



WORKSHOP ON RENEWABLE ENERGY POLICIES

A Side Event At The 3rd IRENA Assembly Meeting

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Feed-in Tariff Specifications, Features, Amendments & Current & Future Challenges In Malaysia

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Presentation Outline

- 1. Malaysian National RE Policy & Action Plan**
 - **Thrusts & Targets**
- 2. FiT Implementation In Malaysia**
 - **Feed-in Tariff Specifications & Features**
- 3. Current & Future Challenges**
- 4. Conclusion**



Malaysian National RE Policy & Action Plan - Thrusts & Targets



Strategic Thrusts of Malaysian National RE Policy

Strategic Thrust 2:
Provide Conducive Business
Environment for RE

Strategic Thrust 3:
Intensify Human Capital
Development

Strategic Thrust 1:
Introduce Legal and
Regulatory
Framework

Strategic Thrust 5:
Create Public Awareness &
RE Policy Advocacy
Programmes

Strategic Thrust 4:
Enhance RE Research and
Development



Malaysian National Renewable Energy Policy and Action Plan

THRUST 1

- **Introduce Appropriate Legal Framework**
- Feed-in Tariff (FiT)
- RE Fund
- SEDA Malaysia - FiT Implementing Agency

THRUST 2

- **Create Conducive Business Environment for RE**
- Promote RE businesses –SME & manufacturing
- Long term low interest financing
- Fiscal Incentives
- Special Incentives for Locally Developed R&D
- Incentives to Promote Local Content
- RE Centre for SMEs

THRUST 3

- **Intensify Human Capital Development**
- RE in Technical & Tertiary Curricula
- RE Training Institutes
- Centres of Excellence
- Experts to fulfil local & overseas market
- Fiscal relief for RE courses
- Financial incentives for training programmes

THRUST 4

- **Enhance RE R & D**
- Focus R&D – reduce cost of technology & promote wider application
- Coordination & co-operation in technology & economic research bet Government & private sector
- Strong linkages bet local & international research institutes
- Development of RE innovations

THRUST 5

- **Increase Public and Stakeholder Awareness & RE Policy Advocacy**
- Effective & continuous information dissemination
- Relationship with media, NGOs & private entities
- Demonstration & awareness programmes in primary & secondary schools
- Periodic monitoring & evaluation of RE

Malaysian National RE Targets

Year	Cumulative RE Capacity	RE Power Mix	Cumulative CO ₂ avoided
2015	985 MW	5.5%	11.1 mt
2020	2,080 MW	11%	42.2 mt
2030	4,000 MW	17%	145.1 mt

Note: RE capacity achievements are dependent on the size of RE fund

- Assumptions:
 - Feed-in Tariff (FiT) implemented



FiT Implementation In Malaysia : Feed-in Tariff Specifications & Features



FiT Implementation In Malaysia

➤ 3 success factors for FiT Implementation in Malaysia:

- ✓ RE Act 2011
 - Enforced 1 December 2011
- ✓ RE Fund
 - 1% surcharge to electricity consumers
- ✓ Implementing agency
 - Sustainable Energy Development Authority Act 2011 – enforced 1 September 2011



Annual RE Quota (Up to 2014) - Total 505MW

	Biogas	Biogas - Sewage	Biomass	Solid- Waste	Small Hydro	Solar PV < 1MW	Solar PV > 1MW	Total (MW)
Year	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
H1 2014	10	5	25	15	45	5	20	125

Source: www.seda.gov.my





e-FiT Online System– Open & Transparent Platform

➤ Malaysia use e-FiT online system for FiT applications

- ✓ intelligent & independent ICT system 
 - Feed-in Approval applications - based on a first-come-first-served basis without any human intervention
 - REPPA & guidelines had been embedded in the system.
 - Employees or no other person are able to influence & control the allocation of RE quotas
- ✓ compliance to FiT rules and regulations stipulated under the Renewable Energy Act 2011
 - Given pre allocated with a quota upon submission into system
 - Subject to quota availability
- ✓ RE Act 2011 had provisions for penalties with monetary fines up to a maximum of RM1 million (approx USD 330k) and/or imprisonment of up to 3 years for providing false or misleading information.



➤ **Web Application**

- ✓ The e-FiT system can be accessed using web browser from computer, tablet & smartphone.

➤ **Availability - 24 x 7**

- ✓ Access to system is not limited to time & place

➤ **Highly secured**

- ✓ Every transaction to system is encrypted using Secure Socket Layer (SSL) to ensure secure data communication

➤ **Compliance to RE Act 2011**

- ✓ System is developed to enhance the quota and fund management process
- ✓ Comply with RE Act 2011 provisions



➤ **Online recovery of moneys submission by Distribution Licensee**

- ✓ DL submit their recovery of moneys through online
 - saves time & efficient

➤ **Online Monitoring**

- ✓ Applications, project funding & performance
- ✓ Every RE project is monitored closely for every required milestone

➤ **Online & real time report**

- ✓ Online monitoring RE project
- ✓ Any report from system can be accessed on real time basis (Fund, Quota, project progress, RE plant performance)



FiT Ammendments



Enhancement of FiT

(i) e-FiT Online System Enhancement

Enhancement of FiT

(ii) Enhancement of FiT Implementation through Amendments of RE Act 2011 Subsidiary Legislations

(iii) Monitoring Project Progress
e.g. Revocation Process



(i) e - FiT Online System enhancement

➤ e-FiT Online System requires enhancement

- 12 months implementation - taking into account user feedbacks & implementation experience
- enhancements to ensure e-FiT Online System is more robust, effective & user-friendly
 - ✓ Speed up the approval process 
- Always relevant to support the development of local RE industry
- SEDA Malaysia organizes road shows nationwide
 - ✓ to inform the stakeholders and the public on the enhancements made to the e-FiT online System; and
 - ✓ New the process and procedures of FiT applications





(ii) Enhancement of FiT Implementation - Amendments of RE Act 2011 Subsidiary Legislations

➤ Amendments to the RE Act 2011 Schedule & Subsidiary Legislations

- improve the implementation management of the FiT mechanism for the benefit of all the RE players including home owners
- Amendments to the Schedule in RE Act 2011
 - ✓ new depression rates for solar PV
 - ✓ inline with PV global prices
- Renewable Energy (Feed-In Approval & Feed-In Tariff Rate) Rules 2011
 - ✓ Fees chargeable for FiT applications & changes made to data in system
- Renewable Energy (Technical and Operational) Rules 2011
 - ✓ definition of “Prudent Utility Practice (PUP)” to be included & “the Institute of Electrical and Electronics Engineers Standards”
 - ✓ requirement for Connection Confirmation Check
 - ✓ Feed-in Tariff commencement date shall be decided by the Authority



(iii) Monitoring Project Progress – Revocation Process

- **SEDA Malaysia is closely monitoring the progress of each projects which has been awarded the Feed-in Approval.**
 - ✓ Many Feed-in Approval holders (FiAHs) unable to progress according to milestones set
 - poor preparation for project implementation
 - ✓ SEDA Malaysia had issued notices intention to revoke for those who have missed their milestones & all feedbacks are being carefully considered due to:
 - Limited RE Fund available
 - Ensure no FiAHs could hold on to the quota obtained & not implementing the project.
 - **Revocation process will follow through for those who are unable to provide a solid reason for their failure to meet the milestones**
 - Quota revoked will revert into the system

Current & Future Challenges



Current Challenges

I. Early lessons - requests by project owners/ developers affecting the e-FiT Online System

- Numerous request for changes to particulars in the e-FiT system e.g. name, Identification Card No, company registration no. etc
- Changes to project details e.g. location, capacity, Declared Annual Availability
- Extension of milestones e.g. REPPA signing, Financial Closure, IOD, FiT Commissioning Date
- Project owners / developers are also in a learning curve



Current Challenges (con't..)

II. Difficulty of FiAHs to meet declared milestones:

- Distribution Licensee requires more time for RE Power Purchase Agreements to be signed
- Difficulty in securing financing – banks hesitant to provide financing
- Application for extension of time done case by case basis
- Applicants putting aggressive/unachievable milestone dates during the application process

III. Amendments to RE Act 2011 Schedule & Subsidiary Legislations

- Based on actual implementation experience



Current Challenges (con't..)

IV. Setting the appropriate tariff

- To keep up with rapid development of RE especially solar PV
- Difficulties in setting degression rates due to resistance from interested parties
- To balance tariff setting and ensure the IRR will make project financially viable

V. Quotas & Funding the FiT implementation

- 1% surcharge from consumers face opposition
 - ✓ other sources for RE Fund need to be identified
 - ✓ a sustainable source of funds
- To ensure sufficient funds for the entire implementation period
- Quota release is based on existing limited funds.



Current Challenges (con't..)

VI. Imbalance in FiT take up rate

- Commercial quota for Solar PV
 - ✓ highly sought after - fully taken up.
- Quota for non-PV resources
 - ✓ take up rate is slow.

VII. Inexperience Developers

- Most developers focus on FiT only from the commercial aspect
 - ✓ Less importance given to technical aspect of RE technology
- Some developers have little experience but wants “try” RE business.

IX. Project Funding

- Difficulty to secure funding
 - ✓ commercial - Governments assists via Green Technology Financing Scheme (GTFS)
 - ✓ individual solar application - own financing



Current Challenges (con't..)

X. Coordination /Jurisdiction of Government Agencies

- need coordination & facilitation between Government agencies
- state government not familiar with FiT process & procedures
- RE sources jurisdiction e.g rivers & MSW tipping fee rates

XI. Lack of locally manufactured RE equipment

- No Inverter manufacturer in Malaysia
- Only locally assembled modules
- Target - locally manufactured products can reduce cost of installation & make easier sourcing of critical spare parts.



Future Challenges

I. Identifying new RE resources

- need to identify other RE sources of RE e.g wind, geothermal, ocean thermal, tidal etc
- Comprehensive RE wind mapping for Malaysia – to start 2013
- Geothermal prospecting - site identified to start 2013

II. Competency & capacity building

- Training & retraining of certified persons to keep abreast with advancement in RE technologies.
- Identify training centres for
 - ✓ Skilled & semi skilled trainings
 - ✓ Develop centres of excellence for RE technologies



Future Challenges (con't)

III. Grid Parity

- Malaysia's power market is still heavily dependent on gas subsidies
 - ✓ Conventional power plants offers relatively cheaper electricity compared to RE because of subsidies.
 - ✓ Grid parity is still in distant future.
- Potential economic savings of RE plants can only be seen once the power market is liberalize with no subsidies.

IV. Government Policy

- Current government is committed in promoting RE & reducing carbon emission
- Success of FiT in Malaysia is heavily dependant on Government policy e.g. contribution to RE Fund, degression rates, fuel subsidies etc



Future Challenges (con't)

V. Enhancement of FiT mechanism implementation

- RE Fund must be utilized efficiently
- A bidding system is planned for the future

VI. Collaboration between Government Agencies & participation from State Governments

- Education & awareness for Government officials – federal & state
- Encourage state governments to participate in FiT



Conclusion





Potential Impact of National RE Policy by Year 2020

- ❑ Minimum **RM 2.1 billion (USD700mil)** savings of external cost to mitigate CO2 emissions (total 42 million tonnes avoided from 2011 to 2020)
- ❑ Minimum **RM 19 billion (USD 6.33bil)** of loan values for RE projects, which will provide local banks with new sources of revenues (at 80% debt financing for RE projects)
- ❑ Minimum **RM 70 billion (USD23.33bil)** of RE business revenues generated from RE power plants operation, which can generate **tax income of minimum RM 1.75 billion to Government**
- ❑ **> 50,000 jobs created** to construct, operate and maintain RE power plants (on the basis of 15-30 job per MW).





Thank you for your attention

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Features of e-FiT



(i) e - FiT Online System enhancement (con't)

- Some new features in the e-FiT System includes:
 - ✓ Submission of Detailed Engineering Design;
 - ✓ New Supporting Document Requirements For Applicants;
 - ✓ Limit Of Application submission Per Day and Per Applicant;
 - ✓ Project Site Tracking using local land office identification code (Unique Parcel Identifier (UPI)) ;
 - ✓ Proof Of Project Site Ownership Information;
 - ✓ Monitor Applicants Equity must Up To 5% Of Project Cost;
 - ✓ Controlled Work plan by applicant for all proposed Project Milestones;
 - ✓ Applicant profiling to ensure fairness quota distribution;
 - ✓ Online Quota and fund Management; and
 - ✓ Collaboration with external parties such as banks, Regulator, Distribution Licensee and FiAH



Feed-in Tariff Rates

Technology / Source	FiT Duration	Range of FiT Rates (RM/kWh)	Annual Degression
Biomass (palm oil waste, agro based)	16	0.27 – 0.35	0.5%
Biomass (Solid waste)	16	0.37 – 0.45	1.8%
Biogas (palm oil waste, agro based, farming)	16	0.28 – 0.35	0.5%
Mini Hydro	21	0.23 – 0.24	0%
Solar PV	21	0.85 – 1.78	8%

