy energy mix. This strategy emphasizes that the energy mix in Malaysia is contributed by natural gas, oil, hydro, coal and renewable energy. For renewable energy projects, SEDA has targeted a capacity of greater than 800 MW from the Feed-in-tariff (FiT) scheme. The FiT fund is contributed from the surcharge of electricity bills. With effective 1<sup>st</sup> of January 2014, the surcharge was revised from 1.0% to 1.6%; the targeted capacity for renewable energy will be revised accordingly to reflect increase in surcharge quantum. Ir. Lalchand has explained that the long term capacity plan in Malaysia has incorporated renewable energy capacity as part of the overall supply system with an estimated contribution of more than 2.5% of the energy from renewable energy power plants under FiT mechanism. IrLalchand also shares his idea on the demand projection for Year 2013 to 2033 as reported in the Energy Outlook 2014 by SuruhanjayaTenaga.

Later in his presentation, Ir. Lalchand further explained that the impact of energy efficiency on demand reduction and the potential impact of renewable energy in Peninsular Malaysia. He has shared his point of view on the renewable energy development under the Renewable Energy Act 2011. In his presentation, Ir. Lalchand has pointed out that the PV generated electricity can only contribute approximately 25% of the energy generated by the other renewable energy technologies

and as required by the consumers. Thus, in his opinion, additional fossil fuelled power plants will be needed to satisfy the total consumers' demand.

Ir. Lalchand also shared his opinions on the possible impact of Nuclear Power in Malaysia. According to Ir. Lalchand, Malaysia aspires to become a high income and developed nation and Peninsular Malaysia needs nuclear electricity, but it should be after Year 2020. He also mentioned that deploying nuclear energy for power generation is one the entry point projects in ETP report launched by the Malaysian Prime Minister on 25<sup>th</sup> Oct 2010. Malaysia Nuclear Power Corporation (MNPC) will plan, spearhead and coordinate the implementation of nuclear energy development program for Malaysia and take the necessary actions to realize the development of first nuclear power plant in Malaysia.

Apart from nuclear, Ir. Lalchand also mentioned about the possible exploitation of Ocean Thermal Energy Conversion (OTEC) in Malaysia. In his presentation, Ir. Lalchand explained the principle of OTEC and the barriers of implementing OTEC in Malaysia.

As a conclusion, Ir. Lalchand concludes that biomass and biogas can considered as an alternative viable source for power generation. Wind energy is not viable in Malaysia while wave and tidal energy also inadequate in Malaysia. Likewise, OTEC is still far from being viable in the near future. Biofuels face cost hurdles as they are not viable without substantial subsidies. The event ended with some discussion among the speaker and participants, then a note of appreciation is presented from the organizing committee to Ir. Lalchand followed by a round of applause.



Organizing committee Engr. Low P.J (RIGHT) presenting souvenir to Ir. Lalchand (LEFT)