



## Industry Briefing on Feed-in Tariff Procedures

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## Objectives of Briefing

- Provide updates to RE industry on progress of feed-in tariff in Malaysia
- Share with RE industry and obtain feedback on the application procedure for feed-in tariff
- Share with RE industry the functions of Sustainable Energy Development Authority (SEDA)

## Disclaimer

The information given today is within the context of the RE Act that will be tabled before the Parliament by the end of this year.

RE/MBIPV National RE Project has compiled this in good faith and information above may change without prior notice.

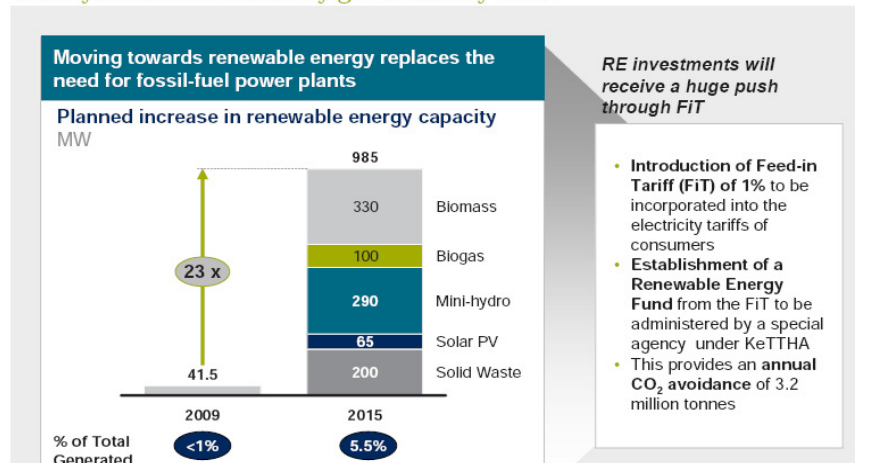
## Session 1

Background on Feed-in Tariff

## Feed-in Tariff in Malaysia

- As of 2<sup>nd</sup> April 2010, the Cabinet has approved the RE Act and Act for FiT Implementing Agency. On the 10<sup>th</sup> June 2010, under the 10<sup>th</sup> Malaysia Plan, National RE Policy & Action Plan was formally announced.

Renewable energy will increase from <1% in 2009 to 5.5% of Malaysia's total electricity generated by 2015



## Feed-in Tariff in Malaysia.. cont

- The RE Act and Act for Implementing Agency for FiT will be tabled before the Parliament in October 2010.
- The feed-in tariff will be launched at earliest by Q2 2011
- Sustainable Energy Development Authority (SEDA) will be established to manage the feed-in tariff (FiT) programme
- FiT rate is based on commissioning year.
- Each year, the FiT rate degresses for RE technologies (except mini hydro). Tariff degression refers to the annual reduction of the FiT rates.

## Feed-in Tariff Rate for Biogas

<i>Capacity of renewable energy installation</i>	<i>Feed-In-Tariff rate (RM-Sen per kWh)</i>	<i>Effective period</i>	<i>Initial annual degression rate</i>
Installed capacity up to and including 4 MW	32	16 years	0.50%
Installed capacity above 4 MW, and up to and including 10 MW	30	16 years	0.50%
Installed capacity above 10 MW, and up to and including 30 MW	28	16 years	0.50%
Additional for use of gas engine technology with electrical efficiency of above 40%	+2	16 years	0.50%
Additional for use of locally manufactured or assembled gas engine technology	+1	16 years	0.50%
Additional for use of landfill or sewage gas as fuel source	+8	16 years	1.80%

## Feed-in Tariff Rate for Biomass

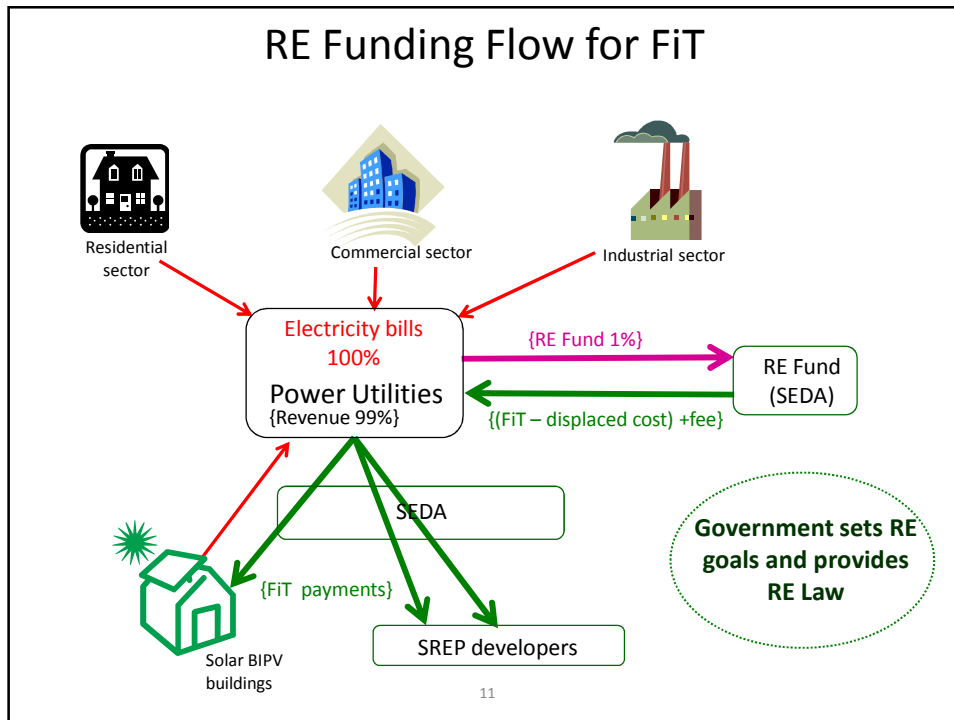
<i>Capacity of renewable energy installation</i>	<i>Feed-In-Tariff rate (RM-Sen per kWh)</i>	<i>Effective period</i>	<i>Initial annual degression rate</i>
Installed capacity up to and including 10 MW	31	16 years	0.50%
Installed capacity above 10 MW, and up to and including 20 MW	29	16 years	0.50%
Installed capacity above 20 MW, and up to and including 30 MW	27	16 years	0.50%
Additional for use of gasification technology	+2	16 years	0.50%
Additional for use of steam-based electricity generating systems with overall efficiency of above 14%	+1	16 years	0.50%
Additional for use of locally manufactured or assembled gasification technology	+1	16 years	0.50%
Additional for use of municipal solid waste as fuel source	+10	16 years	1.80%

## Feed-in Tariff Rate for Mini Hydro

<i>Capacity of renewable energy installation</i>	<i>Feed-In-Tariff rate (RM-Sen per kWh)</i>	<i>Effective period</i>	<i>Initial annual degression rate</i>
Installed capacity up to and including 10 MW	24	21 years	0%
Installed capacity above 10 MW, and up to and including 30 MW	23	21 years	0%

## Feed-in Tariff Rate for Solar PV

<i>Capacity of renewable energy installation</i>	<i>Feed-In-Tariff rate (RM-Sen per kWh)</i>	<i>Effective period</i>	<i>Initial annual degression rate</i>
Installed capacity up to and including 4 kWp	123	21 years	10%
Installed capacity above 4 kWp, and up to and including 24 kWp	120	21 years	10%
Installed capacity above 24 kWp, and up to and including 72 kWp	118	21 years	10%
Installed capacity above 72 kWp, and up to and including 1 MWp	114	21 years	10%
Installed capacity above 1 MWp, and up to and including 10 MWp	95	21 years	13%
Installed capacity above 10 MWp, and up to and including 30 MWp	85	21 years	13%
Additional for installation in buildings or building structures	+26	21 years	10%
Additional for use as building materials	+25	21 years	10%
Additional for use of locally manufactured or assembled solar photovoltaic modules	+3	21 years	10%
Additional for use of locally manufactured or assembled solar inverters	+1	21 years	10%



### Displaced Cost of Electricity

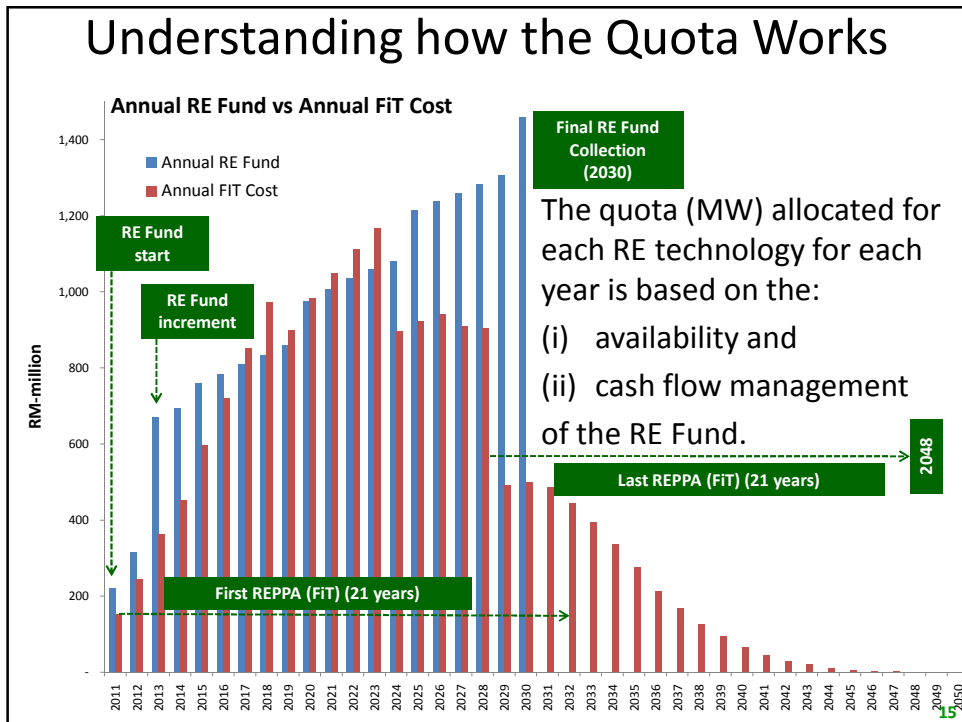
RE Technologies/ Resources	Displaced Electricity Cost* (RM/kWh)
Biomass (palm oil, agro-based, municipal solid waste)	0.2214
Biogas (palm oil, agro-based, farming, landfill or sewage gas)	0.22 14
Mini-hydro	0.2214
Solar PV	0.3504

\* The displaced cost is the average cost of generating and supplying electricity through the utility's supply line and up to the point of interconnection with the renewable energy systems. The displaced cost is estimated to increase at the rate of 0.5 % each year.

Annual Quota on RE Capacity (MW)						
Year	Biomass	Biogas	Mini-Hydro	Solar PV	Solid Waste	Total per Annum
<b>2011</b>	<b>110</b>	<b>20</b>	<b>60</b>	<b>9</b>	<b>20</b>	<b>219</b>
2012	40	15	50	11	30	146
2013	50	15	60	13	40	178
2014	60	25	60	15	50	210
<b>2015</b>	<b>70</b>	<b>25</b>	<b>60</b>	<b>17</b>	<b>60</b>	<b>232</b>
2016	80	25	60	19	40	224
2017	90	30	50	21	40	231
2018	100	30	40	24	30	224
2019	100	30	30	28	30	218
<b>2020</b>	<b>100</b>	<b>25</b>	<b>20</b>	<b>33</b>	<b>20</b>	<b>198</b>
:				:	:	:
<b>2030</b>				<b>280</b>	<b>2</b>	<b>282</b>
:				:	:	:
<b>2040</b>				<b>850</b>	<b>2</b>	<b>852</b>
:				:	:	:
<b>2050</b>				<b>1,350</b>	<b>2</b>	<b>1,352</b>

Cumulative Quota on RE Capacity (MW)						
Year	Biomass	Biogas	Mini-Hydro	Solar PV	Solid Waste	Total
<b>2011</b>	<b>110</b>	<b>20</b>	<b>60</b>	<b>9</b>	<b>20</b>	<b>219</b>
2012	150	35	110	20	50	365
2013	200	50	170	33	90	543
2014	260	75	230	48	140	753
<b>2015</b>	<b>330</b>	<b>100</b>	<b>290</b>	<b>65</b>	<b>200</b>	<b>985</b>
2016	410	125	350	84	240	1,209
2017	500	155	400	105	280	1,440
2018	600	185	440	129	310	1,664
2019	700	215	470	157	340	1,882
<b>2020</b>	<b>800</b>	<b>240</b>	<b>490</b>	<b>190</b>	<b>360</b>	<b>2,080</b>
:	:	:	:	:	:	:
<b>2025</b>	<b>1,190</b>	<b>350</b>	<b>490</b>	<b>455</b>	<b>380</b>	<b>2,865</b>
:	:	:	:	:	:	:
<b>2030</b>	<b>1,340</b>	<b>410</b>	<b>490</b>	<b>1,370</b>	<b>390</b>	<b>4,000</b>
:	:	:	:	:	:	:
<b>2040</b>	<b>1,340</b>	<b>410</b>	<b>490</b>	<b>7,450</b>	<b>410</b>	<b>10,100</b>
:	:	:	:	:	:	:
<b>2050</b>	<b>1,340</b>	<b>410</b>	<b>490</b>	<b>18,700</b>	<b>430</b>	<b>21,370</b>

# Understanding how the Quota Works



## The Quota will be announced in SEDA's website

Quota (MW)/Quarter	Year 2011				Year 2012				Year 2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Solar PV	2.25	2.25	2.25	2.25	2.75	2.75	2.75	2.75	3.25	3.25
Biomass	27.5	27.5	27.5	27.5	10	10	10	10	12.5	12.5
Biogas	5	5	5	5	3.75	3.75	3.75	3.75	3.75	3.75
Mini Hydro	15	15	15	15	12.5	12.5	12.5	12.5	15	15
Solid Waste	5	5	5	5	7.5	7.5	7.5	7.5	10	10

RE capacities available to be applied for: 2011 Q1 - 2012 Q4

Q & A

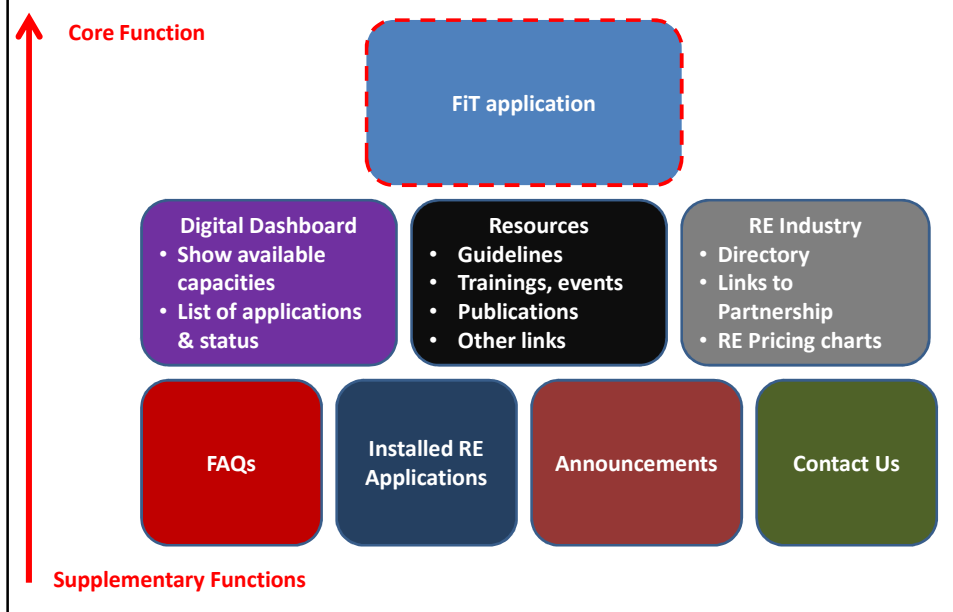
## Session 2

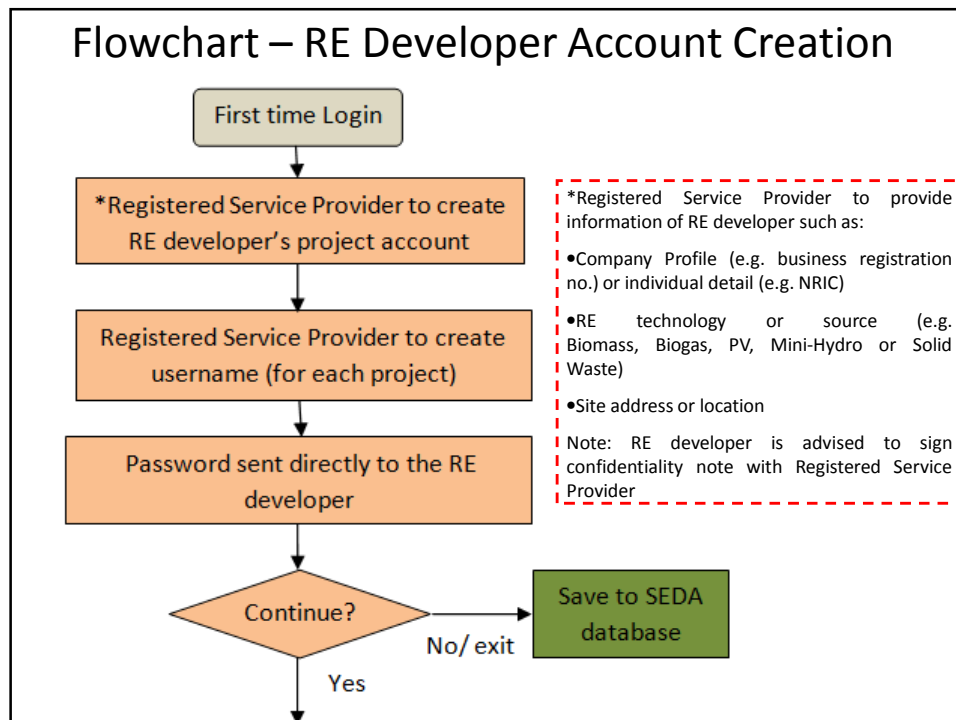
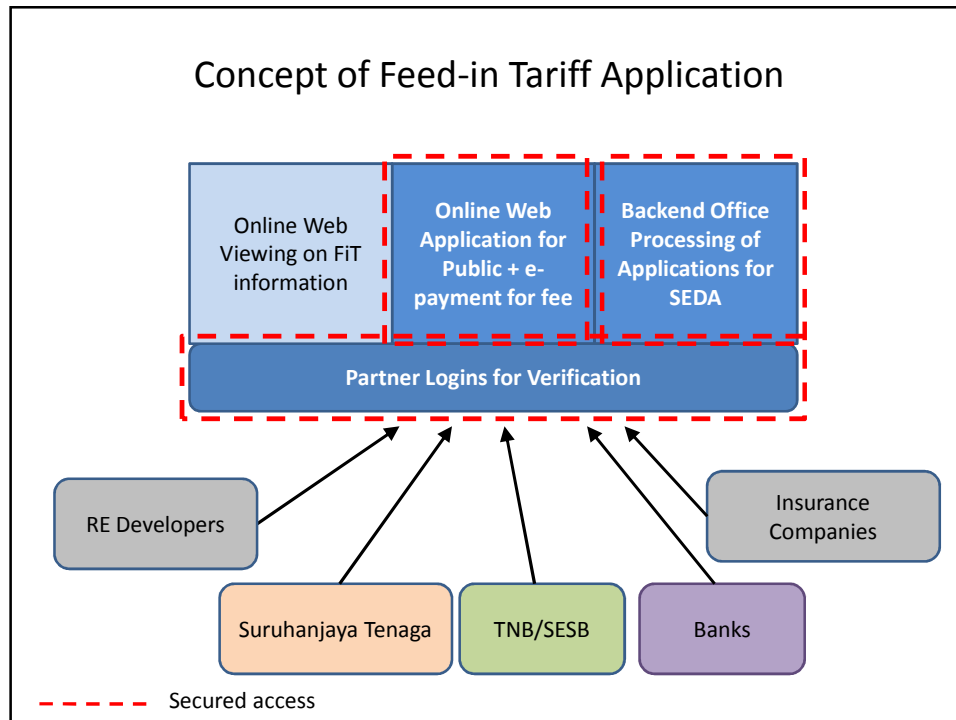
Feed-in Tariff Application Procedures

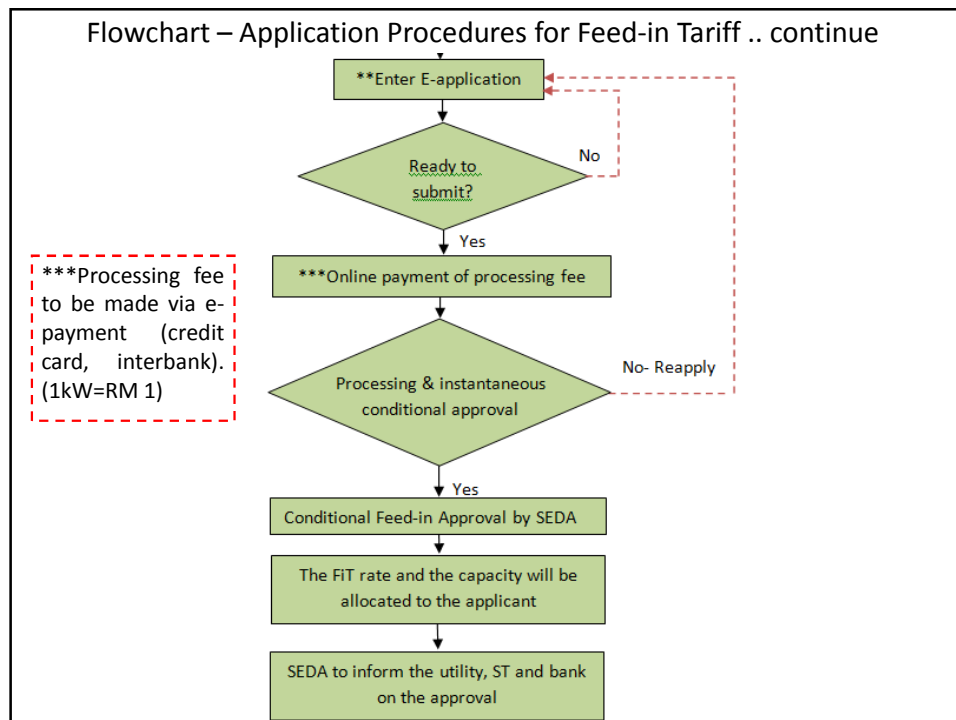
## FiT Online Applications

- ICT will play a key role in the FiT programme; all applications for FiT will be carried out online
- All applications must be submitted by Registered Service Provider
- All Service Providers must register with SEDA

## Components of Feed-in Tariff Online System







## Information Required for Application Form

### Technical Information:

- Generation Data (Capacity, Energy Generation);
- Work plan (Commercial Operation Date);
- Schematic drawings;
- Distributor interconnection point;
- Technical Specs as required to qualify for FiT rate: e.g.
  - Gasification technology (biomass, biogas);
  - Efficiency for steam based electricity generation system (biomass);
  - Electrical Efficiency technology (biogas)
  - Local content (all except mini hydro);

**Financial Information:**

- IRR;
- O&M cost
- Machinery & equipment cost
- Insurance premium
- Source of financing (investment cost, loan, equity, loan rate, loan period);
- Additional revenue (e.g. solid waste)

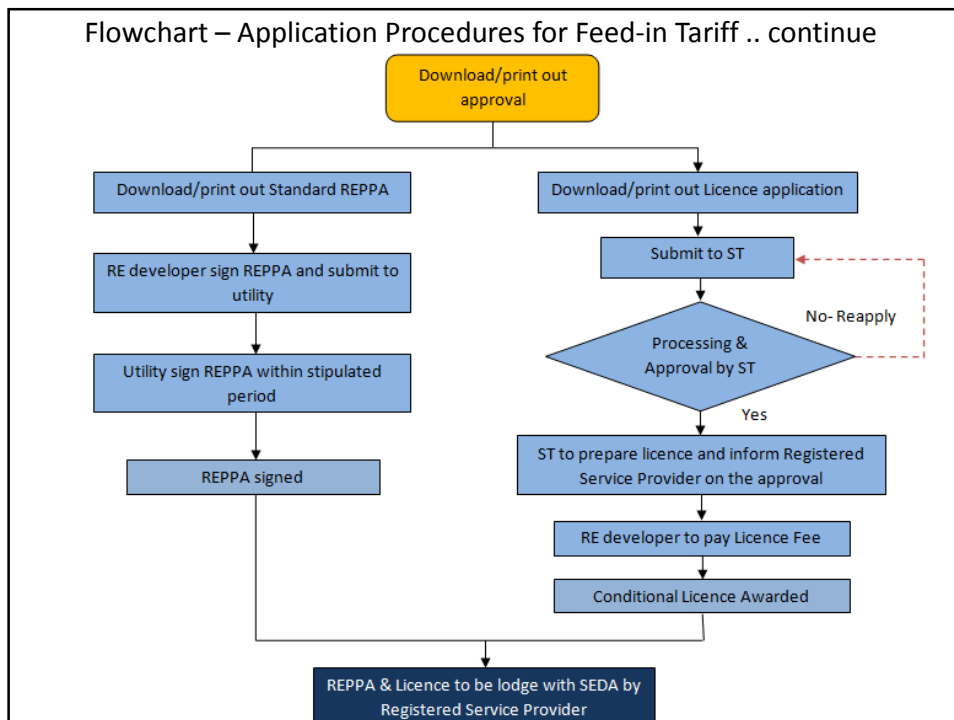
**Fuel requirement:**

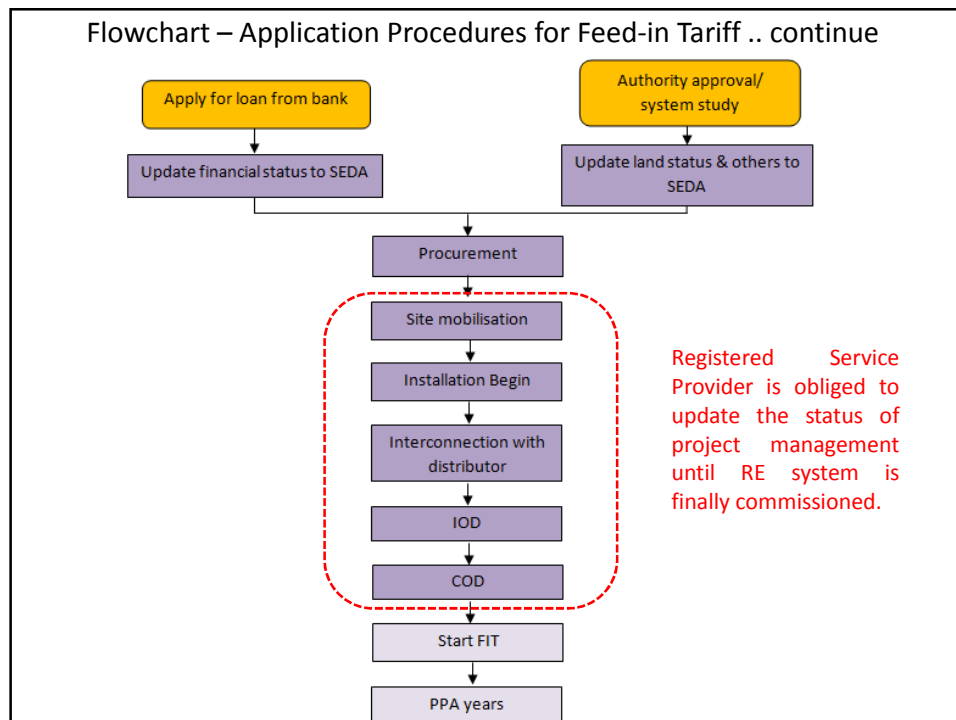
- Fuel input
- Cost of fuel

**Administration:**

- Information for REPPA (utility), Licensing (ST), banks and insurance.
- Requirement and land status for approval of local regulation
- Information on incentive received

\*Note: This is not the final requirement and may include other necessary documentation at the point of time when FiT is launched.





### Criteria for Service Provider

- Registration of Service Provider:
  - Registration by RE Resources/ technology - (solar PV, biomass, biogas, mini-hydro)
  - Registration by capacity range
  - Registration is either full or provisional:
  - Registration is renewable on annual basis
  - APVSPs under MBIPV Project (exist until Dec 2010) will be required to register with SEDA
- Technology partner is required if Registered Service Provider does not have full registration for the capacity required under that RE technology
- Financial consideration – company financial status (is only for Solar PV)
- Rating System – based on the installation capacity, pricing and others per technology

## Criteria for RE Developer

- Proposed to generate electricity  $\leq 30\text{MW}$  (or higher if approved by Minister) using eligible RE resources/ technology
- Is not associated (49% threshold) with the distributor for that area
- Meets such other criteria prescribed by SEDA Malaysia from time to time.
- Foreign investor- foreign equity shareholding is capped at a maximum rate of 49%.

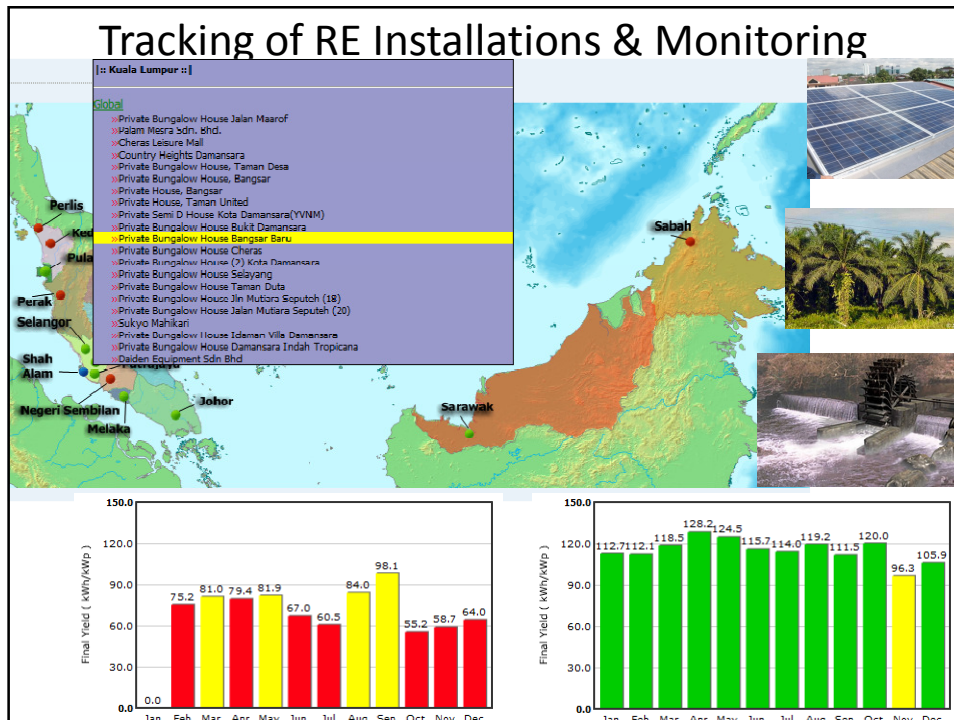
Q & A

## Session 3

### Functions of SEDA

#### Functions of SEDA

- advise the Minister & Gov't Entities on all matters relating to sustainable energy
- promote & implement national policy objectives for renewable energy
- promote, stimulate, facilitate & develop sustainable energy
- implement, manage, monitor & review the Feed-In Tariff system
- implement sustainable energy laws including the Renewable Energy Act & recommend reforms
- promote private sector investment in sustainable energy sector
- carry out / arrange R&D, advisory services & disseminate information
- implement measures to improve public awareness
- act as focal point to assist the Minister on matters relating to sustainable energy & climate change matters relating to energy



### Possible penalties under the RE Act faced by the RE Developers

- **For violating FiT condition:** Maximum fine of MYR [XXX,XXX] or imprisonment for a term not exceeding [X] years or BOTH.
- **For dishonest use of sources to generate electricity:** Maximum fine of MYR [X,XXX,XXX] or imprisonment for a term not exceeding [X] years or BOTH. The RE Developer may have to pay to the Authority the amount loss as a result of dishonest claim.

## Common FAQs

### **What can I prepare prior to the start of FiT?**

- You can finalize all information and details for your proposed RE plant, such as location, system design, approvals, financing, nearest interconnection point, etc.
- Please ensure that the RE systems complies with all local and technical requirements. For example, a PV system needs to be designed and installed by a Registered PV Service Provider (PVSP) while the PV modules and inverters shall have IEC certifications.

### **What if I am a current SREP developer with an existing plant in operation? Can I apply for the FiT?**

Yes, you will be eligible for the FiT but you will need to re-apply for the FiT and re-sign a new REPPA. However your license period will be adjusted accordingly taking into account the number of years your plant has been operating.

### **I have received grants as capital investment to construct a biogas plant. Will I still be eligible for FiT?**

All potential RE developers will have to declare all incentives received when filing the online application and eligibility for FiTs for those with existing incentives such as capital grants will be reviewed on a case by case basis to ensure fairness and transparency.

**Am I still eligible for the FiT if I am a SURIA 1000 incentives recipient? Do I need to do anything or will my system migrate automatically into a FiT based system?**

Yes, you are eligible however, migration is not automatic. Need to apply for the FiT. Detailed information on the application procedures will be published prior to the launch of FiT programme.

**How can I be the first to apply for FiT?**

The FiT system works on the basis of first successful applications via the web portal to ensure fairness and transparency. Further detail on the procedure and required documentation will be published in due time. At the start of FiT, a special allocation will be offered to existing RE installations. Existing means parties with signed REPPAs or having net-metering accounts with electricity distributors. Other parties who are currently constructing their RE plants or systems but without the REPPA or net-meter account would be considered as new FiT applicants.

**Are there limits for RE capacity for individual and company applicant?**

Yes, the capacity limits will be shared between the various categories of applicants. The details will be disclosed at a later date closer to the time before FiT is launched.

**How much PV capacity can an applicant seek to install and how will the applications be treated?**

Capacity that can be approved will depend on the total capacity that is allocated on the annual and quarterly basis for each of the respective RE technologies concerned. Each tranche of capacity allocation, especially for PV, may be further sub-divided according to the applicant classification such as residential, commercial industrial or utility (IPP). All applications will be treated transparently and on equal basis according to the category of the installation such as residential, commercial, industrial, or power plant type, and whether they are roof or facade mounted, or ground mounted.

**Our company is keen to have a PV system at our manufacturing plant now before the FiT is launched. What steps must we take?**

**Step 1:** Engage an Approved PV Service Provider (APVSP) to design the PV system including point of interconnection. The interconnection point can be simply 230V or 400V multiple points depending the type of inverter that you will use and the capacity of the system installed. The list of APVSPs is available at [www.mbipv.net.my](http://www.mbipv.net.my).

**Step 2:** Get the APVSP to submit the relevant information to RE/MBIPV National Project Team. APVSP must also fill in the license application form. Net-meter contract is not applicable in this case (for industry category) as the PV system would generate the electricity for own use. When FiT is launched, the owner would have to apply for FiT as a new applicant.

**Step 3:** Before commissioning, the APVSP must notify the relevant authority for appointment of testing and commissioning.

Q & A



**tree**  
**REGISTRATION**  
TRANSFER RENEWABLE ENERGY & EFFICIENCY

**Seminar - Financing PV, biogas and landfill gas projects**

Date: 01 – 02 December 2010 from 9am – 6pm  
Location: Putrajaya  
Regular Fee: 140 EUR  
Early Bird Fee\*: 110 EUR until 29 October 2010

\*To make use of early bird fee, payment has to be settled until 29 October 2010.

**Note: Limited to 40 pax**

Thank You

More FAQs on feed-in tariff available at  
[www.mbipv.net.my](http://www.mbipv.net.my)