

METD Pre-AGM Forum on Renewable Energy in Malaysia

MECHANICAL ENGINEERING TECHNICAL DIVISION



reported by
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The annual general meeting of Mechanical Engineering Technical Division (METD) was held last October, 2015. In conjunction with the occasion, a pre-AGM forum was organised. It was presented by two speakers: Dato' Ir. Dr. Ali Askar Sher Mohamad, chief operating officer of Sustainable Energy Development Authority Malaysia (SEDA); and Mr. James Chua, executive director of GreenRE, Real Estate and Housing Developers' Association Malaysia (Rehda). Presiding over the forum was Ir. Farn Yew Hin of METD.

FIRST SESSION

Dato' Ali said SEDA was set up under the Sustainable Energy Development Authority Act in 2011, mainly to encourage the growth of RE (renewable energy). One of its main functions was to implement the Feed in Tariff (FIT).

Malaysia's RE sources are mainly biogas, biomass, small hydro, and solar photo voltaic (PV). The PV installations can be on individual scale, community and non-individual (further divided to either above or below 425 kW). The original RE target was first mooted under the 8th Malaysia plan in 2011 targeted as 5% of the generation mix and RE as the "fifth fuel" in power generation (the others being natural gas, coal, large hydro and oil).

In 2010, the National RE Policy and Action Plan (NREPAP) set 2080 MW and 4000 MW as the respective targets for 2020 and 2030. However, the AMEM (Asean Ministers of Energy Meeting) in 2014 made two important decisions that changed the targets and classification of RE:

1. Large hydro and off-grid hybrid RE systems would be classified as RE.
2. The target for RE capacity was increased to 30% of installed capacity by 2020. (The old target was 15% of installed capacity by 2015).

With the change, Malaysia's RE target capacity shot up from less than 300MW to almost 4,000MW. But going forward, the needed RE

target by 2020 would be 9,000MW (i.e. 30% of 30GW capacity). Even with new large hydro plants coming onstream, a substantial shortfall is expected, unless other steps are taken to increase RE installations.

Since the RE implementation, total RE capacity today stands at 320MW, out of the 985 MW planned till end-2015. The actual RE mix is quite different from the RE plan. Much more PV capacity has been installed against planned, meaning 209MW till Sept 2015 against the 65MW planned for up to 2015. And leading by far is the individual PV category with 4,180 installations and generating capacity of 41MW.

As no FIT is planned beyond 2025, SEDA has the following plans to keep RE attractive to investors and meet the RE targets.

1. Net Energy Metering (NEM): Utility consumers are allowed to install PV systems on their roofs for self-consumption, with the balance being exported to the Grid, and then net-off from their monthly bills at displaced cost.
2. Utility scale PV: PV plants with capacity 50 MW awarded by an auction process to the lowest qualified bidder.

SEDA data shows that biogas and biomass have some difficulties to bring online. Among the main challenges are: Feedstock (obtaining a secure, continuous supply of the fuel materials), grid connection (remote location of plant/feedstock and available grid connection capacity), financing, maturity of the RE plant technology and permit approvals (which could be up to more than a dozen different authorities.)

SECOND SESSION

In the second session, Mr. James Chua took a broad sweep at RE, presenting an insight into some new technology, such as tidal power, wave-power and geo thermal.

The CETO plant in Western Australia went online in early 2015 and was the first grid-connected wave-power station. It used undersea buoys to pump a series of seabed-anchored pumps, which in turn generated electricity.



Presentation by Dato' Ir. Dr. Ali Askar Sher Mohamad, Chief Operating Officer of SEDA Malaysia

Worldwide geo-thermal power capacity amounts to 12.8 GW. The countries having this are Iceland, Indonesia, China, El Salvador, Kenya, the Philippines and Costa Rica. These countries have high levels of geo-thermal activity which is an easily accessible and cost-effective RE. A geo-thermal plant has been planned in Ranau, Sabah. Reportedly, the first drill hole has been made and initial results could be promising.

Q & A SESSION

In the Q&A session, Mr. Chua said Malaysian consultants and developers have more than a dozen green building certification systems to choose from. Many of these

are overseas systems, such as LEED, Green Mark, etc. In Malaysia, we have these to choose from: Green Rating Scheme; CIDB's Green PASS; GBI (Green Building Index); and Rehad's Green RE (Green Real Estate). ■

IEM DIARY OF EVENTS

Title: One-Day Course on "Vertical Transportation Systems"

15 Mar 2016

Organised by: Mechanical Engineering Technical Division

Time: 9.00 a.m. – 5.30 p.m.

CPD/PDP: 7

Title: 1st Mentor Workshop 2016 - "Log Book Training Scheme - Guidelines for Mentors"

19 March 2016

Organised by: Standing Committee on Admission and

Practical Training

Time: 8.30 a.m. – 1.00 p.m.

CPD/PDP: 3.5

Kindly note that the scheduled events below are subject to change. Please visit the IEM website at www.myiem.org.my for more information on the upcoming events.