



# STAKEHOLDERS' ENGAGEMENT ON REVIEW OF DEGRESSION RATE FOR BIOGAS & BIOMASS FOR 2020

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# Presentation Outline

- 1. Background**
- 2. FIT Status**
- 3. Renewable Energy (Amendment of Schedule)  
(No 2) Order 2013**
- 4. Justification on Proposed Degression Rate**



# **BACKGROUND**

- SEDA Malaysia shall review the degression rates in respect of any category of RE installation at least once every three (3) years as specified under Section 18 (1) of the RE Act 2011
  - ✓ to improve the overall performance of the feed-in tariff system to better achieve the objectives of the RE Act.
- In accordance with Section 18(3), SEDA Malaysia shall submit a report of the review to the Minister with or without recommendations for adjustments to the degression rates and as empowers under Section 18(4) the Minister may approve or refuse such recommendations;
- The last revision on degression rate of biogas and biomass was made once the Renewable Energy (Amendment of Schedule) (No 2) Order 2013 come into operation on **1 January 2014**
  - ✓ The new degression rate ( 0%) was introduced with sunset provision.



# FIT STATUS



# STATISTIC OF FIT APPLICATION AS OF 30<sup>th</sup> SEPT 2016

	Biogas	Biomass
Approved Applications	96 (170.96MW)	39 (361.29MW)
FiTCD	15 (26.56MW)	7 (75.40MW)
Applications in process	-	1 (7MW)
Total Application Received	112 (208.26MW)	59 (564.75MW)



# RENEWABLE ENERGY (AMENDMENT OF SCHEDULE) (NO 2) ORDER 2013

# BIOGAS RATE (2012-2013)

Renewable energy installation having an installed capacity of	Basic rate (RM)		Annual Degression (2012-2013)
	2012	2013	
1. up to and including 4 megawatts	0.32	0.3184	0.5%
2. above 4 megawatts, and up to and including 10 megawatts	0.30	0.2985	0.5%
3. above 10 megawatts, and up to and including 30 megawatts	0.28	0.2786	0.5%
Renewable energy installation having any one or more of the following criteria in addition to basic rate	Bonus Rate (RM)		Annual Degression (2012-2013)
	2012	2013	
4. Use of gas engine technology with electrical efficiency of above 40%	+0.02	+0.0199	0.5%
5. Use of locally manufactured or assembled gas engine technology	+0.01	+0.01	0.5%
6. Use of landfill or sewage gas as fuel source	+0.08	+0.0786	1.8%



# BIOGAS RATE (2014-2016)

Renewable energy installation having an installed capacity of	Bonus Rate (RM) (2014-2016)	Annual Degression (2012-2013)
1. up to and including 4 megawatts	0.3184	0%
2. above 4 megawatts, and up to and including 10 megawatts	0.2985	0%
3. above 10 megawatts, and up to and including 30 megawatts	0.2786	0%
Renewable energy installation having any one or more of the following criteria in addition to basic rate	Bonus Rate (RM) (2014-2016)	Annual Degression (2012-2013)
4. Use of gas engine technology with electrical efficiency of above 40%	+0.0199	0%
5. Use of locally manufactured or assembled gas engine technology	+0.05	0%
6. Use of landfill or sewage gas or agricultural waste including animal waste as fuel source	+0.0786	0%

# BIOMASS RATE (2012-2013)

Renewable energy installation having an installed capacity of	Basic rate (RM)		Annual Degression (2012-2013)
	2012	2013	
1. up to and including 10 megawatts	0.31	0.3085	0.5%
2. above 10 megawatts, and up to and including 20 megawatts	0.29	0.2886	0.5%
3. above 20 megawatts, and up to and including 30 megawatts	0.27	0.2687	0.5%
Renewable energy installation having any one or more of the following criteria in addition to basic rate	Bonus Rate (RM)		Annual Degression (2012-2013)
	2012	2013	
4. Use of gasification technology	+0.02	+0.0199	0.5%
5. Use of steam-based electricity generating systems with overall efficiency of above 14%	+0.01	+0.01	0.5%
6. Use of locally manufactured or assembled gasification technology	+0.01	+0.01	0.5%
7. Use of municipal solid waste as fuel source	+0.10	+0.0982	1.8%

# BIOMASS RATE (2014-2016)

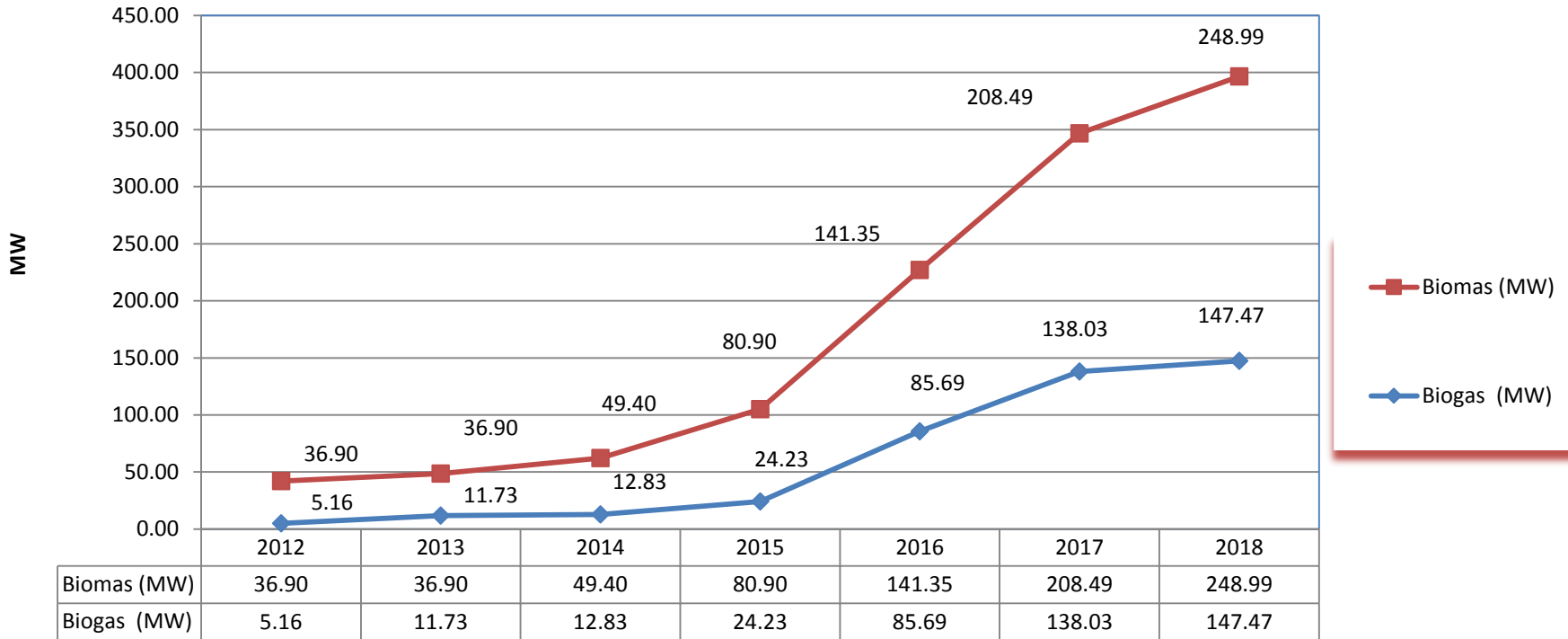
Renewable energy installation having an installed capacity of	Basic Rate (RM) (2014-2016)	Annual Degression (2014-2016)
1. up to and including 10 megawatts	0.3085	0%
2. above 10 megawatts, and up to and including 20 megawatts	0.2886	0%
3. above 20 megawatts, and up to and including 30 megawatts	0.2687	0%
Renewable energy installation having any one or more of the following criteria in addition to basic rate	Bonus Rate (RM) (2014-2016)	Annual Degression (2014-2016)
4. Use of gasification technology	+0.0199	0%
5. Use of steam-based electricity generating systems with overall efficiency of above 20%	+0.01	0%
6. Use of locally manufactured or assembled boiler or gasifier	+0.05	0%
7. Use of solid waste as fuel source	+0.0982	0%

# Revision under the RE (Amendment of Schedule) (No 2) Order 2013

Biogas	Biomass
<p>i. Due to low take up rate, the depression rate was revised to 0% both for the basic and bonus rates</p>	<p>i. Due to low take up rate, the depression rate was revised to 0% both for the basic and bonus rates</p>
<p>ii. The bonus rate increased from RM 0.01/kWh to RM 0.05/kWh to encourage production of more locally manufactured or assembled gas engine</p>	<p>ii. The efficiency criteria for steam based electricity system increased from 14% to 20%</p>
<p>iii. The agricultural &amp; animal waste was included as additional bonus criteria for the biogas project development.</p>	<p>iii. The word “gasification” deleted from bonus criteria for “locally manufactured boiler or assembled”.</p> <p>iv. The bonus rate was increased from RM0.01 / kWh to RM 0.05 / kWh.</p>
	<p>v. The word “municipal” deleted from bonus criteria “use of solid waste as fuel source” to encourage usage of all solid waste sources not limited to municipal waste only</p>

# Impact of 0% Degression Rate

Installed Capacity (cumulative) Biogas & Biomass up to H2 2018 (MW)



- Implications of the review & revision of degression rate
  - ✓ Total installed capacity (cumulative) increased by **135.74MW** and **212.09MW** both for biogas and biomass



# JUSTIFICATION FOR NEED TO DEGRESS FIT RATES

- SEDA has received a total 109 requests (2012- Sept/2016) for Extension of Time (EOT)

Resource	No of Approved	No of EOT	% Requesting EOT
Biomass	39 (361.29 MW)	28 (111.39 MW)	30.83 %
Biogas	96 (170.96 MW)	81 (122.90MW)	71.89%

- Impact of EOTs:
  - ✓ SEDA Malaysia's Annual KPI and targets for RE capacity affected;
  - ✓ YBM Minister's Annual KPI and commitment for RE capacity affected;
  - ✓ FiAH is not motivated to complete their project within the predetermined timeframe (sFITCD) thus reducing efficiency.
- Delay analysis of projects having achieved FiTCD:-
  - ✓ Biogas – Average delay of 214 days from sFiTCD (min: -1d, max: 650d)
  - ✓ Biomass – Average delay of 136 days from sFiTCD (min: 106d, max: 166d)
- In the Board of Authority Mtg No.3/2015, SEDA Malaysia was instructed to review the necessity to reinstate the degression rate for future biogas & biomass applications.
- Hence the reason for today's session : to gain feedback and input on current and future development of biogas and biomass projects.

- Factors considered in reviewing the degression rates:
  - ✓ Ability of the FiAH to recover their initial investment (CAPEX) on the RE installations and receive satisfactory returns within reasonable time;
  - ✓ The prevailing cost of equipment, constructing, operating and maintaining of RE installations utilising each particular RE resource;
  - ✓ The efficiency of RE installations utilising each particular RE resource;
  - ✓ Any other factors deemed relevant by the authority.



- To consolidate all feedback from biogas and biomass developers on the following;
  - ✓ Prevailing CAPEX and OPEX;
  - ✓ Current tariff rates and degression
- Suggestions on the most optimal degression rates;
- Reasons and justifications against imposing / reinstating the degression rates for new applications;

## Stakeholders' Engagement

(17th  
November  
2016)

## Proposal for board's decision based on the feedback

✓ Revert feedback up to **25th Nov 2016**

✓ Contact person :

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(ii) Pn. Nur Haziqah Mohd Zaki  
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Gazette of  
schedule in  
2017 for new  
applications



# Thank you

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