EFFICIENT ELECTRICAL ENERGY MANAGEMENT (EEEM) REPORT

Company Profile

Name and company address	
Account number (Account number provided by supply authority e.g. TNB, SESB, Nur Distribution etc.)	
Name, designation, telephone, fax no & email of company's person-in charge	
Name, telephone, fax no & email of registered electrical energy manager	
Type of Sector/Industry (Refer Annexure 1)	
No. of Staff	
Operating hours (day, week, month)	
Electricity tariff category	
Total electricity consumption for 6 consecutive months in the period reported (current)	
Total electricity consumption for 6 consecutive months in previous period reported (baseline)	
Date of Report	

Company Information

Basic information about company business activities, summarized and listed out in tabular form as follows:

- For commercial/building sector
  Refer Annexure 2-1

- For industry sector
  Refer Annexure 2-2

Example (Annexure 2-1): For commercial/building sector

Building details	Gross floor area (m2)	
	Percent of gross floor area that is air conditioned (%)	
	Server area (%)	
	Parking area that is enclosed (%)	
	Designed occupant load *(please specify unit)*	
	Actual occupant load (%)	

Example (Annexure 2-2): For industry sector

Main products & utilization (name, units, installed capacity and utilization details)	Main product(s)	Units	Installed capacity [a]	Actual production [b]	Percentage capacity utilisation [c]=[b]/[a] X 100
	Type 1:				
	Type 2:				
	Type 3:				

a) EEEM Policy:

i. The specific policy statement on efficient management of electrical energy or apart of other policies that has been developed and introduced for implementation at the installation.

ii. The items need to be included in the policy statement of efficient management of electrical energy are as follows:-

- The commitment in efficient management of electrical energy to improve energy efficiency usage continually.
- The commitment to address and act towards processes and activities that will give impact on the performance of electrical energy usage at the installation; and/or
- The commitment to ensure compliance towards the Act and regulations on efficient management of electrical energy.

- To be submitted in the first report submission only. (Please indicate any changes of the policy from time to time)

b) EEEM Objective:

i. The target or objective of energy savings from the implementation of efficient energy management policy introduced by the owner of installation;

ii. The items need to be stated are as follows:

- Achievable electrical energy saving target for the installation for short, medium and long terms.
- The methodology to measure electrical energy saving target based on performance indicator established by the owner of the installation.

- To be submitted annually starting from the first report submission. (Please indicate any changes of the objective/saving target from time to time)

c) EEEM Committee

i. Organizational structure for efficient management of electrical energy at the installation.

- To be submitted annually starting from the first report submission. (Please indicate any changes of the EEEM Committee from time to time)

d) Total Baseline Energy kWh background:

i. Baseline of 6 consecutive month energy consumption trend before the implementation of EEEM, presented in graphical form (Trend Chart of each month)
   - Must be included in every submission of report

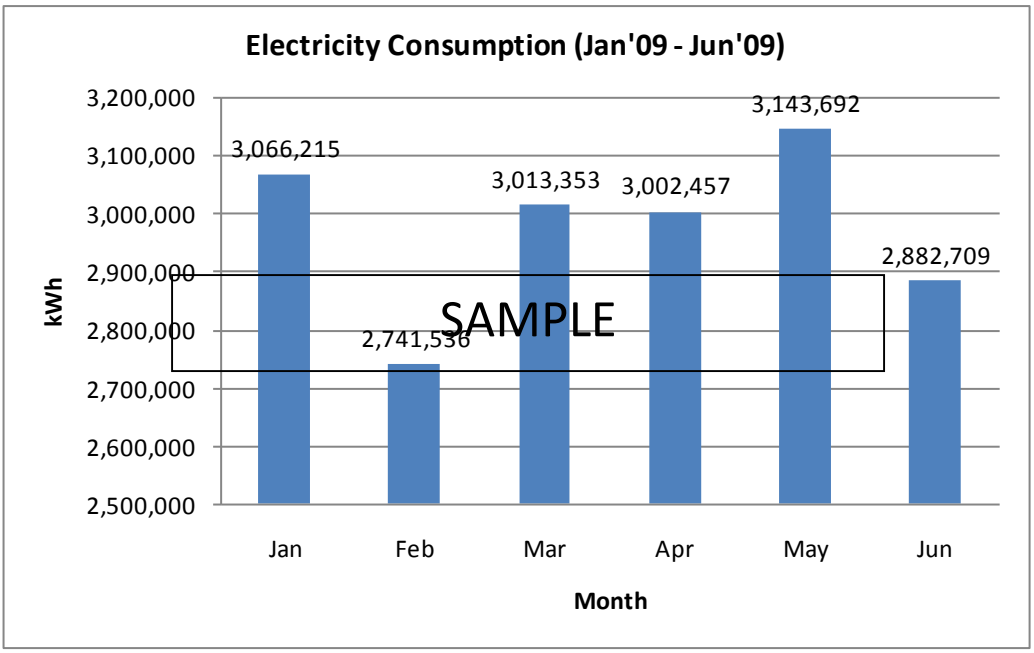
ii. Production data / output data/ raw material input/ floor area/ working days etc for the base lining period as indicated in subparagraph 'I'
   - Must be included in every submission of report

iii. Electricity power (kW) pattern for Main Incoming and all Major Loads connected and distribution breakdown (this can be done by doing Energy audit or monitor the consumption using the kWh Power Meter). Presented in 'Line and Pie Chart'.
   - Main Incoming kW monitoring must be in 1 week period cycle and maximum time interval for each data recording not more than 1 hour with accuracy class of 0.5 instrument.
   - For all major loads connected kW pattern must be monitor for a minimum of 1 day with time interval not more than 1 hour using instrument with at least accuracy class of 1.0.
   - **To be submitted every two years starting from the first report submission**.

iv. Specific Energy Consumption (SEC) of the company for each month, presented in tabular form.
   - Must be included in every submission of report

Please follow the examples below:

i. Electricity consumption baseline: (From Jan'09 to Jun'09)



Total electricity consumption baseline: 17,849,962 kWh/six mth
Average consumption per month: 2,974,994 kWh/mth

Observation/finding(s):

_____

_____

_____

_____

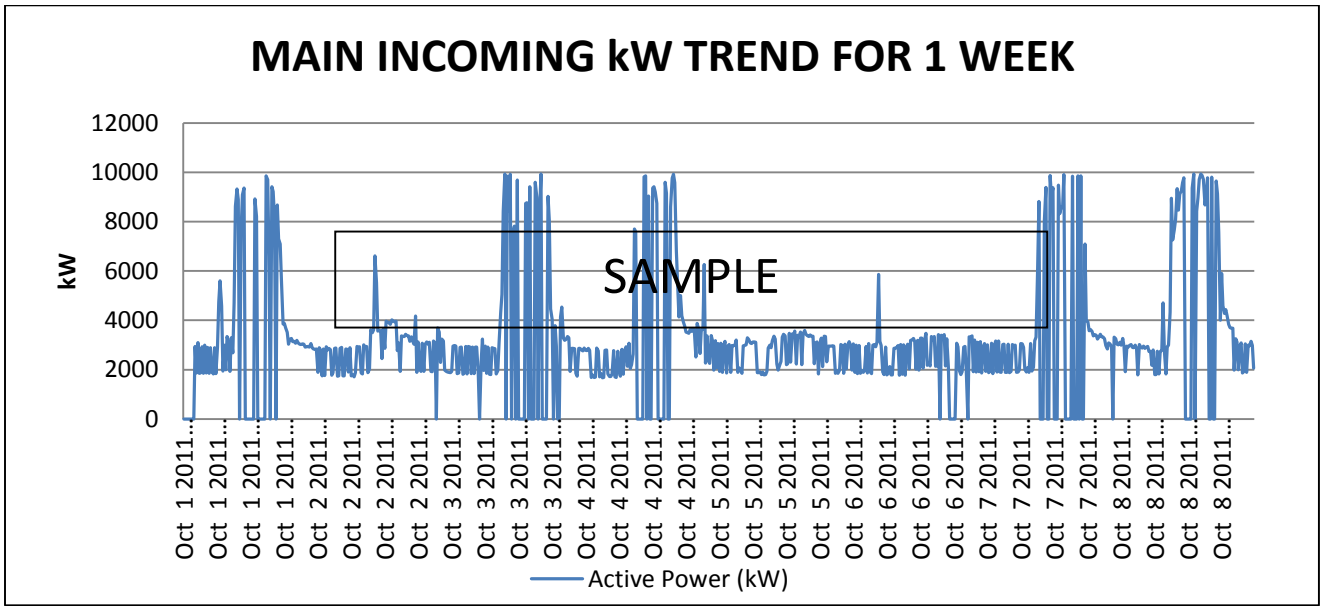
ii. Production/ output data/ raw material input/ floor area/ shipment value, etc:

Year	Month	Production/output/raw material/floor area/shipment value etc	
		Amount	Unit (please specify)
2009	Jan	500,000	Mton
2009	Feb	300,000	Mton
2009	Mar	400,000	Mton
2009	Apr	270,000	Mton
2009	May	320,000	Mton
2009	Jun	430,000	Mton
TOTAL		2,220,000	Mton
AVERAGE		370000	Mton

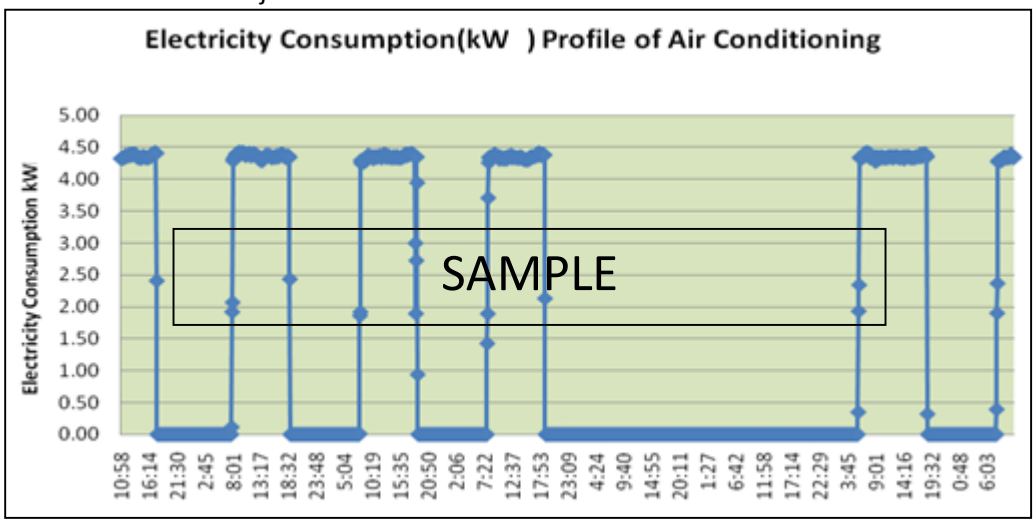
Note:
- Use Table 2 (Case A) if the company has only one type of product
- Use Table 2 (Case B) if the company has more than one type of product

Table 2

iii. Electricity power (kW) pattern for Main Incoming and all Major Loads connected and distribution breakdown



kW Pattern for all Major Loads connected



Observation/finding(s):

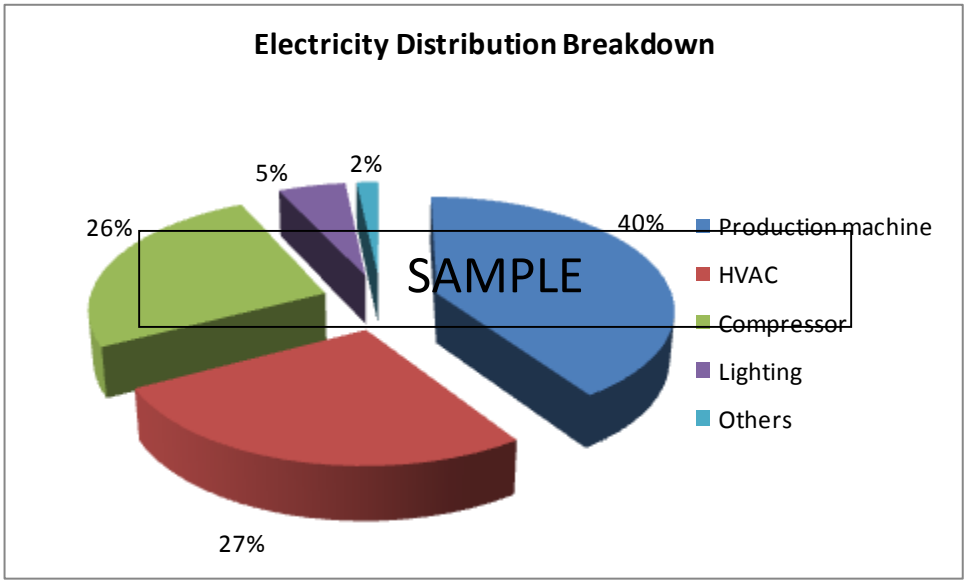
_____

_____

_____

_____

_____



No	Area	Energy Percentage (%)	Average operating hours daily/weekly/monthly
1	Production machine	40.6	18/day
2	HVAC	26.7	16/day
3	Compressor	25.7	18/day
4	Lighting	5.3	12/day
5	Others	1.6	2-4/day

Observation/finding(s):

_____

_____

_____

_____

_____

Note:
- Use Table 3 (Case A) if the company has only one type of product
- Use Table 3 (Case B) if the company has more than one type of product

iv. Specific Energy Consumption (SEC):

Year	Month	Electricity consumption* (kWh) [a]	Production/output/raw material/floor area/shipment value/etc (Total) [b]	Specific Energy Consumption (SEC) = Electrcity consumption (kWh)/ Total production output [c]=[a]/[b]	Unit
2009	Jan	3,066,215	500,000	6.13	kWh/Mton
2009	Feb	2,741,536	300,000	9.14	kWh/Mton
2009	Mar	3,013,353	400,000	7.53	kWh/Mton
2009	Apr	3,002,457	270,000	11.12	kWh/Mton
2009	May	3,143,692	320,000	9.82	kWh/Mton
2009	Jun	2,882,709	430,000	6.70	kWh/Mton
TOTAL		17,849,962	2,220,000	-	kWh/Mton
AVERAGE		2,974,994	370,000	8.41	kWh/Mton

Table 3

Where SEC will be the Efficiency Measurement of the company and can be calculated by dividing the electricity consumption (kWh) and production / output data/ raw material input/ floor area/ shipment values, etc.

Observation/finding(s):

_____

_____

_____

_____

e) Total Current Energy kWh background:

i. Current reported 6 consecutive month energy consumption trend, presented in graphical form (Trend Chart of each month)
   - Must be included in every submission of report

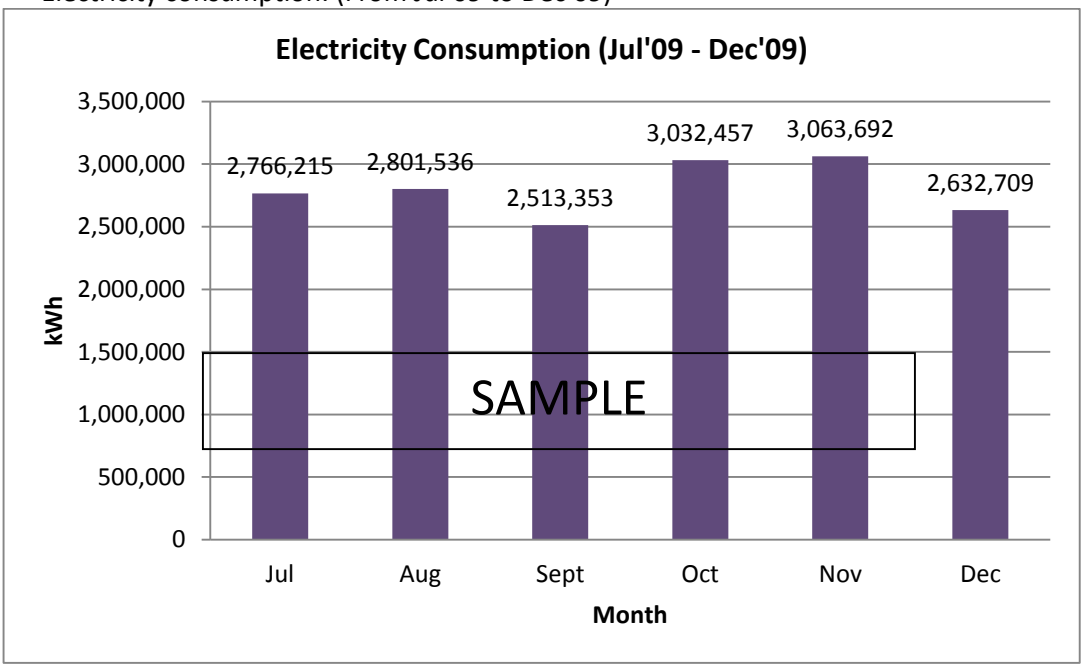
ii. Production data/output data/working days/ raw material input for the Current reported period
   - Must be included in every submission of report

iii. Specific Energy Consumption (SEC) of the company for each month, presented in tabular form.
   - Must be included in every submission of report

iv. Percentage reduction of Total Electricity Consumption and Specific Energy Consumption (SEC) of the company presented in tabular form.
   - Must be included in every submission of report

Examples:

i. Electricity consumption: (From Jul'09 to Dec'09)



Total electricity consumption: 16,809,962 kWh/six mth
Average consumption per month: 2,801,660 kWh/mth

Observation/finding(s):

_____

_____

_____

_____

ii. Production/ output data/ raw material input/ floor area/ shipment value, etc:

Year	Month	Production/output/raw material/floor area/shipment value/etc	
		Amount	Unit (please specify)
2009	Jul	470,000	Mton
2009	Aug	510,000	Mton
2009	Sept	380,000	Mton
2009	Oct	530,000	Mton
2009	Nov	550,000	Mton
2009	Dec	410,000	Mton

Note:
- Use Table 4 (Case A) if the company has only one type of product
- Use Table 4 (Case B) if the company has more than one type of product

* Eg. units: Mton/pcs/kg/floor area/patient/people/shipment value, etc

Table 4

iii. Specific Energy Consumption (SEC):

Year	Month	Electricity consumption* (kWh) [a]	Production/output/raw material/floor area/shipment value/etc (Total) [b]	Specific Energy Consumption (SEC) = Electrcity consumption (kWh)/ Total production output [c]=[a]/[b]	Unit
2009	Jan	2,766,215	470,000	5.89	kWh/Mton
2009	Feb	2,801,536	510,000	5.49	kWh/Mton
2009	Mar	2,513,353	380,000	6.61	kWh/Mton
2009	Apr	3,032,457	530,000	5.72	kWh/Mton
2009	May	3,063,692	550,000	5.57	kWh/Mton
2009	Jun	2,632,709	410,000	6.42	kWh/Mton
TOTAL		16,809,962	2,850,000	-	kWh/Mton
AVERAGE		2,801,660	475,000	5.95	kWh/Mton

Note:
- Use Table 5 (Case A) if the company has only one type of product
- Use Table 5 (Case B) if the company has more than one type of product

Table 5

Observation/finding(s):

_____

_____

_____

_____

_____

iv. Percentage reduction of Total Electricity Consumption and Specific Energy Consumption

(a) Electricity consumption percentage reduction compared to baseline

Description	Value	Unit
Total electricity consumption for 6 consecutive months in the period reported (current)	16,809,962	kWh
Total electricity consumption for 6 consecutive months in previous period reported (baseline)	17,849,962	kWh
Percentage electricity consumption reduction	-5.8	%

(b) Specific Energy Consumption (SEC) percentage reduction compared to baseline

Description	Value	Unit
Average Specific Energy Consumption (SEC) in the period reported (current)	5.95	kWh/Mton
Average Specific Energy Consumption (SEC) in previous period reported (baseline)	8.41	kWh/Mton
Percentage SEC reduction	-29.2	%

Table 6

Observation/finding(s):

_____

_____

_____

_____

_____

f) List of EEEM activities / Project:

i. State all EEEM activities / Project that company implemented/ ongoing/ rejected in tabular form along with the status of the activities/project and if the proposed activities are being rejected, state the reason of why it's being rejected.
   - Must be included in every submission of report
     (**Refer Annexure 3)**

g) Summary of EEEM activities / Projects Savings:

i. State all EEEM activities / Projects saving achieved in tabular form along with the baseline measurement, Current consumption, % saving (Estimate & Actual) and measurement tools used.

ii. For Baseline, duration of baseline must at least 1 month for high cost / huge significant activities / projects with using kWh Power meter (Class 1 accuracy). For smaller cost / activities, a snap-shot measurement can be considered as baseline (Ex. For lighting using a Clamp-Meter, and compute the consumption).

iii. Current consumption savings achieved must be reported up to maximum 1 year (This is to ensure that the company / user will always keep track on their EEEM performance).
   - Must be included in every submission of report
     (**Refer Annexure 4)**

h) New EEEM activities / projects to be implemented:

i. List out all new proposed EEEM activities / project to be implemented with a brief description, estimate kWh & RM saving, investment cost, and return of investment (ROI).
   - Must be included in every submission of report
     (**Refer Annexure 5)**

Note:
- Use Table 6 (Case A) if the company has only one type of fuel
- Use Table 6 (Case B) if the company has more than one type of fuel

Other(s)
Fuels usage

Year	Month	Fuel	Usage	Unit	Cost (RM)
TOTAL					
AVERAGE					

Table 6

*Prepared by:

_____
(Name:)
(Designation:)

**Verified by:

_____
(Name:)
(PTE No:)

*Must be prepared by company personnel
** Verified by Registered Energy Manager

SUBMISSION OF REPORT

1. Every private installation licensee or consumer who is served with a written notice from the Energy Commission shall: -
   - Submit the report in hard copy as well as 'excel table' soft copy to Energy Commission not later than thirty days after the expiry of six consecutive months from the end of the period. *(Language: Malay or English)*
   - Ensure that all data furnished duly authenticated by the registered electrical energy manager appointed
   - The Energy Commission may prescribe different forms for different sectors from time to time

2. The hard copy report to be submit to:

   Director
   Energy Management Development and Quality Service
   Suruhanjaya Tenaga (Energy Commission)
   No. 12, Jalan Tun Hussein
   Precinct 2, 62100 Putrajaya
   Tel: (603) 8870 8500 Fax: (603) 8888 8648

   and 'excel table' soft copy to be email to zulhilmi@st.gov.my / kumareshan@st.gov.my

3. All information given will be kept strictly confidential

ANNEXURE

Annexure 1

Agriculture
Livestock
Forestry & Logging
Fishing
Public Lighting
Mining & Quarry
Food, Beverage & Tobacco
Textile
Apparel & Leather
Wood & Furniture
Pulp, Paper, Products & Printing
Chemical & Petrochemical
Rubber
Plastic
Non metallic
Glass & Glass Products
Brick
Ceramic
Cement
Iron, Steel & Metal
Utility
Construction
Wholesale
Hotel
Hospital
School/College/University
Office building
Condominium/Apartment/Flat
Retail - Commercial
Retail-Residential
Real Estate & Service
Transportation
Port
Water / Waste Water Treatment
Military
Other *(please specify)*

Annexure 2-1

Building details	Gross floor area (m2)	
	Percent of gross floor area that is air conditioned (%)	
	Server area (%)	
	Parking area that is enclosed (%)	
	Designed occupant load *(please specify unit)*	
	Actual occupant load (%)	

Annexure 2-2

Main products & utilization (name, units, installed capacity and utilization details)	Main product(s)	Units	Installed capacity [a]	Actual production [b]	Percentage capacity utilisation [c]=[b]/[a] X 100
	Type 1:				
	Type 2:				
	Type 3:				

Annexure 3

No.	EEEM Activities/Projects	Brief description	Investment cost (RM)	Status (Completed/ Rejected/ In progress)	Remark/Comment(s)
1					
2					
3					
4					
5					

Note: If completed, state when the project completed (eg. completed in Aug'09) in remark/comment(s) column
If rejected, reason(s) for not implementing proposed EEEM activities/projects must be clearly explain in remark/comment(s) column
If in progress, state when the project will complete (eg. expected to complete in Feb'10) in remark/comment(s) column

Annexure 4

No.	EEEM Activities/Projects	Brief description	Baseline consumption (kWh)	Current consumption (kWh)	Investment cost (RM)	Savings per annum			Return of investment (yr)	Measurement tools	Duration of measurement (day/week/ month)	Remark/Comment(s)
						kWh	RM	Percentage				
1						Estimate: Actual:	Estimate: Actual:	Estimate: Estimate:	Estimate: Actual:			
2						Estimate: Actual:	Estimate: Actual:	Estimate: Estimate:	Estimate: Actual:			
3						Estimate: Actual:	Estimate: Actual:	Estimate: Estimate:	Estimate: Actual:			
4						Estimate: Actual:	Estimate: Actual:	Estimate: Estimate:	Estimate: Actual:			
5						Estimate: Actual:	Estimate: Actual:	Estimate: Estimate:	Estimate: Actual:			

Note: Savings calculation for each EEEM activities/projects must be submitted using separate sheet

Annexure 5

No.	Proposed EEEM Activities/Projects	Brief description	Estimated savings			Estimated Investment cost (RM)	Return of investment (yr)	Remark/Comment(s)
			kWh	RM	Percentage			
1								
2								
3								
4								
5								

Note: Savings calculation for each proposed EEEM activities/projects must be submitted using separate sheet