

The Malaysian Feed-In Tariff

ELECTRICAL ENGINEERING TECHNICAL DIVISION



by Ir. Chong Chew Fan

EVER since the enforcement of Renewable Energy Act 2011, Feed-in Tariff has become a popular topic amongst the engineers and the public community. The Electrical Engineering Technical Division (EETD) of the Institution of Engineers, Malaysia (IEM) and Institution of Engineering and Technology (IET) Malaysia Network recently conducted a talk entitled, 'The Malaysian Feed-In Tariff' at the Tan Sri Prof. Chin Fung Kee Auditorium, Wisma IEM.

This technical talk was presented by Ir. Ali Askar bin Sher Mohamad, who is currently the Chief Operating Officer (COO) of Sustainable Energy Development Authority Malaysia (SEDA) which is given the task to administer and manage the implementation of the feed-in tariff mechanism. The talk was attended by a total of 65 participants who come from various backgrounds.

Ir. Ali Askar started the talk by providing the definition of Renewable Energy (RE) and introducing some of the RE available such as wind, ocean, solar, water, biomass, tidal and geothermal to the participants.

Ir. Ali Askar then provided the background of the RE development in Malaysia which started with the launching of the Small Renewable Energy Power Programme (SREP) on 11 May 2001. Under the SREP programme, the small RE power generation plants are allowed to sell the electricity to the Utility Company through the Distribution Grid System based on direct negotiated rate on a "willing seller, willing buyer" and "take and pay" basis. Under the SREP programme, the utilisation of all types of RE including biomass, municipal waste, solar, mini-hydro and wind are allowed.

Malaysian Building Integrated Photovoltaic (MBIPV) Project was introduced by Pusat Tenaga Malaysia (PTM) which is currently known as Malaysian Green Technology Corporation to focus on the market development for BIPV technology with the implementation of Suria 1000 project where a Government subsidy was provided for roof-top PV installation based on a bidding system until year 2010.

He explained that under the 8th Malaysian Plan, RE has been identified as the 5th Fuel for Malaysia and represents 5% of the energy mix. Different RE capacity targets were included in the 9th and 10th Malaysian Plans. Ir. Ali Askar also described the development of the Government Policies on RE which started since the approval of the National Renewable Energy Policy & Action Plans by the Government of Malaysia on 2nd April 2010 until the RE Act was enforced in 1st Dec 2011.

He highlighted the three options which have been identified to promote RE before the feed-in tariff is selected, namely:

- The subsidies through the previous Suria 1000 Project;
- The Renewable Portfolio Standards which is popular in the United States of America (USA) but was found to be less successful compare to Feed-in Tariff (FiT); and
- The Feed-in Tariff where small independent producers can sell their generated energy to the Utility at a guaranteed price and for a fixed term which is popular in Germany, China, Japan and Europe.

Ir. Ali Askar also highlighted the national RE targets which are as follows:

Year	Cumulative RE Capacity	RE Power Mix (vs. Peak Demand)	Cumulative CO2 avoided
2011	73 MW	0.5%	0.3 mt
2015	985 MW	6%	11.1 mt
2020	2,080 MW	11%	42.2 mt
2030	4,000 MW	17%	145.1 mt

He explained that the tenth Entry Point Project (EPP) on Solar Power Capacity Initiative under the Oil, Gas and Energy National Key Economic Area (NKEA) provides the following target of solar power capacity:

Year	Solar Power Capacity (Cumulative)	RE Capacity (Cumulative)	RE Capacity Mix
2011	20 MW	219 MW	1%
2015	295 MW	1,275 MW	7%
2020	1,250 MW	3,140 MW	14%
2030	3,100 MW	7,088 MW	25%

He also highlighted that the Feed-in Tariff (FiT) has been introduced to achieve the numerous targets on RE. FiT has been defined as a mechanism that allows electricity that is produced from indigenous RE resources to be sold to Power Utilities at a fixed premium price and for a specific duration. This will provide a conducive and secured investment environment for the RE developers and financial institutions.

Ir. Ali Askar also explained that Malaysia uses a legal instrument for FiT implementation via RE Act 2011, which includes the following:

- i. Access to the Power Grid is guaranteed since the Utilities are legally obliged to accept all electricity generated by RE private producers;
- ii. An FiT rate which is high enough to produce Return on Investment (ROI) and reasonable profit;
- iii. The RE Fund which was established under the RE Act 2011 will be used to pay for the FiT rates and to guarantee payment over the contract period. The source of the RE Fund is 1% collection from the consumers' electricity bills, as decided by Government of Malaysia in June 2011; and
- iv. SEDA has been entrusted to implement the FiT.

He also briefly went through some important sections and clauses in the Renewable Energy Act 2011, namely the:

- i. **Section 4:** Eligibility for participation in Feed-In-Tariff system – RE installation 30MW (or such higher installed capacity as may be approved by the Minister)
- ii. **Section 14:** Priority of purchase and distribution
- iii. **Section 16:** Payment of Feed-In Tariff
- iv. **Section 17:** Degression of Feed-In Tariff
- v. **Section 23:** Renewable Energy Fund.

Besides the RE Act 2011, Ir. Ali Askar also mentioned the relevant subsidiary legislations on RE to the participants.

Subsequently, he further elaborated on the FiT Schedules for various RE namely Biogas, Biomass, Small Hydropower and Solar PV, which are made available at SEDA Official Web Portal. He also presented the planned annual RE Quota for 2012-2014 and the FiT quota as of 30th June 2012. The details are illustrated in Table 1 and 2.

As the COO of SEDA, Ir. Ali Askar briefly explained the online application process of FiT using the SEDA Web Portal, beginning from the RE developer account creation up to the application of RE quota.

He also shared with the participants the problems faced by FiT, such as:

- i. The non-user friendly issue of the e-FiT;
- ii. The excessive demand for solar PV quota;
- iii. The lack of interest in other technologies; and
- iv. The slow action by Tenaga Nasional Berhad (TNB) in processing the interconnection facilities and signing of REPPAs.

He also pointed out that SEDA is encouraging the research and development (R&D) in all RE technologies associated with potential resources in Malaysia which is currently not included in the FiT. Those RE technologies include geothermal, wind, tidal, wave and ocean thermal.

Ir. Ali Askar then opened the floor to a lively Q&A session during which he engaged with members of the audience at a personal level. Before he bode farewell, the speaker was presented with a memento by Ir. Chong Chew Fan on behalf of EETD and IET Malaysia Network, as a token of appreciation. ■

Year	Biogas	Biogas – Sewage	Biomass	Solid-Waste	Small Hydro	Solar PV < 1 MW	Solar PV > 1 MW	Total
	MW	MW	MW	MW	MW	MW	MW	MW
2011/2012	20	10	60	20	30	10	40	190
2013	20	10	50	30	30	10	40	190

Table 1: Planned Annual RE Quota for period 2012-2014

Available MW installed capacity for FiT Application	2012/H1	2012/H2	2013/H1	2013/H2	2014/H1	2014/H2
	MW	MW	MW	MW	MW	MW
Biogas	10	4.47	10	7.63	10	TBA
Biogas (Landfill / Sewage)	0	0.88	0	5	5	TBA
Biomass	8.81	5.58	6.62	4.63	25	TBA
Biomass (Solid Waste)	3.71	10	15	13.82	15	TBA
Small Hydro	3.10	12.02	4.67	6.04	21.86	TBA
Solar PV						
Individual (< 12 kW)	0	0	0.12	2.18	2.49	TBA
Non-individual (< 0.5 MW)	0	0	0	0	0	TBA
Non-individual (> 0.5 MW)	0	0	0	0	0	TBA

Table 2: FiT quota as at 30th June 2012