SCHEME FOR NATIONAL ENERGY CONSERVATION AWARD - 2016

(For Manufacturers of BEE Star Labeled Equipment / Appliances)

An Award for Excellence in promoting Energy Efficiency in Equipment / Appliances

Objective

To give national recognition to the manufacturers, who have made systematic and serious attempts for creating awareness towards production of energy efficient appliances during the years 2014-2015 and 2015- 2016.

The Standard & Labeling scheme was launched by the Hon"ble Minister of Power in May, 2006 and is currently invoked for 16 equipments/ appliances (Room Air Conditioner, Tube lights, Refrigerators, Distribution Transformers, Induction Motors, Electric Storage Water Heaters, Ceiling Fans, Colour TVs, Agricultural Pump Sets, LPG Stoves, , Ballast, Washing Machine and Laptops). MoP has also approved the voluntary S&L programme for Diesel Engine Pumps, Office equipments. The labeling programme has been made mandatory for four equipments i.e. ACs, Tube lights, Refrigerators and Distribution Transformers effective 7th January, 2010. For other equipments, the scheme is presently under the voluntary stage.

The award scheme is open to the following appliances based on the current market data available, and the scope is limited to the type of the equipment as described in the BEE schedule of labeling:

Mandatory Labeling

Refrigerator: Frost Free & Direct Cool* together
Air conditioner: Windows & Split together
Tubular Fluorescent Lamps
Distribution Transformer up to 200 KVA

Voluntary Labeling

Electric Storage Water Heaters Ceiling Fans
Agricultural Pump-sets Colour TV

***** Direct Cool Refrigerator is under voluntary scheme but included together with Frost Free Refrigerator in the „Refrigerator" category.

The Awardsand Guidelines:

(Includes Maximum of - 7 nos. of 1st prize award, 7 nos. of 2nd prize award, 3 nos. of certificate of merit)

The programme for star labeling of equipments such as Refrigerator, Air conditioner, Tubular Fluorescent Lamps, has been continuing for about seven years now and have produced significant results in national energy savings. For other equipments as listed above, the programme is on for about four years. Therefore, the criteria for giving awards would be different for some equipment/appliance.

It is proposed that maximum of three awards i.e. 1st Prize, 2nd Prize & Certificate of Merit would be given for Air Conditioner, Refrigerator & TFL.

For other 4 equipments, maximum of two awards are proposed to be given in the form of 1st Prize & 2nd Prize for recognizing the effort of the manufacturers to promote star labeling.

It is not necessary to give first and second prize in each sub-sector. The Award Committee would take a final decision depending upon the number of entries received in each sub-sector and other considerations.

Following are the Guidelines under NECA 2016 – S&L Scheme:

(a) There should be minimum three applicants in each equipment category for consideration of award.

(b) For **Air Conditioner, Refrigerator and TFL**, if the total number of applicants is three, BEE reserves the right to reduce the number of awards from maximum of 3 awards to 1award in each equipment category. Similarly, if the total number of applicants is four, BEE reserves the right to

reduce the number of awards from maximum of 3 awards to 2 awards. Minimum five numbers of applications are required for consideration of all three awards in these 3 equipment categories.

(c) For other 4 equipments, minimum four numbers of applications are required for consideration of both two awards. If this condition is not met, BEE reserves the right to reduce the number of awards from maximum of 2 awards to 1 award.

(d) For all equipment categories:Following criteria must be met for consideration of award:
Differential score (with respect to the highest scorer) among the 1st scorer and 2nd scorer should be equal or more than 10%.
Differential score (with respect to the highest scorer) among the 1st scorer and 3rd scorer should be equal or more than 20%.
If the above two bulleted points are not met, BEE reserves the right to reduce the maximum number of awards that can be awarded in any particular equipment category. Also, depending upon the results,BEE may award top two applicants with a combined award.

The awards can be given in the form of a Trophy/Silver Plaque with appropriate citation on such awards as may be decided by the Ministry of Power. The performance of the manufacturers would be judged through the questionnaire (format enclosed), which would be evaluated by an Award Committee.

Eligibility

a) The scheme is open to all manufacturers, who are enrolled in the BEE‟s labeling programme and are registered on BEE‟s online portal for S&L programme for respective product categories.

b) If any manufacturer does not manufacture any of the above specified appliances or is not registered with BEE‟s S&L programme, the unit shall not be considered for its nomination under the scheme.

c) The manufacturer must have produced at least one such labeled product during the period of the scheme in order to qualify for the scheme.

(Important: The quarter-wise annual production data for the registered product must be uploaded on the BEE‟s S&L portal for financial years 2014-15 & 2015-16 (as applicable from the date of registration of company under the respective product category) in order to qualify for the award. Also, the manufacturer must have paid the requisite labeling fees in order to qualify for these awards.)

d) The manufacturer is also required to attach a summary of production and sales data in the form of hard copy, duly certified by their Chartered Accountant along with the "**Award Questionnaire**".

e) Certificates to the effect that the company is presently following all the statutory requirements pertaining to the safety and pollution control should be attached along with the questionnaire.

Criteria for Judging Merit

a) The Award Committee will decide the recipient of the awards on the basis of outstanding achievements and contribution in the field of energy conservation through sales of energy efficient appliances.

b) The Award shall be purely judged on the basis of quantitative achievements by the manufacturers towards sales and promotion of energy efficient appliances and energy efficient technology within the market. The parameters for the evaluation criteria are mentioned under Annexure-B. The methodology to calculate the savings is enclosed as per Annexure-C.

c) The members of the Award Committee or their nominees may visit participating manufacturers facility for verification of data supplied, if felt necessary and it will be obligatory on the part of

the participating units to provide necessary co-operation. The manufacturing units shall bear all expenditure in this connection.

d) The committee may invite some of the selected manufacturers for presentation in BEE Office, New Delhi before finalizing the list of Award winning units. The manufacturing units have to bear all the expenditure in this connection.

f) The Committee's decision would be final and no appeal would be entertained.

Instructions for Filling up the "Award Questionnaire"

a) The format for **Award Questionnaire** is enclosed in this document. The data required for the questionnaire pertains to the accounting years 2014-2015 & 2015-2016. Since in India, the Financial Year is considered to be a method of accounting year, the data should pertain to the years as indicated for April to March only. The format of the Awards Questionnaire is as in Annexure –A.

b) The enclosed questionnaire is only a format and thus information sought should be separately neatly typed / printed. Soft copies of the format or scheme can be downloaded from the BEE‟s website and all data in the above format shall be sent in the soft copies, ecaward2016@beenet.in, ecaward16@gmail.com and ecaward2016@rediffmail.com.

c) **The answers to the questions should be precise and specific and should be supplied in total compliance with the questionnaire format. The deviations may lead to improper evaluation or the rejection of the nomination.**

d) The information sought under any head should be highlighted under the same and no separate annexure should be attached.

e) Each and every query mentioned in the questionnaire needs to be answered. Even, if answer is „NO' or `NOT APPLICABLE' the same may be stated, instead of ignoring it.

f) The questionnaire should be filled in by a competent and responsible person of the company. He/ she should be fully conversant with the energy terms and units, conversion / multiplying factors etc. The duly filled-in questionnaire should be signed by the Chief Executive of the company / industrial unit.

Process for applying for awards:

The sample excel spreadsheet with requisite format and formulas is available on the web portal of all manufacturers registered under the BEE‟s S&L scheme. The sheet is available on the home page. The manufacturers are requested to download the excel spreadsheet from the said link, then fill the sheet as per the format mentioned within the sheet and submit it to BEE as per the process mentioned in this scheme. Also, kindly make sure that the applicants:

- Have filled the BEE labeled production data for the year 2014-15, as applicable
- Have filled the BEE labeled production data for the year 2015-16, as applicable
- Have read the scheme of awards and confirm agreement for participation
- Confirmation for the payment of entire requisite labeling fees from the date of starting of the scheme till FY 2015-16, as applicable.
- Confirm having filled up "Award Questionnaire" in hard copy.

Please note that if the manufacturer has not filled the production data for any of the above years, the production data shall be filled under the link **"Upload production data"** on manufacturer's home page. Failure to fill the above data in the prescribed format shall disqualify manufacturers from the awards scheme.

Submission of Nomination

The data shall be uploaded on BEE‟s S&L portal for qualification.The application for nomination should reach the office of:

Director General
Bureau of Energy Efficiency
4th Floor, Sewa Bhawan,
R. K. Puram, New Delhi-110 066
Tel. No.: 011-2617 9699 (5 lines)
Fax No.: 011- 2617 8328, 2617 8352

The envelope shall be clearly super-scribed as **"Application for NECA-2016 under S&L scheme".**

Last date for submission of application is 28th September 2016

Enclosures Required

1) Covering Letter from the company (mention the product category).

2) Filled Award Questionnaire.

3) **Summary** of Production **and** Sales figures for labeled appliances duly certified by the Chartered Accountant for the FY 2014-15 and FY 2015-16.

4) Declaration to the effect that the company has paid the requisite labeling fees to BEE.

5) Certificates to the effect that the company is presently following all the statutory requirements pertaining to the safety and pollution control.

6) Printout of the excel sheet with detail production data as per the format mentioned in Annexure-D, along with the results of parameters mentioned under the evaluation criteria in Annexure-B. **Each page of the printout shall be sealed and signed by the authorized representative of the company**. (Shall also be sent in soft copy, in **excel format** to ecaward2016@beenet.in, ecaward16@gmail.com and ecaward2016@rediffmail.com).

7) Printout of the brief description on company profile (not more than 250 words). Please include one photograph of the unit/company within the company profile. (Shall also be sent in soft copy, in **word format** to ecaward2016@beenet.in, ecaward16@gmail.com and ecaward2016@rediffmail.com).

8) Description on following headings in not more than **4 pages in total**, (The document shall also be sent in soft copy, in **word format** to ecaward2016@beenet.in, ecaward16@gmail.com and ecaward2016@rediffmail.com):

"Energy Saving projects implemented with respect to the product",
"What made this product so efficient",
"Energy Conservation Achievements and their contribution to the overall efficiency market",
"Introduction of Innovative and sustainable products in future and their efficiency levels",

Annexure -A
NATIONAL ENERGY CONSERVATION AWARD 2016
"AWARDS QUESTIONNAIRE"
(Separate Questionnaire to be filled up for each product)

1	Name of the Manufacturer and Brand	
2	Company user-id for S&L programme	
3	The Equipment manufactured	
4	Year of commencement of manufacturing	
5	Year of Joining the Star Labeling scheme for the above product	
6	Complete Address of Manufacturer, its location (including Chief Executive"s Name & Designation) with Telephone No., Fax no. & E-mail Address	
7	Name, Designation, Address, Telephone, Mobile, Fax Nos. & E-mail of responsible person who could be contacted in connection with the application for award	
8	Total number of star labeled units produced in: o 2014-15 o 2015-16 (Please mention separately for different equipments)	
9	TotalenergysavedaspercalculationofAnnexure-C(in kWh) from star labeled appliances in 2015-16. In the case of TubularFluorescentlampstheTotalLuminousEfficacy Performance as per calculation of Annexure –C.	
10	Have enclosed all the relevant document from **Sr. No. 1 to 8 as per the list of enclosures mentioned above**(page 4) and have also emailed the documents as per the instructions	
11	Declaration: I, …….. solemnly declare that the information given in the Award Questionnaire (**National Energy Conservation Award-2016**) thereto is correct and complete. Signature of the Chief Executive: ……. Name & Designation: …… Contact Address: ……... Mobile Number: …… Date: ……. Organization Seal: ……. Place: ……...	

Annexure –B
Evaluation and Weightage Criteria
(Detail format shall be seen from Annexure D)

I. Refrigerator (Direct Cool and Frost Free Refrigerator)

(i) % increase in the Energy Performance (60% weightage)

$$= \frac{(\text{Performance Index 2015-16}) - (\text{Performance Index 2014-15})}{\text{Performance Index 2014-15}} * 100$$

The evaluation for Direct-cool & Frost Free shall be combined & average value shall be taken.

(ii) Percentage of 5star models produced by the manufacturer in last 2 years i.e. 2014-2015 and 2015-2016 (40% weightage) over the total labeled production. The evaluation will be done by BEE as per the data.

II.Air Conditioner (Split and Window)

(i) % increase in the energy performance (60% weightage)

$$= \frac{(\text{Performance Index 2015-16}) - (\text{Performance Index 2014-15})}{\text{Performance Index 2014-15}} * 100$$

(ii) Percentage of 5star models produced by the manufacturer in last 2 years i.e. 2014-2015 and 2015-2016(40% weightage) over the total labeled production. The evaluation will be done by BEE as per the data.

III.Tubular Fluorescent Lamp

(i) % increase in the Luminous efficacy performance (60% weightage)

$$= \frac{(\text{Performance Index 2015-16}) - (\text{Performance Index 2014-15})}{\text{Performance Index 2014-15}} * 100$$

(ii) Total Luminous Efficacy Performance in 2015-16(LPW at 2000hrs*No. of Units) (40% weightage)

IV. Distribution Transformer

i. No. of Models Registered with BEE, Only those models will be considered which have been produced, models with cumulative production as zero for last 2 years i.e. 2014-2015 and 2015-2016 will not be considered (20% weightage)
ii. Total Energy saved (total kWh saved during last 2 years, as applicable)(50% weightage)
iii. Total Labeled Production(for FY 2015-16) (30% weightage)

V.Ceiling Fan

i. No. of Models Registered with BEE, Only those models will be considered which have been produced. Models with cumulative production as zero for last 2 years i.e. 2014-2015 and 2015-16 will not be considered (20% weightage)
ii. Total Energy saved (total kWh saved during last 2 years, as applicable)(50% weightage)
iii. Total Labeled Production (for FY 2015-16) (30% weightage)

VI. Storage Water Heater

i. No. of Models Registered with BEE, Only those models will be considered which have been produced. Models with cumulative production as zero for last 2 years i.e. 2014-2015 and 2015-2016 will not be considered (20% weightage)
ii. Total Energy saved (total kWh saved during last 2 years, as applicable)(50% weightage)
iii. Total Labeled Production (for FY 2015-16) (30% weightage)

VII. Agricultural Pump sets

i. No. of Models Registered with BEE, Only those models will be considered which have been produced.Models with cumulative production as zero for last 2 years i.e. 2014-2015 and 2015-16 will not be considered (20% weightage)
ii. Total Energy saved (total kWh saved during last 2 years, as applicable)(50% weightage)
iii. Total Labeled Production (for FY 2015-16) (30% weightage)

Annexure -C
Methodology for Calculating the Energy Savings

Refrigerators

Refrigerators are considered to operate during the entire 8760 hours of the year. The Baseline Energy Consumption is taken as 1 Star product of same adjusted volume

Star Rating Band = Knf * Vadj + Cnf
For 1 Star Frost Free Refrigerator:

Knf Constant multiplier	
.8716	

For 1 Star Direct Cool Refrigerator:

Knf Constant multiplier	
.645	

Vadj (Adjusted Volume) = Fresh Food Vol. + (Adjusted Vol. factor * Freezer Storage Vol.)
Where, Adjusted Vol. factor = 1.62(for Frost Free models) and 1.31(for DC models)

Energy Savings: *Power Savings of each model when compared to base case adjusted volume *no. of hours of operation annually * no. of labeled products produced in financial year for respective star rating.*

Air Conditioners

The number of hours of operation considered for an AC is 8 hours in a day and 150 days in a year. The energy savings calculated is as follows:
Energy Savings = (ΔEER of 2.2 * Qh * P) /1000 KWh

Wherein
ΔEER of 2.2: (Power Savings of each model of a star rating when compared to the base case of EER 2.2 for the same cooling capacity)
= (Rated Cooling Capacity of the model in watts/ 2.2) - Rated Input Power of the model in watts

Qh:Annualhours of usage (annual 1200 hrs)
P:number of labeled products produced in financial year for respective star rating

Tubular Fluorescent Lamps

The number of hours of operation for a TFL is 1200 Hrs / year. The energy saved is calculated by the penetration of 36 watt star rated TFL, which is assumed to replace a 40 watt TFL. The energy saved is 4 watts. The energy saving calculated is as follows:

*Energy Saved: Number of 36 Watts TFL produced in financial year * (0 .004 kW) * no. of hours of operationannually.*

Distribution Transformer:

The energy saved by the BEE labeling for Distribution Transformers is calculated by assuming that the transformer is always loaded at 50%. The base case assumed is to be 1 star. The energy saving calculated is as follows:

*Energy Savings: (Max. Losses @ 50% loading for particular Star rating in Watts – Max. Losses @ 50% loading for 1 Star rating in Watts) * no. of hours of operation annually *no. produced.*

Ceiling Fans:

The number of hours of operation is considered as 12 hours a day. The operation is considered for 300 days. Service value of 3.4 is considered as a base case. Following methodology shall be considered to calculate the energy savings:

*Energy Savings: Power Savings of each model when compared to base case*no. of labeled products produced in respective star category*no. of hours of operation annually.*

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Storage Water Heaters:

The number of hours of operation is considered as 2 hours in a day and the operation is considered for 250 days. The power saving is assumed as the savings achieved through standing loss criteria. 1 star is considered as the base case standing loss criteria. Energy savings shall be calculated with the following methodology:

*Energy Savings: Power Savings in standing loss for each model when compared to base case*no. of labeled products produced in respective star category*no. of hours of operationannually.*

Agricultural Pump-set:

The number of hours of operation is considered as 8 hours in a day and the operation is considered for 250 days. Overall efficiency of 1 star is considered as the base case. The energy savings calculated is as follows:

*Energy Savings: Power Savings for each model when compared to base case*no. of labeled products produced in respective star category*no. of hours of operation annually.*

Annexure – D

Please fill the details of production of the respective equipments as given below:

I. Refrigerator (Direct Cool and Frost Free Refrigerator)

Sr. no.	Agency ID.	Brand	Model No.	Rated Gross Volume (ltr)	Rated Storage Volume (ltr)	Fresh Food Storage Vol. (ltr)	Freezer Storage Vol. (ltr)	Rated Electric Consumption (kwh/year)	Star Rating	Adj. Storage Volume (ltr)	Electricity Consumption as in base case 1 Star (kwh/year)	BEE Labelled Production in FY (2014-15)	BEE Labelled Production in FY (2015-16)	Energy Saved (kwh/Year) in FY (2014-15)	Energy Saved (kwh/Year) in FY (2015-16)	Capacity Specific Savings in FY (2014-15)	Capacity Specific Savings in FY (2015-16)

Capacity Specific Saving = Energy saved by the particular model / Adj. Volume in litre

Total Capacity Specific Saving = (Capacity Specific Saving)* No. of units produced of the particular model in a Financial Year

$$\text{Performance Index 2014-15} = \frac{\sum \text{Total Capacity Specific Saving(FY 2014-15)}}{\sum \text{Total No. of Units produced in 2014-15}}$$

$$\text{Performance Index 2015-16} = \frac{\sum \text{Total Capacity Specific Saving (FY 2015-16)}}{\sum \text{Total No. of Units produced in 2015-16}}$$

II. Air Conditioners (Windows and Split Air Conditioner)

Sr. no.	Agency ID.	Brand	Type	Model No.	Rated EER (W/W)	Capacity (Ton)	Rated Cooling Capacity (w)	Rated Power Consumption (w)	Star Rating	Input Power Compared to basecase EER 2.2 (w)	BEE Labelled Production in FY (2014-15)	BEE Labelled Production in FY (2015-16)	Energy Saved (kwh/Year) in FY (2014-15)	Energy Saved (kwh/Year) in FY (2015-16)	Capacity Specific Savings in FY (2014-15)	Capacity Specific Savings in FY (2015-16)

Capacity Specific Saving = Power Saved EER 2.2 of a Model in watts/ Rated Cooling Capacity of the Model in watts

Performance Index 2014-15 = $\frac{\sum[\text{Power Saved EER 2.2 of a Model in watts/ Rated Cooling Capacity of the Model in watts* No. of Units produced of that Model(FY14-15)]}}{\sum\text{Total No of Units produced in 2014-15}}$

Performance Index 2015-16 = $\frac{\sum[\text{Power Saved EER 2.2 of a Model in watts/ Rated Cooling Capacity of the Model in watts * No.of Units produced of that Model(FY15-16)]}}{\sum\text{Total No of Units produced in 2015-16}}$

Power Saved EER 2.2 of a Model = The Power saved in Watts of a Model when compared to an EER of 2.2 for the same cooling capacity.

III. Tubular Fluorescent Lamps

Sr. no.	Agency ID.	Company Name	Type	Model No.	Star Rating	Rated Watts (w)	Colour Temp. (k)	Luminous Efficacy at 2000 hrs	No. of Labelled Product Prod in FY (2014-15)	No. of Labelled Product Prod in FY (2015-16)	Luminous Efficacy Performance in FY (2014-15)	Luminous Efficacy Performance in FY (2015-16)	Luminous Efficay Index in FY (2014-15)	Luminous Efficay Index in FY (2015-16)

Performance Index 2014-15 = $\frac{\sum[\text{ (L/w2000 hrs of a Model – L/w2000 hrs for base case 1 star)) * No. of Units produced of that Model(FY14-15)]}}{\sum\text{ Total No of Units produced in 2014-15}}$

Performance Index 2015-16 = $\frac{\sum[\text{ (L/w2000 hrs of a Model – L/w2000 hrs for base case 1 star)) * No. of Units produced of that Model(FY15-16)]}}{\sum\text{ Total No of Units produced in 2015-16}}$

L/w2000 hrs for base case 1 star – The luminous efficacy at 2000 hours for a model when compared to 1 star level, which is considered as 52 lumens/watt.

IV. Ceiling Fans:

Sr. no.	Agency ID.	Brand	Model No.	Sweep (MM)	Minimum Air Delivery (Qubic mt/min)	Input Power (w)	Service Value (Qubic mt /min*w)	Power Consumption w.r.t. service value of 1 star (w)	Star Rating	BEE Labelled Production in FY (2014-15)	BEE Labelled Production in FY (2015-16)	Power Saving in FY (2014-15)	Power Saving in FY (2015-16)

Total Number of Models enrolled with BEE: _____

V. Distribution Transformer

Sr. no.	Agency ID.	Brand	Model No.	Capacity of the Transformer (kVA)	Total Loss at 50% Loading	Star Rating	Base Case Loss at 50% Loading	BEE Labelled Production in FY (2014-15)	BEE Labelled Production in FY (2015-16)	Saving @ 50% loading in FY (2014-15) (kWh)	Saving @ 50% loading in FY (2015-16) (kWh)

Total Number of Models enrolled with BEE: _____

VI. Storage Water heater

Sr. no.	Agency ID.	Brand	Model No.	Rated Capacity (ltr)	Rated Power Consumption (kW)	Standing Loss (kWh/24hr)	Star Rating	Standing Loss for 1 Star Product (kWh/24hr)	BEE Labelled Production in FY (2014-15)	BEE Labelled Production in FY (2015-16)	Saving (kWH per Day) in FY (2014-15)	Saving (kWH per Day) in FY (2015-16)

Total Number of Models enrolled with BEE: _____

VII. Agriculture Pump Sets

Sr. no.	Agency ID.	Brand	Head (m)	Discharge (lps)	No. of Stages	Pump Set Rating (kW)	Overall Efficiency (%)	Star Rating	BEE Labelled Production in FY (2014-15)	BEE Labelled Production in FY (2015-16)	Saving in (kWh) in FY (2014-15)	Saving in (kWh) in FY (2015-16)

Total Number of Models enrolled with BEE: _____