

パキスタン国
国立省エネルギーセンター,
水利電力省

パキスタン国
省エネルギー制度構築促進
【有償勘定技術支援】

ファイナルレポート
別添資料

平成 27 年 3 月
(2015 年 3 月)

独立行政法人
国際協力機構(JICA)

日本工営株式会社

南ア
JR
15-002

1. ENERCONが改訂した資料

- (1) MEPS and Labeling (Energy Efficiency Standards and Labeling: ES&L)
Policy / Guidelines For Implementation of ES&L Scheme In Pakistan**
- (2) Minimum Energy Performance Standard (MEPS) and Labeling
for AC Electric Fans**
- (3) Minimum Energy Performance Standard (MEPS) and Labeling
for Self- Ballasted Fluorescent Lamps(CFLs)**
- (4) Minimum Energy Performance Standard (MEPS) and Labeling
For 0.37kW – 7.5 kW (Single/Three Phase 50Hz); AC Induction Motors**
- (5) Minimum Energy Performance Standard (MEPS)
For Window Type & Split Air Conditioners With Cooling Capacity under: 14000 W
(12000 – 48000 BTU/hr)**



Doc. No: ES&L/P-01/2012

Issue No: 04

Issue Date: December, 2014

Last Rev: November, 2014

MEPS and Labeling (Energy Efficiency Standards

and Labeling: ES&L) Policy / Guidelines

For

Implementation of ES&L Scheme

In

Pakistan

Issued by: Ministry of Water & Power

**National Energy Conservation Centre (ENERCON)
Ministry of Water & Power, Government of Pakistan
ENERCON Building, G-5/2, Islamabad**

Printed November, 2014

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Acronyms

BRESL	Barrier Removal to the Cost Effective Development & Implementation of Energy Efficiency Standards & Labeling
CFLs	Compact Fluorescent Lamps
EE	Energy Efficiency
ENERCON	National Energy Conservation Centre
MEPS	Minimum Energy Performance Standard
NSC	National Standards Committee
PEEC	Pakistan Energy Efficiency and Conservation Bill
PSQCA	Pakistan Standards & Quality Control Authority

Procedure for Implementation of ES&L Scheme in Pakistan

Purpose/Policy:

1. To establish and provide guidelines to the manufacturers and importers (local agents, distributors, retailers etc) of house hold appliances/ products in Pakistan for participating in the ES&L scheme on voluntary basis and to get permission/ license to use/ affix “Pakistan Energy Efficiency Rating Label” herein after called *in short* “Pakistan Energy Label” on their appliances/ products marketed in Pakistan.

Scope

2. The procedure will apply initially to the following listed household electrical appliances/ products manufactured locally or imported into Pakistan:

- a. AC Electric Fans
- b. Compact Fluorescent Lamps (CFLs)
- c. Magnetic & Electronic Ballasts for Tubular Fluorescent Lamps
- d. Electric Motors
- e. Room Air conditioners
- f. Refrigerators
- g. Television
- h. Electric Iron
- i. Microwave Oven
- j. Washing Machine
- k. Tabular Fluorescent Lamps

3. In first phase the manufacturers/ producers/ importers of house hold electrical appliances/ products as listed under Para 2, who are interested to participate in the energy ES&L scheme and wish to use/ affix the “Pakistan Energy Label” on their products for sale/ marketing in Pakistan may do so on voluntary basis after obtaining permission from ENERCON, Ministry of Water & Power, Government of Pakistan as per procedure laid down in Para 7.

4. In second phase, use of “Pakistan Energy Label” will be mandatory for products given in Para 2 above (Fans, CFLs, Ballasts, Electric Motors, Air Conditioners and Refrigerators). The second phase is planned to be launched in 3 to 5 years, depending on the local, regional and international market conditions.

Responsibility

5. ENERCON is the national focal agency to implement energy labeling scheme for household electrical appliances/ products in Pakistan.

6. ENERCON is mandated vide item/ clause 1(e) and 3 of Article 4 , item (v),(x),(xxii) of Article 6 and item(d),(j),(v) of under enactment “ Revised Pakistan Energy Efficiency and

Conservation (PEEC) Bill” to develop/ undertake all appropriate measures/ mechanism necessary for achieving energy conservation and efficiency in the country. This includes but not limited to processing, granting approvals, regulating, monitoring of “Energy Label”, levying fines or prohibiting the manufacture, sale or import of inefficient energy appliances/equipment in the country.

Procedure

7. Submission and Processing of Application:

7.1 The manufacturers or an importers of household appliances/ products as listed under Para 2 shall apply to ENERCON for registration of their products in order to get permission to use/ affix “Pakistan Energy Label” on the specified product according to the laid down criteria, terms and conditions as described under Para 7 and 8 of the procedure.

7.2 Application shall be submitted on ENERCON Form PEL/F-01/2012, copy of which can be obtained from ENERCON/ BRESL Project or downloaded from web Id. www.enercon.gov.pk and www.bresl.net.pk.

7.3 Application shall be submitted along with “Label Licensing Fee” of Rs. 25,000/- (Rupees Twenty five thousand) in the form of a nonrefundable Payee Account Demand Draft in favour of ENERCON / BRESL Project.

7.4 The application form shall be duly filled in/ answer all the questions raised in the form, by giving correct/ appropriate information and accompanied with Energy Efficiency test results and required supporting documents as mentioned in the application form.

7.5 The received application shall be checked for completeness of documents and *will be registered/* logged by the authorized person of the “*ES&L Scheme* Section” of ENERCON. The application is incomplete if, among others;

(i) the application form is not properly filled up, signed and stamped,

(ii) EE test results are not enclosed with,

(iii) enclosed EE tests are not issued by accredited laboratories,

(iv) prescribed registration fee are not paid

Incomplete applications will be returned to the applicants within 3 days after submission ;complete applications will be forwarded to the Evaluation Committee.

Acknowledgement regarding the receipt of application shall be communicated by ENERCON to the applicant within seven (07) days after submission

7.6 The *complete* applications then shall be reviewed by the Evaluation Committee (Para 9 below) against the defined criteria for grant of “Pakistan Energy Label”. The committee will finalize its recommendations as to the acceptance or rejection of the application within

two (02) weeks from the date the case is referred to the committee. MD ENERCON will be the competent authority to approve/ reject grant of “Pakistan Energy Label” to the applicant. The applications may be rejected, if among others, the results shown in the enclosed EE test reports do not meet the qualification threshold of the products as specified in the relevant MEPS (Minimum Energy Performance Standards).

7.8 The result of evaluation/ review shall be communicated to the applicant within seven (07) days after the approval/ rejection by the competent authority. In case of rejection, reasons for such rejection shall also be communicated to the applicant.

7.9 In case of rejection, the applicant can submit a Review Appeal to the reviewing authority detailing the justification for review, which in this case shall be the “Secretary of the concerned Administrative Ministry” under which ENERCON works. In case of acceptance, ENERCON may publicize the manufacturer’s name and appliance type after grant of “Pakistan Energy Label”

8. MEPS and Criteria for Grant of “Pakistan Energy Label”:

8.1 The criteria for grant of “Pakistan Energy Label” will be that the product meets the requirements of energy efficiency performance standards as laid down in the relevant MEPS for the specific product, and as approved by the National Standards Committee (NSC) of Pakistan Standards & Quality Control Authority (PSQCA). The proof of conformance to the MEPS will be provided by the applicant through EE Test Report/ Certificate obtained from testing laboratories accredited under international standard ISO/IEC 17025.

8.2 The MEPS for specific products are available on ENERCON- BRESL website.

8.2.1 The Energy Performance Value for grant of “Pakistan Energy Label” shall be reviewed periodically by ENERCON. Detail interval of review shall be specified in the documents titled “Minimum Energy Performance Standard (MEPS) for the appliances mentioned in section 2 of this procedure

8.4. The Energy Performance Value for MEPS shall be reviewed periodically, due to request from ENERCON, by PSQCA. Detail interval of re4view shall be specified in the documents titled “Minimum Energy Performance Standard (MEPS) for the appliances mentioned in section 2 of this procedure

9. Evaluation Committee:

- 9.1. The constitution of Evaluation Committee shall be as under:
- a. Head, Energy Labeling Section of ENERCON
 - b. Representative of Ministry of Water & Power
 - c. Representative of Ministry of Science & Technology
 - d. Representative of Ministry of Industries
 - e. Relevant Technical Expert(s) of ENERCON- BRESL

9.2. Head, *ES&L Scheme* Section, ENERCON will convene the meeting of evaluation committee to finalize the approval/ rejection of application within the stipulated time period.

9.3. The constitution of the Evaluation Committee can be reviewed and revised by MD ENERCON as deemed necessary. The ministries/ divisions represented in the Evaluation Committee may be consulted, where required, while reviewing the constitution of Evaluation Committee.

9.4. The Evaluation Committee may enjoy a term of three (03) years with Functions/ Terms of Reference as summarized below:

- Evaluation of the application submitted by the applicant for grant of “Pakistan Energy Label”.
- Recommending to the approving authority the grant or rejection of “Pakistan Energy Label” as the case may be.
- Evaluation of Review Appeal submitted by the applicant and forwarding the comments to the reviewing authority for decision.

- Timely resolution of complaints received through labeling section of ENERCON from buyers/ consumers, manufacturers and communicating the result of resolution to the complainant.

10. Design / Pattern of “Pakistan Energy Label”:

10.1 The pattern/design of “ Pakistan energy label” to be used/ affixed on the products shall be a “Unified Energy Label” for all the products as listed under Para 2,with the provision of entering particular data related to the specified product.

The ENERCON Logo has been merged with as Energy Efficiency Endorsement Logo and made part of Pakistan Energy Label.

10.2 The pattern/ design of “Pakistan Energy Label” will be as given on the ENERCON-BRESL web site, and a soft copy will be provided to the applicant on approval of grant of label. Sample format of “Pakistan Energy Label” for five electric home appliance is shown, in Fig-1 to Fig -5, for information only.



Figure-1: Sample of Printed “Pakistan Energy Label” for Fans

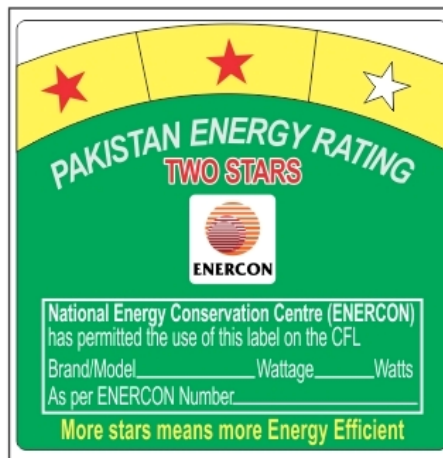


Figure-2: Sample of Printed “Pakistan Energy Label” for CFLs

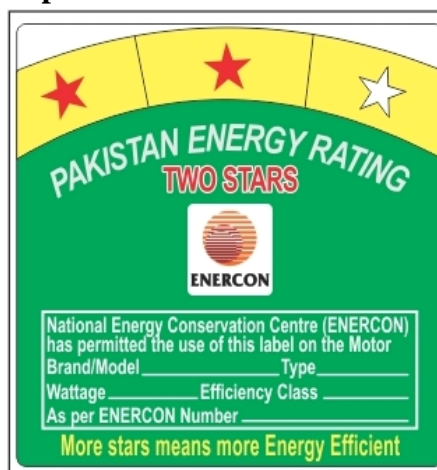


Figure-3: Sample of Printed “Pakistan Energy Label” for Motors



Figure-4: Sample of Printed “Pakistan Energy Label” for Ballasts



Figure-5: Sample of Printed “Pakistan Energy Label” for Air conditioners

10.3 The details of dimensions, character size and colors of energy label are given in the documents titled “Minimum Energy Performance Standard (MEPS)” of Ac Electric Fans, CFLs, Electric Motors Ballasts, Room Air conditioners & Refrigerators and others as mentioned in section 2 of this procedure

11. Name and Use of “Energy Label”:

11.1 The full name of “energy efficiency label” to be used in Pakistan shall be “Pakistan Energy Efficiency Rating Label”.

11.2 The applicant who has been authorized to use this label will print the “Pakistan Energy Efficiency Rating Label’ according to the pattern/ design and size/dimensions approved by ENERCON.

11.3 “Pakistan Energy Efficiency Rating Label” shall be used/ affixed on the body of the qualified product at a visible place and also prominently on the upper face of the product packaging.

12. Term and Renewal of Labeling License:

12.1 The labeling license shall be granted initially for one year. Extension in/renewal of license for further two (02) continual years may be granted, subject to the following:

- The authorized user of license formally applies for extension/ renewal of license.
- The product, holding the license of “Pakistan Energy Label”, still complies with the Energy Efficiency qualifying criteria as mentioned at Para 8.1 of the procedure.
- The application for extension is accompanied with fresh Energy Efficiency Test Report and the results conform to the requirements of relevant MEPS.
- The users/manufacturers have upgraded the manufacturing technology or has improved the design of the EE product

- License renewal fee has been paid by the applicant.

12.2 License Renewal Fee will be Rs. 20,000/- of renewal for two years.

13. Review Appeal:

13.1 In case the application of a manufacturer or importer is rejected/ not accepted, the concerned applicant may file a Review Appeal within thirty (30) days of rejection to the Reviewing Authority, which in this case shall be the “Secretary of the concerned Administrative Ministry”.

13.2 The decision on the Review Appeal shall be taken within fifteen (15) days of receipt of the appeal in the office of the Reviewing Authority, and the decision shall be communicated to the concerned applicant. The decision of the Reviewing Authority shall be final and cannot be challenged in a court of law.

13.3 There shall be no charge/ fee for filing the review appeal.

13.4 A manufacturer or importer can however submit a revised application for grant of license to use energy label on the specified product, after incorporating the suggested improvements in the product. The same process as mentioned at Para 7 of this procedure shall apply to deal with the revised application. Fee for Revised Application shall be Rs. 15,000.

14. Compliance Monitoring of Energy Label:

14.1 ENERCON through its designated staff and in collaboration with PSQCA shall carry out monitoring to verify the compliance in using the “Pakistan Energy Label” on the qualified products by the authorized manufacturer/ importer.

14.2. ENERCON, in collaboration with PSQCA, shall carry out twice a year random monitoring/ checking of pattern/ design and validity of authorization of users for using/ affixing the “Pakistan Energy Label” on their products.

14.3. The authorized monitoring staff of ENERCON shall be issued special cards and Authority Letter clearly showing the function/ responsibility and authority/ power for conducting the compliance monitoring.

14.4. Following procedure shall be adopted for monitoring/ checking the use/ affixing of Pakistan Energy Rating Label in Pakistan;

- a. The designated monitoring staff of ENERCON will prepare a half yearly programme for monitoring of Energy Labels in Pakistan with the approval of MD ENERCON.
- b. The plan will include those regions of Pakistan where the manufacturers/ importers and dealers/ retailers are marketing their qualified products.
- c. During field monitoring, the designated monitoring staff will randomly pick/ check at least three (3) samples of qualified products, one each from manufacturer, dealer and the retailer for each of the product brand.
- d. The designated staff will check/ observe the compliance of the Pakistan Energy Label regarding pattern/ design, way and place of use/ affixing according to the approved criteria.
- e. The picked samples, if required, shall be got tested from the designated/ authorized testing laboratories for conformance to MEPS.
- f. The staff shall record on prescribed form of “Energy Label Violation Report”, any violation observed/ found in the use/ affixing of Pakistan Energy Label or non-conformance to MEPS, and report to the competent authority along with proof of objective evidence and level of violation as given in Para 15 below.

14.5. ENERCON has the responsibility to collect the information, annual volume of products and/or imports regarding ES&L, through questionnaire or other methodologies, from manufacturers, importers, related associations

14.6. ENERCON shall verify the effectiveness of introduction of ES&L framework and shall make the results public

15. Levels of Violation: These will be determined according to the level of non-conformance to the performance parameters as specified in the grant of permission for use of labels on the specified products. Level of Violation shall be determined as:

- a. **Violation Level A:** The test results of samples indicate non-conformance to the specified MEPS, i.e. the tested samples are less energy efficient than specified in the MEPS.
- b. **Violation Level B:** Label placed/ affixed on an unqualified/ unauthorized product.
- c. **Violation Level C:** Design of label is not according to the approved pattern, or the label is misleading to the customer.

- d. **Violation Level D:** Label not affixed properly or not affixed at appropriate place on product/ packaging.

16. Penalties for Violation:

16.1 If “Pakistan Energy Label” used/ affixed on the product is not conforming to the pattern/ design, the way of use as approved by the regulatory authority or the label is found misleading to the consumers/ retailers or violation of energy consumption against notified standards, the concerned user(s) of “Pakistan Energy Label” shall be penalized as follows:

- i) Suspension of labeling license
- ii) Withdrawal of labeling license
- iii) Monetary Fine

16.2 A fine up to Rs. 250,000/- (maximum) but not less than Rs. 50,000/- will be levied according to the Level of Violation, as given in Para 18 above; starting from maximum for Violation Level A to minimum for Violation Level D.

16.3 The authorized user of the “Pakistan Energy Label”/ fined manufacturer/ dealer/ retailer can go in to a review appeal against the decision of imposed penalty, by submitting an application on a plain paper, to the Reviewing Authority which in this case shall be the “Secretary of the concerned Administrative Ministry”.

16.4 The decision on the review appeal shall be taken by the Reviewing Authority within two (02) weeks from the date the appeal is received in the concerned section. The decision of the Reviewing Authority shall be considered final, and shall be communicated to the concerned appellant within seven (07) days of the decision and no further appeal can be made to any other authority or challenged in a court of law.

16.5 The withdrawal/ suspension of Pakistan energy label shall be made public through print and electronic media and other appropriate means.

16.6 The energy labeling license shall be kept:

- i) Suspended/ withdrawn till the decision of the review appeal.
- ii) Or till subsequent restoration after the concerned user has rectified the violation, and the Reviewing Authority (Secretary of the concerned Administrative Ministry” is satisfied to allow continuation of use of “Pakistan Energy Rating Label”

16.7 The labeling license shall be restored by the license granting authority after verification of the corrective/ remedial actions taken/ penalty paid by the concerned user.

16.8 The Federal Government may prohibit manufacture or sale or purchase or import of equipment or appliance specified under EE&C Act, after introduction on mandatory basis, unless such equipment or appliance conforms to energy consumption standards

-----End of Document-----



Doc. No: EES-01/2013
Issue No.: 03
Issue Date: Dec.2014
Last Rev: Nov. 2014

Pakistan
Minimum Energy Performance Standard (MEPS) and
Labeling for AC Electric Fans



Issued by: Ministry of Water & Power

**National Energy Conservation Centre (ENERCON)
Ministry of Water & Power, Government of Pakistan
ENERCON Building, G-5/2, Islamabad**



Pakistan
Minimum Energy Performance Standard (MEPS) and
Labeling for AC Electric Fans

FOREWORD

In order to achieve energy conservation through the use of energy efficient appliances, there is a need to promote a new culture, by taking appropriate measures through development of policies and promulgation of laws, rules/regulations and standards.

To cope with the requirement of this effect, a document describing the minimum allowable values of energy efficiency for AC electric fans to qualify as energy efficient appliance, has been developed as Minimum Energy Performance Standard (MEPS) requirement to be followed/met by the local manufacturers and importers of AC electric fans to get their products/fans qualified through testing as “Energy Efficient Product” on voluntary basis.

This activity will help the country in transforming the present market culture into energy efficient culture thereby leading towards substantial energy conservation in the country and achieving the reality of “GREEN PAKISTAN”.

In preparation of this standard, assistance has been derived from Chinese National Standard GB 12021.9:2008 “Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades for AC Electric Fans”; and Bangladesh Standard BDS-1860:2012 “Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades for AC Electric Fans”.

**Managing Director ENERCON/
National Project Director, BRESL
Pakistan**



Pakistan

Minimum Energy Performance Standard (MEPS) and Labeling for AC Electric Fans

1. Purpose:

Purpose of this standard is to provide guidelines on setting up the minimum and high requirement limits for energy performance testing of AC electric fans in Pakistan and to match with world best practices of energy performance testing of fans.

2. Scope:

This standard specifies the energy efficiency levels, minimum allowable values of energy efficiency, high energy performance values/evaluating values of energy conservation, test methods and inspection rules of AC electric fans. This standard shall apply to all types and sizes of AC electric fans covering sweep size from 200 mm to 1800 mm commonly used in Pakistan, with supply voltage of 230 V 50 Hz or range 220 - 240 V, 50 Hz.

3. Normative References:

The following documentary standard, through reference in this text, constitute the provision of this standard. The latest edition of the normative document is applicable to this standard:

IEC 60879 (Performance and Construction of Electric circulating Fans and Regulators)

4. Terms & Definitions:

The following terms and definitions apply to this standard.

4.1 Size of fan

The size of fan refers to the sweep of the fan blades in millimeters.

4.2 Electrical input power

The electric input power means the input power consumed by the fan in Watts under the specified test conditions.

4.3 Air delivery

Air delivery is the amount of air in cubic meter, dispersed by an electric fan, during one minute time under the specified test conditions.

4.4 Service value

The service value is the ratio between the air delivery (m^3/min) and the electrical input power (W) of a fan.

4.5 Minimum allowable value of energy efficiency for fans



It is the minimum permissible value of energy efficiency or minimum energy performance standard (MEPS) denoted as service value of an AC electric fan, as indicated in Table-1, under test conditions specified in the standard and its unit is cubic meter per minute per Watt [$\text{m}^3 / (\text{min. W})$].

4.6 Contents of this document ,including Energy Performance Values for grant of “Pakistan Energy Label” shall be reviewed within subsequent term of every 3 years (tentative time scale: it may be decided under acceptance from manufacturers /importers or as needed under the law).

5. Technical Requirements:

6.

5.1 Basic requirements

The performance of the AC electric fans applicable to this standard shall meet the requirements as specified in the Standard IEC 60879.

5.2 Energy efficiency levels/stars

Those products which meet the minimum requirements as specified in this standard, when tested regarding energy efficiency values, shall be eligible to apply for the use of Energy Efficiency Stars Label.

The minimum allowable values of the energy efficiency i.e. minimum energy performance standard (MEPS) for grant of Energy Efficiency Star Label for AC electric fans shall be as given in the Table-1. The energy efficiency levels of AC electric fans shall be divided into 3 stars (see Table-1) among which the 3 stars is the highest in energy efficiency. More stars mean more energy efficient fan. The energy efficiency values of all the level of the product shall not be lower than those specified in Table-1.

Table -1: Energy Performance values for AC Electric Fans

Product Type	Sweep (mm)	Energy Performance/Service Value [$\text{m}^3 / (\text{min. W})$]		
		Energy Efficiency Levels/Stars		
		1	2	3
		Level-1 1 Star	Level-2 2 Stars	Level-3 3 Stars
Table/Desk, Wall/Bracket, Box/Exhaust, and Pedestal/Floor Fans (Capacitor type)	200	0.54	0.60	0.71
	230	0.64	0.70	0.84
	250	0.74	0.79	0.91
	300	0.80	0.86	0.98
	350	0.90	0.95	1.08
	400	1.00	1.06	1.25
	450	1.10	1.19	1.42
	500	1.13	1.25	1.45
Ceiling Fans (Capacitor type)	600	1.30	1.43	1.65
	900	2.75	2.87	2.95
	1050	2.79	2.93	3.10
	1200	2.93	3.08	3.22
	1400	3.15	3.32	3.45
	1500	3.33	3.52	3.68



	1800	3.47	3.67	3.81
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Note: The figures in the columns under different levels or number of stars refer to the service values of a fan corresponding to its sweep size. (Source: Pakistan Standard, PS-1/2010 & BESL Regional Specifications of Fans-2014)

6. Testing Protocol and Type Inspection:

6.1 Testing protocol

The input power, air flow rate, power factor and other relevant/required performance characteristics of the AC electric fans and regulators, shall be measured according to the procedure as specified in the standard IEC 60879.

6.2 Type inspection

Inspection over the minimum allowable value of energy efficiency shall be carried out if one of the following conditions prevails:

- (i) New product trial;
- (ii) The design, technology or material of the product is changed and the performance is influenced;
- (iii) Reproduction of the product after a period of more than 1 year;
- (iv) The result of market delivery inspection is very much different than the previous type inspection;
- (v) Inspection requirements proposed by standards regulatory body/organization.

6.3 Testing of samples

Through random sampling for type inspection, three (03) samples of the product shall be collected, among which two (02) shall be tested and the third left over shall remain as standby. If the results of the two tested samples meet the requirements of this standard, the batch represented by these samples shall be declared qualified; otherwise, this batch shall be treated as disqualified. If one out of two tested samples fails to meet the requirements of this standard, the stand by sample shall be tested. If the test result meets the requirements of this standard, the batch shall be treated as qualified; otherwise it shall be declared disqualified.

7. Labeling

7.1 Affixing of energy star label

The energy star rating label shall be in the form of a sticker and affixed to the enclosure of the fan-motor, as well as on the packing, so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model of the fan. The format of the energy star rating label shall be as given in Figure-1.

7.2 Color of energy star labels

Sample energy star rating label is given in Figure-2 for information only and the colors of the energy star label shall follow Adobe RGB or s RGB color profile, as under:

Yellow:	R=255,	G=255,	B=0
Red:	R=255,	G=0,	B=0
Green:	R=0,	G=150,	B=60



Where, R = Red, G = Green, and B = Blue



Figure-1: Format for the Energy Efficiency Star Rating Label

- Number of stars appearing on the curved band depends on the energy rating determined as per section 4 of this standard. More stars mean more energy efficient.
- Number of stars (in words) permitted for the model.
- Brand name, model number and size of the fan in mm printed in the space provided.



Figure-2: Sample of Printed Energy Star Rating Label

7.3 Dimensions of the energy star rating label

Dimensions of the energy star label shall be as given in Figure-3.

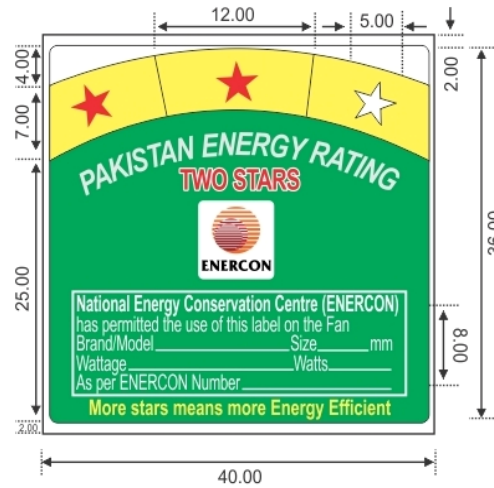


Figure-3: Dimensions of the Energy Star Label (all values in mm)

7.4 Character size (height) of the energy star rating label

Character size (height) of the energy star label shall be as given in Figure-4.

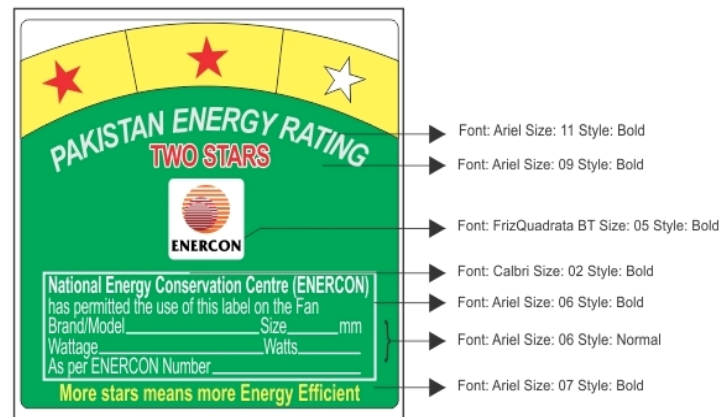


Figure-4: Print Type and Character Size of the Energy Star Label

7.5 Color of energy efficiency endorsement logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or s RGB color profile, as follows:

- 1) Outer loop of logo: R=131, G=26, B=23
- 2) Middle loop of logo: R=161, G=41, B=39
- 3) Inner loop of logo: R=129, G=40, B=42



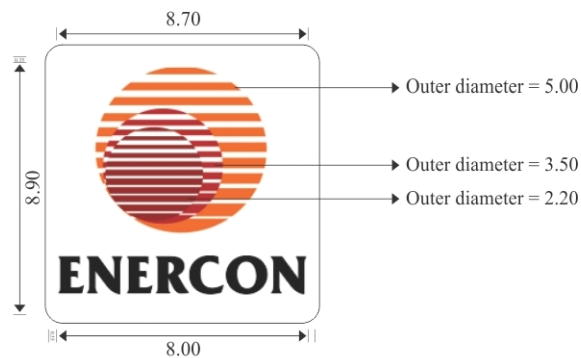
Where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Printed Energy Efficiency Endorsement Logo

7.6 Dimensions of the energy efficiency endorsement logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.



**Figure-6: Dimensions of Energy Efficiency Endorsement Logo
(All values in mm)**

Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large circle:

Outer Diameter = 22.0mm
Thickness = 4 pt
Number of horizontal bars = 11

2) Inner small circle:

Outer Diameter = 15.8mm
Thickness = 4 pt
Number of horizontal bars = 11

3) Inner most circle:

Outer diameter = 12.8mm
Thickness = 4 pt
Number of horizontal bars = 11



7.7 Character size (height) of the energy efficiency endorsement logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure-7.



Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

7.8 Prohibited information

Advertising information, other than that being included on the energy efficiency label, is prohibited.

-----End of Document-----



Doc. No: EES-02/2013

Issue No: 03

Last Rev: Nov. 2014

Issue Date: Dec.2014

Pakistan
Minimum Energy Performance Standard (MEPS) and Labeling
for Self- Ballasted Fluorescent Lamps(CFLs)



Issued by: Ministry of Water & Power

National Energy Conservation Centre (ENERCON)
Ministry of Water & Power, Government of Pakistan
ENERCON Building, G-5/2, Islamabad

Printed Nov. 2014



Pakistan
Minimum Energy Performance Standard (MEPS) and Labeling
for Self- Ballasted Fluorescent Lamps (CFLs)

FOREWORD

In order to achieve energy conservation through the use of energy efficient appliances, there is a need to promote a new culture, by taking appropriate measures through development of policies and promulgation of laws, rules/regulations and standards.

To cope with the above mentioned requirement, a document describing the minimum allowable values of energy efficiency and rating criteria for self-ballasted fluorescent lamps (CFLs) used for general lighting services has been developed as Minimum Energy Performance Standard (MEPS) requirements to be followed /met by the local manufacturers and importers of CFLs to get their product qualified through testing as “Energy Efficient Product” on voluntary basis.

This activity will help the country in transforming the present market culture into energy efficient culture, thereby leading towards sustainable energy conservation in the country and achieving the reality of “GREEN PAKISTAN”.

In preparation of this standard, assistance has been derived from Chinese National Standard GB 19044- x x x x (CFL MEPS for 2013) “Minimum allowable values of energy efficiency and the energy efficiency grades of self ballasted fluorescent lamps for general lighting service”.

**Managing Director, ENERCON/
National Project Director, BRESL
Pakistan**



Pakistan

Minimum Energy Performance Standard (MEPS) and Labeling for Self- Ballasted Fluorescent Lamps(CFLs)

1. Purpose:

The purpose of this standard is to provide guidelines on setting up of minimum requirement limits for energy performance rating of Self-ballasted Compact Fluorescent Lamps in Pakistan and to match with world best practices of energy performance testing and performance evaluation of such types of lamps.

2. Scope:

The standard specifies the rating criteria for energy efficiency levels/grades, allowable values of energy efficiency, and test procedure and selection / inspection rules of self-ballasted compact fluorescent lamps used for the domestic and similar general lighting services.

This standard shall apply to self-ballasted compact fluorescent lamps (CFLs) generally known as “Energy Savers” of all commonly used shapes /sizes (U-shaped & Spiral shaped, Edison screw holder or bayonet / pin type adopter) in Pakistan, with nominal power rating from 3Watt to 60 Watt at rated supply voltage of 230 V, 50 Hz or voltage range 220 –240 V, 50 Hz as marked on the lamp.

The standard does not apply to self-ballasted fluorescent lamps used with covers.

3. Normative References:

The following documentary standards, through reference in this text, constitute the provision of this standard. The latest edition of the normative documents is applicable for this standard.

- PS- IEC : 60969 Self-Ballasted Lamps for General Lighting Services – Performance Requirements
- PS- IEC : 60968 Self-Ballasted Lamps for General Lighting Services – Safety Requirements
- IEC: 61000-3-2 Harmonics determination of self –ballasted fluorescent lamps

4. Terms & Definitions:

The following terms and definitions apply to this standard.

4.1 Initial Luminous Efficacy:

The initial luminous efficacy for evaluating the performance of the self-ballasted lamps is the ratio of measured initial luminous flux and the measured input power of the CFL. The unit is lumens per Watt (lm/W).



4.2 Minimum Values of Initial Luminous Efficacy:

The minimum values of the initial luminous efficacy pertaining to energy efficiency rating shall not be less than level-1 as mentioned in this standard in section 5.2, under the specified test conditions.

4.3 Contents of this document ,including Energy Performance Values for grant of “Pakistan Energy Label” shall be reviewed within subsequent term of every 3 years (tentative time scale: it may be decided under acceptance from manufacturers /importers or as needed under the law).

5. Technical Requirements:

5.1 Basic Requirements

The performance of the self-ballasted fluorescent lamps (CFLs) shall meet the requirements as specified in the Standard PS- IEC 60969.

5.2 Energy Efficiency Rating

Energy efficiency of CFLs is divided into three classes/levels. The Level-1 indicates the minimum and level-3 indicates the maximum energy efficiency. The energy efficiency values for each rating are calculated by using Equation-1 given below:

$$\eta = -A[\log_{10}(P)]^3 + B[\log_{10}(P)]^2 + C[\log_{10}(P)] + D \dots\dots\dots \text{Eq. (1)}$$

Where

η = Initial luminous efficiency/efficacy in lumens per Watt (lm / W);

P = Rated power, in Watts (W); and]

A, B, C, and D are coefficients

The calculated values of coefficients used in the Equation-1, are shown in Table-1.

Table- 1: Coefficients of energy efficiency rating

Coefficient	Energy efficiency rating for RR & RZ (5000&6500) K			Energy efficiency rating for RL, RB, RN & RD (2700 .3000,3500&4000) K		
	Level-1	Level-2	Level-3	Level-1	Level-2	Level-3
A	4.20	3.40	2.40	4.31	3.52	2.35
B	0.55	0.30	0.60	0.10	0.15	0.10
C	39.00	29.00	20.00	41.65	30.60	21.70
D	14.30	32.00	45.00	14.73	33.58	47.02

The computed energy efficiency values for different power ratings (from 3W to 60 W) for three levels are shown in Table -2. These values are presented in two groups, one for RR & RZ, and the other for RL, RB, RN and RD depending upon the corresponding co-related color temperature (CCT) as defined below:

- RR for CCT = 6500 K
- RZ for CCT = 5000 K
- RL for CCT = 4000 K
- RB for CCT = 3500 K
- RN for CCT = 3000 K



RD for CCT = 2700 K

5.3 Energy efficiency levels/stars

Those products (CFLs) which meet the minimum requirements as specified in this standard, when tested regarding energy efficiency values, shall be eligible to apply for the use of Energy Efficiency Stars Label.

The minimum allowable values of the energy efficiency i.e. minimum energy performance standard (MEPS) for CFLs shall be as given in the Table-2. The energy efficiency levels/grades of CFLs shall be divided into 3 stars (see Table-2) among which the 3 stars is the highest in energy efficiency. More stars mean more energy efficient CFL. The energy efficiency values of all the levels of the product shall not be lower than those specified in Table-2.

Table- 2: Values of self-ballasted fluorescent energy efficiency rating (lm/W)

Rated Power (Watts)	Energy Efficiency Values					
	Energy Efficiency Levels/Stars					
	Group RR and RZ			Group RL, RB, RN, and RD		
	1	2	3	1	2	3
	Level-1 1 Star	Level-2 2 Stars	Level-3 3 Stars	Level-1 1 Star	Level-2 2 Stars	Level-3 3 Stars
3	33	46	54	34	48	57
4	37	49	57	39	51	60
5	40	51	58	42	54	61
6	43	53	60	45	56	63
7	45	55	61	47	57	64
8	47	56	62	49	59	65
9	48	57	63	51	60	66
10	50	58	63	52	61	66
11	51	59	64	53	62	67
12	52	59	64	54	62	67
13	53	60	65	55	63	68
14	53	61	65	56	64	68
15	54	61	65	57	64	69
16	55	61	66	58	64	69
17	55	62	66	58	65	69
18	56	62	66	59	65	70
19	56	62	67	59	66	70
20	57	63	67	60	66	70
21	57	63	67	60	66	70
22	57	63	67	60	66	70
23	58	63	67	61	67	71
24	58	64	67	61	67	71
25	58	64	68	61	67	71
26	59	64	68	62	67	71
27	59	64	68	62	67	71
28	59	64	68	62	68	71
29	59	64	68	62	68	71
30	60	65	68	63	68	72
31	60	65	68	63	68	72



-----Contd/page-6

Rated Power (Watts)	Energy Efficiency Values					
	Energy Efficiency Levels/Stars					
	Group RR and RZ			Group RL, RB, RN, and RD		
	1	2	3	1	2	3
	Level-1 1 Star	Level-2 2 Stars	Level-3 3 Stars	Level-1 1 Star	Level-2 2 Stars	Level-3 3 Stars
32	60	65	68	63	68	72
33	60	65	68	63	68	72
34	60	65	68	63	68	72
35	60	65	68	63	68	72
36	60	65	69	64	68	72
37	61	65	69	64	68	72
38	61	65	69	64	68	72
39	61	65	69	64	68	72
40	61	65	61	64	69	72
41	69	65	69	64	69	72
42	61	65	69	64	69	72
43	61	65	69	64	69	72
44	61	65	69	64	69	72
45	61	65	69	64	69	72
46	61	65	69	64	69	72
47	61	65	69	65	69	72
48	61	65	69	65	69	72
49	62	65	69	65	69	72
50	62	65	69	65	69	72
51	62	65	69	65	69	72
52	62	65	69	65	69	72
53	62	65	69	65	69	72
54	62	65	69	65	69	72
55	62	65	69	65	69	72
56	62	65	69	65	69	72
57	62	65	69	65	69	72
58	62	65	69	65	69	72
59	62	65	69	65	69	72
60	62	65	69	65	69	72

6. Performance Testing Protocol for Self –Ballasted Fluorescent Lamps:

6.1 General Requirement of Tests

The tests for performance evaluation of CFLs shall be carried out according to the general requirements as specified in the standard PS- IEC 60969.



6.2 Marking on the Lamp:

Lamp shall be clearly and durably marked with at least the following mandatory markings:

- (1) Mark of origin (this may take the form of a trade mark, the manufacturer's name or the name of the responsible vendor).
- (2) Rated voltage or voltage range (marked "V" or "volts").
- (3) Rated wattage (marked "W" or "Watts").
- (4) Rated frequency (marked in "Hz").

6.3 Marking on the Lamp Packing:

In addition to the mandatory marking on the lamp, the following data are to be provided on the lamp packing:

- (1) Country of Origin
- (2) Rated Luminous Flux
- (3) Luminous Efficacy
- (4) Correlated Color Temperature (CCT)
- (5) Rated Life
- (6) A written Warrantee in at least one applicable local language
- (7) A local address for customer contacts and complaints

6.4 Starting Time:

CFL shall continuously illuminate within 1.5 second after being switched on.

6.5 Run-up Time:

CFL shall take 3 minutes to reach 80% of light output.

6.6 Lamp Wattage:

Input Power shall not deviate by more than $\pm 15\%$ of rated power when measured at test voltage of 230V, 50Hz.

6.7 Initial Luminous Flux:

The initial luminous flux measured after the ageing time shall not be less than 90% of the rated luminous flux when measured at test voltage of 230 V, 50 Hz.

6.8 Color:

The color co-ordinates of a lamp shall be within the tolerance area on the chromaticity chart as declared by the manufacturer or responsible vendor, but shall in any case be within 5 SDCM (Standard Deviation of Color Matching) from the target values.



6.9 Color Rendering Index:

The effect the spectral characteristics of the light emitted by the lamp has on the color appearance of the objects illuminated by it is called color rendition. The color-rendering index (CRI) is defined in terms of a comparison of the spectral tri-stimulus values of the objects under test illumination and standard illumination. Color Rendering Index (CRI) shall be at least 80.

6.10 Lumen Maintenance:

After 2000 h of operation, including the ageing period, the luminous flux shall not be less than 85% of the initial luminous flux.

6.11 Harmonics:

A CFL shall comply with the harmonics current limits set by IEC: 61000-3-2.

6.12 Life Time:

A CFL shall have a minimum rated life time of 8,000 hours. The manufacturer / supplier will produce a test report showing the compliance of rated life time of a particular rating, make/ model of CFL.

6.13 Mercury Content:

Mercury content of a CFL shall be less than 5 mg.

7. Samples for Inspection and Testing:

7.1 Quality Acceptance Test for Market Delivery

The manufacturers / suppliers of self-ballasted fluorescent lamps shall carry out quality level acceptance test for minimum energy efficiency values and those rejected in the test shall not be allowed in the market. The lamps used for the acceptance test shall be selected among the lot of same type of lamps produced daily. The test shall be carried out according to the requirement of standard PS-IEC 60969 in conjunction with those as specified in the Table-3 below.

Table-3: Quality Acceptance Level and Sampling

Test Item	Technical Requirement	Sampling Scheme	Sample Size	AQL % (Acceptance Quality Level)
Initial Lumen Efficacy	As described in section 4.2	One time	8 CFLs	75%

7.2 Routine Test

- (a) The manufacturers / suppliers shall carryout routine test on the minimum values of energy efficiency, at least twice (half yearly basis) in a year on its CFLs. The routine test shall also be carried out if one of the following conditions prevails;



- (i) Identifying product's trial production and settings
 - (ii) The performance may be altered due to change in the design, technology or material of the product.
 - (iii) Reinstating the production of the product after a halt of more than 1 year.
 - (iv) Requirement of routine test is proposed by standard regulatory body/organization.
- (b) The routine test shall be carried out according to the requirements as specified in the Table-4 given below;

Table-4: Routine Test & Reject able Quality Level (RQL)

Test Item	Section	Sample Size (CFLs)	RQL%
Initial Lumen Efficacy	4.2	8	25
Lamp Wattage	6.6	16	25
Initial Luminous Flux	6.7	16	25
Color	6.8	16	25
Color Rendering Index	6.9	16	25
Lumen Maintenance	6.10	16	25
Harmonics	6.11	16	25
Life Time	6.12	20	25

8. Labeling:

8.1 Affixing of Energy Efficiency Label:

The energy efficiency label shall be in the form of a sticker and shall be affixed on the CFL as well as on the package box of CFL, so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model/type of the CFL. The format of the energy efficiency label/sticker shall be as given in Figure-1.

8.2 Color of Energy Efficiency Label:

Sample energy efficiency label is given in Figure-2 for information only and the colors of the energy star label shall follow Adobe RGB or s RGB color profile.

Yellow: R=255, G=255, B=0
Red: R=255, G=0, B=0
Green: R=0, G=150, B=60

Where R = Red, G = Green and B = Blue

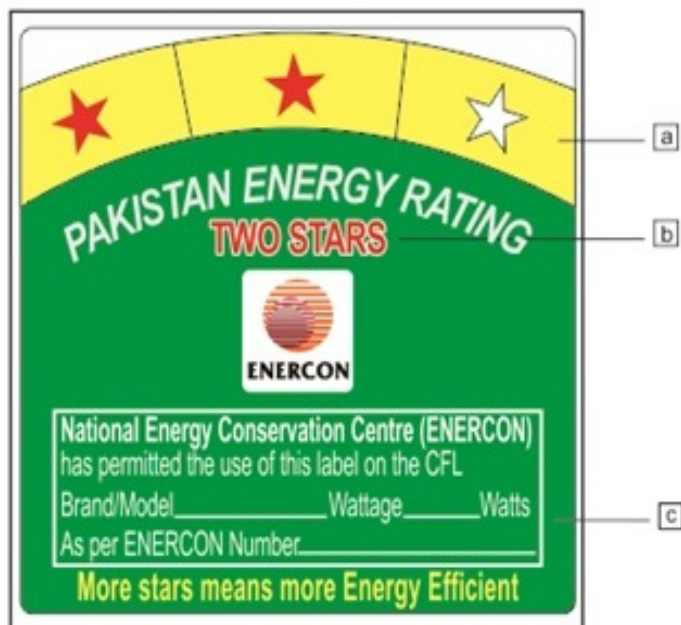


Figure-1: Format of the Energy Efficiency Rating Label

- a) Number of stars appearing on the curved band depends on the energy rating determined as per section 4 of this standard. More stars mean more energy efficient.
- b) Number of stars (in words) permitted for the model.
- c) Brand name, model/type number and wattage of the CFL are printed in the space provided.



Figure-2: Sample of Printed Energy Efficiency Rating Label



8.3 Dimensions of the Energy Efficiency Rating Label

Dimensions of the energy efficiency rating label shall be as given in Figure-3.



Figure-3: Dimensions of the Energy Efficiency Rating Label (all values in mm)

8.4 Character size (height) of the Energy Efficiency Rating label

Character size (height) of the energy efficiency rating label shall be as given in Figure-4.

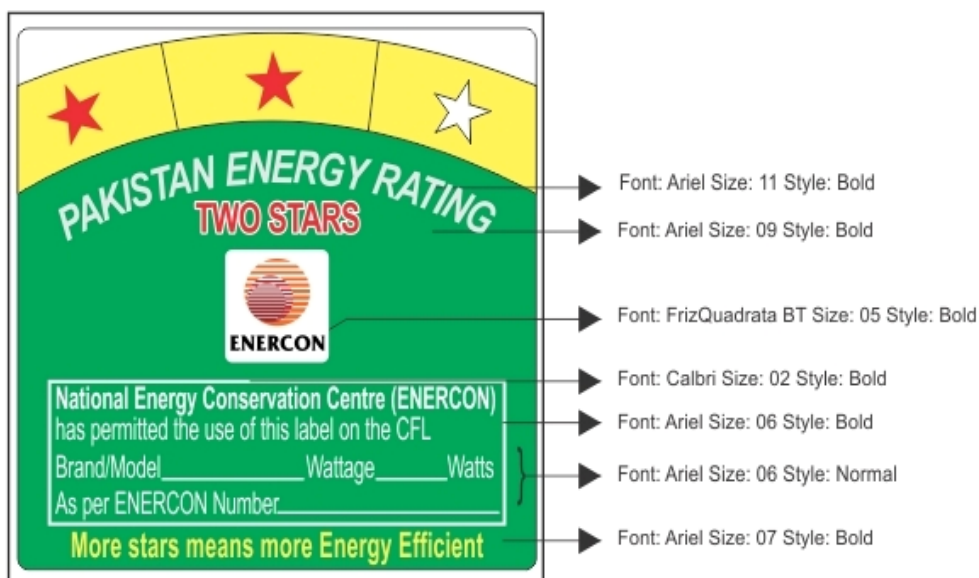




Figure-4: Print Type and Character Size of the Energy Efficiency Rating Label

8.5 Color of Energy Efficiency Endorsement Logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or s RGB color profile, as follows:

- 1) Outer/large Circle: R=153, G=174, B=106
- 2) Inner/small Circle: R=0, G=109, B=51
- 3) Inner most Circle: R=129, G=40, B=42

Where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Printed Energy Efficiency Endorsement Logo

8.6 Dimensions of the Energy Efficiency Endorsement Logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.

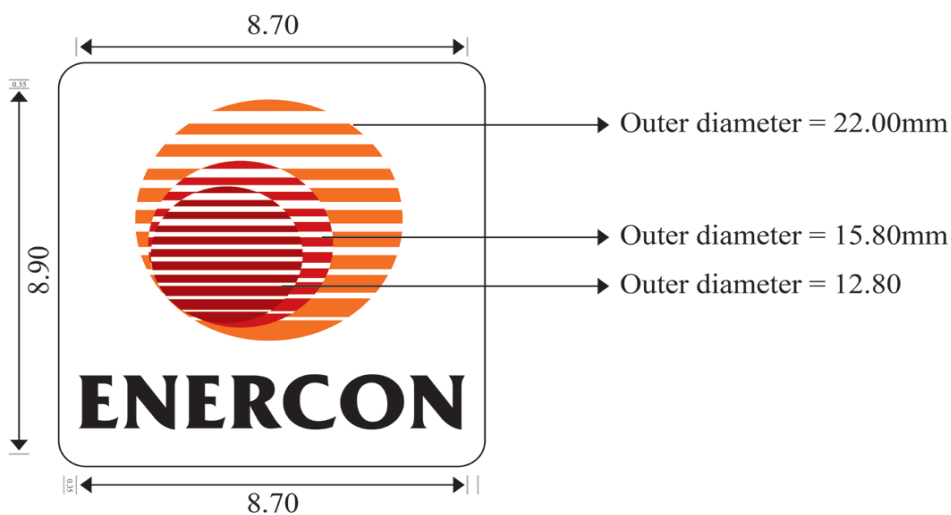




Figure-6: Dimensions of Energy Efficiency Endorsement Logo

8.7 Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large Circle:

Outer Diameter = 22.0mm

Thickness = 4 pt

Number of horizontal bars = 11

2) Inner small Circle:

Outer Diameter = 15.8mm

Thickness = 4 pt

Number of horizontal bars = 11

3) Inner most Circle:

Outer diameter = 12.80mm

Thickness = 4 pt

Number of horizontal bars = 11

8.8 Character Size (height) of the Energy Endorsement Logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure-7.

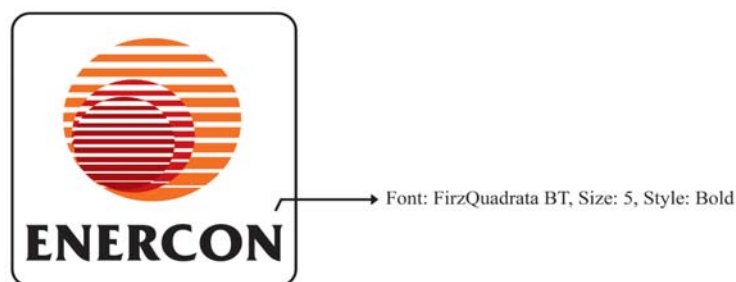


Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

8.9 Prohibited information

Advertising information, other than that being included on the energy efficiency label is prohibited.

-----End of Document-----



Doc. No: EES-04/7-2011
Rev. No: 03
Rev. Date: Nov.2014
Issue Date: Dec. 2014

Pakistan
Minimum Energy Performance Standard (MEPS) and Labeling For
0.37kW – 7.5 kW (Single/Three Phase 50Hz); AC Induction Motors



Issued by: Ministry of Water & Power

National Energy Conservation Centre (ENERCON)
Ministry of Water & Power, Government of Pakistan
ENERCON Building, G-5/2, Islamabad

Printed Nov, 2014



Pakistan
Minimum Energy Performance Standard (MEPS) and Labeling For
0.37kW – 7.5 kW (Single / Three Phase 50Hz); AC Induction Motors

FOREWORD

In order to reduce energy consumption and achieve energy conservation through the use of energy efficient appliances, there is a need to promote a new culture of energy efficient products, by taking appropriate measures through development of policies and promulgation of laws, rules/ regulations and standards.

To cope with the above mentioned requirement, a document describing the limiting values of energy efficiency and rating criteria for single and three phase line operated AC induction motors ranging from 0.37 kW to 7.5 kW (0.5 HP – 10.0 HP) widely being used for domestic applications/services, has been developed. This document lays down Minimum Energy Performance Standard (MEPS) to be followed/ met by the local manufacturers and importers of electric AC motors to get their product qualified through testing as “Energy Efficient Product”.

This activity will help reduce the level of energy consumption in the country and facilitate transforming the present market culture into energy efficient culture, thereby contributing greatly towards energy conservation in the country and achieving the reality of tomorrow’s “GREEN PAKISTAN”.

**Managing Director ENERCON/
National Project Director, BRESL
Pakistan**



Pakistan

Minimum Energy Performance Standard (MEPS) and Labeling For 0.37kW – 7.5 kW (Single / Three Phase 50Hz); AC Induction Motors

1. Purpose:

To provide guidelines on setting up of minimum requirement limits for energy performance testing and rating of (single & three phase); AC induction motors, in Pakistan and to match with world best practices of energy performance testing and evaluation of this type of electric motors.

2. Scope:

The purpose of this guide is to provide information on new standards for electric motors that will facilitate trade of high efficient motors across the globe. A study states that roughly 30 million new electric motors are sold each year for industrial purposes, some 300 million motors are in use in industry, infrastructure and large buildings across the globe. These electric motors are responsible for 40 % of global electricity used to drive pumps, fans, compressors and other mechanical traction equipment.

Motor technology has evolved in the last decades. Now superior so called “premium” products are also available, ready to change the market towards energy efficiency and to contribute in lowering greenhouse gas emissions worldwide.

Until recently diverging regional national standards for efficiency and energy classifications have been in use. They make a source of misunderstanding between manufacturer and user and are responsible for trade and efficiency barriers between national markets.

This MEP specifies the harmonized rating criteria, minimum values of energy efficiency, test procedures and selection of samples for inspection and testing of different categories of electric motors.

The standard shall apply to all types of general purpose line operated AC electric motors (with outage power ranging from 0.37 kW – 7.5kW (0.5 HP – 10.0 HP) being manufactured, traded and imported into /exported from Pakistan, irrespective of their use.

This standard also apply to specially designed or tailor made motors (Falling in the above mentioned category) for special purposes such as; (Motors built for Hazardous or high temperature environment).

The standard does not apply to battery powered DC electric motors mainly used in toy industry and electronic gadgets.



2.1. Motor Categories Covered by this Standard

The scope of the new standard is wider than that of the agreement previously in force in Pakistan. IEC 60034-30-1 covers almost all motors (for example standard, hazardous area, marine, brake motors):

- Single-speed, single & three-phase, 50 Hz
- 2, 4 or 6-pole
- Rated output power P_N from 0.37 kW to 7.50 Kw (0.5 HP – 10.0 HP)
- Rated voltage U_N up to 460 V
- Duty type S1 (continuous duty) or S3 (intermittent periodic duty) with a rated cyclic duration factor of 80% or higher
- Motors partially integrated into domestic pumps namely 'Mono Pumps'.

The following types of motors are excluded from this standard;

- Motors made solely for converter operation
- Motors with variable speed & frequency such as synchronous motors
- Motors completely integrated into a machine (for example, pump, fan or compressor) that cannot be tested separately from the machine following their integration
- Brake motors when the brake coil is an integral part of the motor construction and can neither be removed nor energized from a separate source during the testing of motor efficiency

The efficiency levels defined in IEC 60034-30 are based on test methods specified in IEC 60034-2-1(2007) with low uncertainty for IE2 and IE3 efficiency class. The methods available in IEC 60034-2-1 determine efficiency values more accurately than the methods previously used.

3. Normative References:

The following documentary standards, through reference in this text, constitute the provision of this standard. The latest edition of the normative documents is applicable for this standard.

- PS IEC : 60034-1; Rotating electrical machines Part 1: Rating and Performance;
- PS IEC : 60034-30-1(2014-03) ; Efficiency classes of line operated AC motors;
- PS IEC : 60034-2-I; Part2-1: Standard methods for determining losses and efficiency of rotating electrical machines from tests;
- PS IEC: 60034-12; Starting performance of single-speed cage induction motors.

4. Terms & Definitions:

The following terms and definitions apply to this standard in addition to those already defined internationally.



4.1 Commercial Levels of Motor Energy Efficiency as defined in PS IEC-60034-30 (2008)

This parameter for evaluating the efficacy level of subject motors is defined in the backdrop of the above mentioned standard as follows;

Premium Efficiency	IE3
High Efficiency	IE2 Comparable to Eff1
Standard Efficiency	IE1 Comparable to Eff2.

The above standard also introduces IE4 (Super Premium Efficiency), however the products falling under this category are yet to be commercialized.

4.2 Minimum Allowable Value of Energy Efficiency of Motors

The lowest allowable value of motor efficiency under test conditions is specified in this standard.

4.3 Evaluating Values of Energy Conservation of Motors

The lowest guaranteed efficiency values for energy conservation of motors shall be read under the test conditions as specified in this standard.

4.4 Contents of this document ,including Energy Performance Values for grant of “Pakistan Energy Label” shall be reviewed within subsequent term of every 3 years (tentative time scale: it may be decided under acceptance from manufacturers /importers or as needed under the law).

5. Technical Requirements:

5.1 Basic Requirements

The motor efficiency is determined through the calculation of losses. In order to calculate motor efficiency the losses must be determined first, since all the electrical energy is being transformed into mechanical energy by the motor.

Mainly the motor efficiency is derived through accounting for the five following losses:

- Stator and rotor winding losses (I^2R),
- Mechanical losses (friction in the bearings and shaft seals plus air ventilation),
- Losses in the iron lamination (hysteresis and eddy currents),
- Losses due to low gauge copper winding or core loss,
- Additional load losses resulting from various parasitic currents in the stator and rotor iron lamination, low capacitance, housing, shaft and end shields.

5.2 Criteria for Rating Energy Efficiency Class

The criteria defined in the table below are extracted from latest IEC Standard 60034-30-1 which is currently adopted /approved by PSQCA.



The energy efficiency values for rating of efficiency class have been improved according to new international standard (IEC: 60034-30-1) and are given in Table-1 below

50Hz									
IE1 – Standard Efficiency (%)			IE2 – High Efficiency (%)			IE3 – Premium Efficiency (%)			
Rated Power (kW)	2-pole/ 3000 rpm	4-pole/ 1500 rpm	6-pole/ 1000 rpm	2-pole/ 3000 rpm	4-pole/ 1500 rpm	6-pole/ 1000 rpm	2-pole/ 3 000 rpm	4-pole/ 1500 rpm	6-pole/ 1000 rpm
0.37	63.9	66.0	59.7	69.5	72.7	67.6	73.8	77.3	73.5
0.40	64.9	66.8	61.1	70.4	73.5	68.8	74.6	78.0	74.4
0.55	69.0	70.0	65.8	74.1	77.1	73.1	77.8	80.8	77.2
0.75	72.1	72.1	70	77.4	79.6	75.9	80.7	82.5	78.9
1.1	75.0	75.0	72.9	79.6	81.4	78.1	82.7	84.1	81.0
1.5	77.2	77.2	75.2	81.3	82.8	79.8	84.2	85.3	82.5
2.2	79.7	79.7	77.7	83.2	84.3	81.8	85.9	86.7	84.3
3.0	81.5	81.5	79.7	84.6	85.5	83.3	87.1	87.7	85.6
4.0	83.1	83.1	81.4	85.8	86.6	84.6	88.1	88.6	86.8
5.5	84.7	84.7	83.1	87.0	87.7	86.0	89.2	89.6	88.0
7.5	86.0	86.0	84.7	88.1	88.7	87.2	90.1	90.4	89.1

Table-1 (Figures extracted from the international standard IEC: 60034-30-1)

5.2.1 Criteria for Energy Efficiency and Star Rating

The above efficiency parameters are recommended in order to fulfill the international “performance and labeling” harmonization requirements.

The criterion for rating the energy efficiency *class* for the motors category selected is described corresponding to the *values* defined in Table 1.

In the starting stage of fulfilling the above mentioned criterion, the initial % efficiency values have been reduced (5%) and are specified in the Table-2 (Targeted Efficiency Values for initial stage) below, these values will enable manufacturers and suppliers to take initiatives in order to meet the international energy efficiency standards by following this standard.



Those motors which meet the efficiency values according to number of poles and rated power, will be eligible to use corresponding star rating in the energy label, as given in table-2;

50Hz									
Standard Efficiency (%) Values (1 Star)			High Efficiency (%) Values (2 Star)			Premium Efficiency (%) Values (3 Star)			
Rated Power (kW)	2-pole/ 3000 rpm	4-pole/ 1500 rpm	6-pole/ 1000 rpm	2-pole/ 3000 rpm	4-pole/ 1500 rpm	6-pole/ 1000 rpm	2-pole/ 3 000 rpm	4-pole/ 1500 rpm	6-pole/ 1000 rpm
0.37	60.7	62.7	56.7	66.0	69.0	64.2	70.1	73.4	69.8
0.40	61.6	63.5	58.0	66.9	69.8	65.4	70.9	74.1	70.7
0.55	65.6	66.5	62.5	70.4	73.1	69.4	73.9	76.8	73.3
0.75	68.5	68.5	66.5	73.5	75.6	71.8	76.7	78.4	75.0
1.1	71.2	71.2	69.3	75.6	77.3	74.2	78.6	79.9	76.9
1.5	73.3	73.7	71.4	77.2	78.7	74.9	80.0	81.0	78.4
2.2	75.7	75.7	73.8	79.0	80.1	77.7	81.6	82.4	80.1
3.0	77.4	77.4	75.7	80.4	82.2	79.1	82.7	83.3	81.3
4.0	78.9	78.9	77.3	81.5	82.3	80.4	83.7	84.2	82.5
5.5	80.5	80.5	83.1	82.6	83.3	81.7	84.7	85.1	83.6
7.5	81.7	81.7	80.5	83.7	84.3	82.8	85.6	85.9	84.6

Table: 2- Targeted Energy Efficiency Values (Initial Stage)

5.2.2 Minimum Values of Energy Efficiency of Motors

The minimum allowable values of energy efficiency for motor categories under this standard shall not be less than those specified for class IE1 requirements as defined in above Table-2 at rated power in addition to 75% rated output.

The minimum values of other parameters for energy efficiency qualifying criteria also apply to the following sub categories of motors;

- General purpose motors.
- Motors partially integrated into domestic pumps namely ‘Mono Pumps’.
- The motor material, insulation and duty types as defined in applicable IEC standards.

5.3. Calculation of Motor Losses and Efficiency Parameters

Motor losses & efficiency Parameters will be determined according to the provisions as defined in the Standards PS-IEC 60034-2-Part I or as agreed by the manufactures / suppliers.



5.4. Evaluation of Energy Conservation of Motors

Evaluating values of energy conservation of motors at rated power and 75% rated output shall not be less than the grade IE requirements as defined in table -2.

5.5. Power Factor

Power factor of motors covered under this standard shall be in accordance with the values specified in corresponding product standard but shall not be less than 0.80.

6. Testing Protocol:

6.1 General Requirement of Test

A clear, unambiguous and unique (efficient) test method is required to ensure a 'level-playing field' for manufacturers and suppliers. Such method/s may be agreed between PCSIR, PSQCA and Manufacturers/Suppliers.

The tests shall be carried out according to the general requirements as specified in the standard PS IEC 60034-2-1, preferably "Round Robin" Testing techniques are currently being adopted by regional courtiers therefore same test method should be adopted and applied in Pakistan.

The extensive tests requiring measurement of thermal efficiency may be conducted under IEEE 112B which is similar to IEC 60034-2, yet temperature problems have been eliminated and a test procedure to determine additional load losses has been added to avoid the fixed allowance.

6.2 Accreditation of Test Facilities and Certification

PNAC is the designated authority in the country, to accredit test facilities and provide relevant certification against the tests conducted in accordance with the procedures defined in PS IEC 60034-2-1.

6.3 Motors Repair and Maintenance

If a motor is repaired without changing the technical properties and the existing nameplate is kept, the old label (if any) is still valid and the new regulations concerning minimum efficiency levels do not apply. This also applies if the motor is re-wound according to the original data.

If a motor is changed during repairs in such a way that the technical data changes, a new nameplate must be attached, the repair workshop is responsible for the new label. It must comply with all current regulations including the regulations for the minimum efficiency levels.



6.4 Replacement Motors

Replacement motors already in circulation, e.g. in stock at a distributor or a service centre independent from the manufacturer, can be used without restriction. Replacement motors that are put into circulation for the first time, i.e. by the manufacturer or a service centre of the manufacturer, must comply with the new regulations as of the date on which the minimum energy efficiency levels come into effect.

7. Selection of Samples for Inspection and Testing

7.1 Quality Acceptance Test for Market Delivery

The manufacturers shall carry out quality level acceptance test for minimum energy efficiency values and those rejected in the test shall not be allowed in the market. The motors used for the acceptance test shall be selected among the lot of same type of motors produced daily. The test shall be carried out according to the requirement of standard PS IEC 60034-2-1 and IEEE 112B.

7.2 Routine Test

The manufacturer shall carryout routine test on the minimum values of energy efficiency, at e (half yearly basis) in a year on its motors. The routine test shall also be carried out if one of the following conditions prevails;

- (i) Identifying product's trial production and settings
- (ii) The performance may be altered due to change in the design, technology or material of the product.
- (iii) Reinstating the production of the product after a halt of more than 1year.
- (iv) Requirement of routine test is proposed by standards regulatory body/organization.

7.3 Indication of Energy Efficiency Grades

The manufacturers /suppliers shall define the energy efficiency of their product as per requirement of this standard and the test results.

The manufacturers /suppliers shall also indicate the energy efficiency grade and the number of the compliance standard on the name plate of their products.



7.4 Useful Formulae for quantification of parameters for Motors

To Find	Formula (For Three Phase Motor)
Amperes Knowing Input power, kW	$\frac{\text{Input kW} \times 1000}{1.732 \times \text{Volts} \times \text{Power Factor}}$
Amperes Knowing Output Horse power	$\frac{\text{Horsepower} \times 746}{1.732 \times \text{Volts} \times \text{efficiency} \times \text{Power Factor}}$
Amperes Knowing KVA	$\frac{\text{KVA} \times 1000}{1.732 \times \text{Volts}}$
Horse power Output	$\frac{\text{Volts} \times \text{Amps} \times \text{Efficiency} \times \text{PowerFactor} \times 1.732}{746}$
Efficiency Knowing Output kW	$\frac{\text{kW} \times 1000}{1.732 \times \text{Volts} \times \text{Amps} \times \text{Power Factor}}$
Power Factor	$\frac{\text{Input Watts}}{1.732 \times \text{Volts} \times \text{Amps}}$
Motor Application Formulae	$\text{Torque (lb - ft)} = \frac{\text{Horsepower} \times 5250}{\text{RPM}}$
	$\text{Torque (Nm)} = \frac{\text{Kilowatts} \times 9550}{\text{RPM}}$
	$\text{Kilowatts} = \frac{\text{Torque (Nm)} \times \text{RPM}}{9550}$
	$\text{Horsepower} = \frac{\text{Torque (lb - ft)} \times \text{RPM}}{9550}$
Speed	$\text{Synchronous RPM} = \frac{\text{Hertz} \times 120}{\text{Poles}}$
	$\text{Percent Slip} = \frac{\text{Synchronous RPM} - \text{Full Load RPM} \times 100}{\text{Synchronous RPM}}$

8. Labeling

8.1 Affixing of energy efficiency label

The energy efficiency rating label shall be in the form of a sticker and affixed to the body of the motor, as well as on the packing (if any), so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model/type of the motor. The format of the energy efficiency rating label shall be as given in Figure-1.



8.2 Color of energy efficiency label

Sample energy efficiency rating label is given in Figure-2 for information only and the colors of the energy efficiency label shall follow Adobe RGB or s RGB color profile, as under:

Yellow:	R=255,	G=255,	B=0
Red:	R=255,	G=0,	B=0
Green:	R=0,	G=150,	B=60

where, R = Red, G = Green, and B = Blue

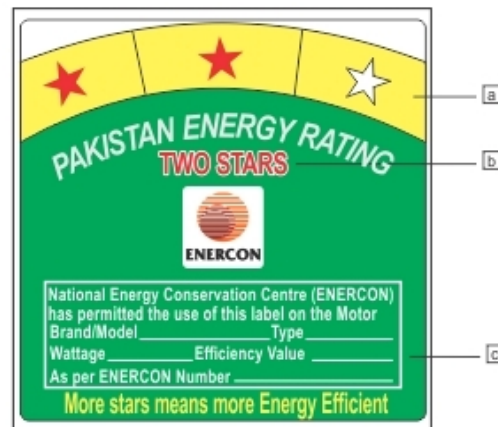


Figure-1: Format for the Energy Efficiency Rating Label

- Number of stars appearing on the curved band depends on the energy rating determined as per section 4 of this standard. More stars mean more energy efficient.
- Number of stars (in words) permitted for the model/type.
- Brand name, model number, rated wattage (in kW and equivalent HP) and efficiency value of the motor are printed in the space provided.

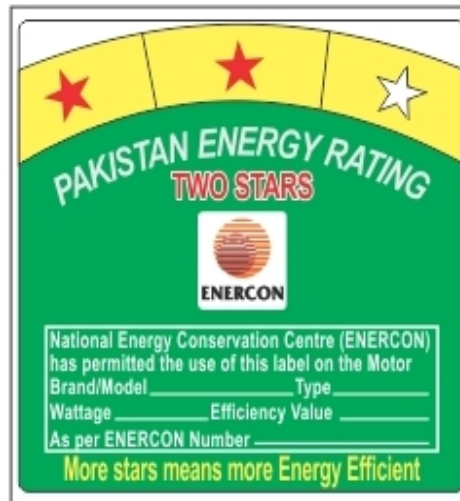


Figure-2: Sample of Printed Energy Efficiency Rating Label

8.3 Dimensions of the energy efficiency rating label

Dimensions of the energy efficiency label shall be as given in Figure-3.

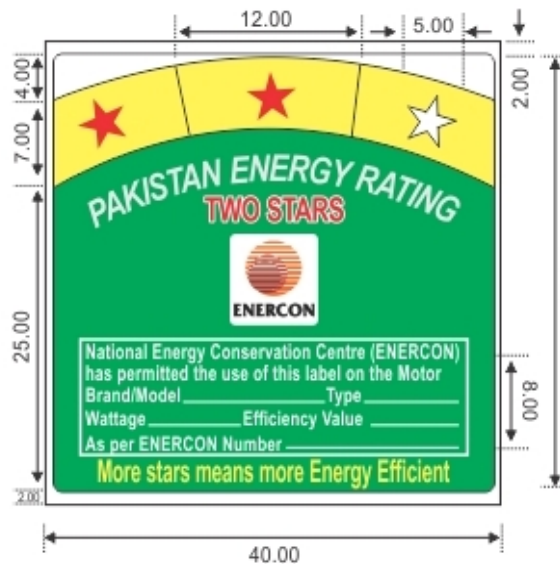


Figure-3: Dimensions of the Energy Efficiency Rating Label (all values in mm)

8.4 Character size (height) of the energy efficiency rating label

Character size (height) of the energy efficiency label shall be as given in Figure-4.

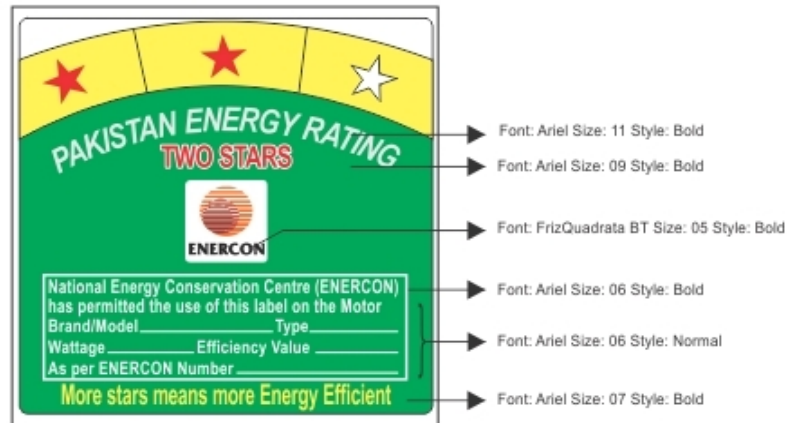


Figure-4: Print Type and Character Size of the Energy efficiency Rating Label

8.5 Color of energy efficiency endorsement logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or sRGB color profile, as follows:

- | | | | |
|-------------------------|--------|--------|-------|
| 1) Outer/large e: | R=153, | G=174, | B=106 |
| 2) Inner/small e: | R=0, | G=109, | B=51 |
| 3) Outer loop of logo: | R=31, | G=26, | B=23 |
| 4) Middle loop of logo: | R=161, | G=41, | B=39 |
| 5) Inner loop of logo: | R=129, | G=40, | B=42 |

where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Energy Efficiency Endorsement Logo

8.6 Dimensions of the energy efficiency endorsement logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.

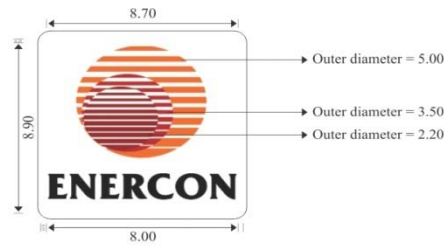


Figure-6: Dimensions of Energy Efficiency Endorsement Logo (All values in mm)

Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large circle:

Outer Diameter = 22.0mm
Thickness = 4 pt
Number of horizontal bars = 11

2) Inner small circle:

Outer Diameter = 15.8mm
Thickness = 4 pt
Number of horizontal bars = 11

3) Inner most circle:

Outer diameter = 12.8mm
Thickness = 4 pt
Number of horizontal bars = 11

7.7 Character size (height) of the energy endorsement logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure-.



Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

7.8 Prohibited information

Advertising information, other than that being included on the energy efficiency label, is prohibited.

-----End of Document-----



Doc. No: EES-05/8-2012

Issue No: 02

Issue Date: Dec.2014

Last Rev: June, 2013

Pakistan
Minimum Energy Performance Standard (MEPS)
For Window Type & Split Air Conditioners
With Cooling Capacity under: 14000 W
(12000 – 48000 BTU/hr)



Issued By: Ministry of Water & Power

National Energy Conservation Centre (ENERCON)
M/o Water & Power, Government of Pakistan,
ENERCON Building, G-5/2, Islamabad



Pakistan
Minimum Energy Performance Standard (MEPS)
For Window Type & Split Air Conditioners
With Cooling Capacity under: 14000 W
(12000 – 48000 BTU/hr)

FOREWORD

In order to reduce energy consumption and achieve energy conservation through the use of energy efficient appliances, there is a need to promote a new culture of energy efficient products, by taking appropriate measures through development of policies and promulgation of laws, rules/ regulations and standards.

To cope with the above mentioned requirement, a document describing the minimum values of energy efficiency and rating criteria for Single Phase, 220/240V split and window type Air Conditioners with a cooling capacity under 14000 Watt, has been developed for voluntary compliance. This document lays down Minimum Energy Performance Standards (MEPS) to be followed/ met by the local manufacturers and importers of air conditioners to get their product qualified through testing as “Energy Efficient Product”.

This activity will help reduce the level of energy consumption in the country and will facilitate transforming the present market culture into energy efficient culture, thereby contributing greatly towards energy conservation in the country and achieving the reality of tomorrow’s “GREEN PAKISTAN”.

**Managing Director ENERCON/
National Project Director, BRESL
Pakistan**



Pakistan
Minimum Energy Performance Standard (MEPS)
For Window Type & Split Air Conditioners
With Cooling Capacity under: 14000 W
(12000 – 48000 BTU/hr)

1. Purpose:

To provide guidelines on setting up of minimum requirement limits for energy performance testing and rating of single phase, 220/240V split and window type Air Conditioners with cooling capacity under 14000 Watts, in Pakistan and to match with world best practices of energy performance testing of this type of Air Conditioners.

2. Scope:

The purpose of this document is to provide information on new energy standards for air conditioners that will facilitate trade of high efficient ACs across the globe. In year (2011-12) the production of Air Conditioners and Refrigerators increased by 5.39 percent as compared to the corresponding period of previous year. This trend is recently increasing due to rising living standards in several countries combined with a cost reduction of AC products. This tendency is contributing to an increase in greenhouse gas emissions across the world.

As many as 180,778 air conditioners were produced during July, April (2011-12) against the production of 171,535 units during July April (2010-11), according to the data of Pakistan Bureau of Statistics (PBS).

The growth in production of air conditioners and equally growing demand, including imports of air conditioners mostly from China, has augmented a need to introduce minimum energy performance levels for air conditioners in order to reduce the burden on energy resources and to limit the drainage of electricity through inefficient air conditioners. The aim is to achieve energy conservation with an added benefit of reduced greenhouse gas emissions.

3. Applicability:

The standard specifies the values of energy efficiency, the evaluating values of energy conservation, the rating of energy efficiency, testing method, checking and accepting rules of room air conditioners.



This standard is applicable to air conditioners using air cooling condenser, closed motor compressor, with cooling capacity under 14000W and working under climate conditions T1 & T3¹.

The standard does not apply to speed variable, mobile and multi-connected air conditioners / heat pump units including:

- a) Water-source heat pumps or water cooled air conditioners;
- b) Multi-split-system air conditioners and air-to-air heat pumps
- c) Mobile (windowless) units having a condenser exhaust duct;
- d) Individual assemblies not constituting a complete refrigeration system;
- e) Equipment using the absorption refrigeration cycle.

3. Normative References:

The following documentary standards, through reference in this text, constitute the provision of this standard. The latest edition of the normative documents is applicable for this standard.

- PS: ISO : 5151- 2010; Non-ducted air conditioners and heat pumps — Testing and rating for performance

Note: For determination of accurate seasonal efficiencies, appropriate climatic condition values as defined in this standard i.e. T1 or T3 must be used during testing.

4. Terms & Definitions:

The following terms and definitions apply to this standard in addition to those already defined internationally.

4.1 The Minimum Allowable Values for Energy Efficiency of Air Conditioners

The minimum allowable values are the values of energy efficiency for air conditioners when operating under Specified Working Conditions.

4.2 The Evaluating Values for Energy Conservation of Air Conditioners

The Evaluating Values of Energy Conservation of Air Conditioners are the minimum allowable values of energy efficiency of air conditioners to reach the requirements of energy conservation product certification when operating under rated working conditions.

4.3 Contents of this document ,including Energy Performance Values for grant of “Pakistan Energy Label” shall be reviewed within subsequent term of every 3 years (tentative time scale: it may be decided under acceptance from manufacturers /importers or as needed under the law).

¹ T1: Standard cooling capacity rating conditions for moderate climates.

T3: Standard cooling capacity rating conditions for hot climates.



4.4 The Energy Efficiency Endorsement of Air Conditioners

The energy efficiency endorsement for room air conditioners is a labeling procedure for air conditioners which are tested under the provisions of testing protocol PS: ISO: 5151 in an accredited laboratory and such units which meet the minimum performance criteria as defined in section 5 of this standard.

The air conditioners successfully qualifying under the test conditions of PS: ISO: 5151 and meeting the minimum energy performance criteria, as defined in section 5 of this standard, shall be eligible to apply for energy efficiency label / endorsement logo from ENERCON Pakistan.

The manufacturers/importers of energy efficient air conditioners shall be eligible to affix the energy efficiency label /endorsement logo on their products which qualify under the provisions of testing protocol “PS: ISO: 5151” and meet the minimum energy performance standards as defined in section 5 of this MEPS.

The authority responsible for issuing energy efficiency label /endorsement logo in Pakistan is National Energy Conservation Centre (ENERCON). The products which meet the requirements of this standard may obtain the label/ endorsement logo by applying to ENERCON. The ENERCON has an approved energy efficiency labeling procedure Doc No: “ES&L/P-01/2012”, which contains the detailed guidelines and necessary forms/documents to apply for Energy Efficiency Label / Endorsement Logo.

5. Technical Requirements

5.1 Minimum Values of Targeted Energy Efficiency -

The tested energy efficiency ratio of air conditioners should be greater or equal to the values specified in Table 1.

Type	Cooling Capacity (CC) W (BTU)	Energy Efficiency Ratio (EER) W/W
Window	3517 – 4499 (558.86 -714.91)	2.90
Split	≤ 4500 (715.07)	3.20
	4500 - ≤ 7100 (715.07-1128.22)	3.10
	7100 - ≤ 14000 (1128.22-2224.67)	3.00

Table 1: Targeted Minimum Values of Energy Efficiency



5.2 Determination of Energy Efficiency Ratio (EER)

The air conditioner EER is its British thermal units (BTU) rating over its wattage. It can be expressed as: $EER = q_c / p$ where q_c = cooling energy (Btu/hr) p = power consumption (Watts)

For example, if a 10,000-BTU/hr air conditioner consumes 1,900 watts/hr, its rating is 5.2 (10,000 BTU/1,900 watts) which is an ideal scenario as it ignores the in-efficiencies and power losses during the cooling process. To determine the actual EER, the BTU may be converted into Watts by using equation as: 1 BTU = 0.2930711 Watt and then dividing it by the input power. This will give the realistic EER for the air conditioner also entailing the losses/inefficiencies. An example for determination of EER through Watt/Watt method is given below;

$$EER = (10,000 \text{ BTU} \times 0.2930711) / 1900 = 1.542$$

Generally, the higher the rating is, the more efficient the air conditioning unit is.

5.3 Tolerance in Determination of Energy Efficiency Ratio (EER) for Energy Efficiency Labeling

At initial stage this standards allow some tolerances for air conditioning units which are tested under the provisions of ISO: 5151. The allowable values to qualify for applying for energy efficiency labeling are specified in Table-2 below.

Type	Cooling Capacity (CC) W	Targeted - Energy Efficiency Ratio (EER) W/W	Tolerance in Energy Efficiency Ratio (EER) W/W	
			Max	Minimum
Window	3517 - 4499	2.90	∞	2.75 (@ 5%)
Split	≤ 4500	3.20	∞	3.04 (@ 5%)
	4500 - ≤ 7100	3.10	∞	3.00 (@ 3%)
	7100 - ≤ 14000	3.00	∞	2.94 (@ 2%)

Table 2: Minimum Allowable Values of Energy Efficiency for EE Labeling



6. Test Methods, Test Reports and Selection of Sample

The test for evaluating Energy Efficiency Ratio (EER) shall be conducted according to the requirements as specified in ISO: 5151.

The test report shall include the test method used i.e. balanced ambient room type calorimeter test or air enthalpy method. The results of the part load test(s) and the calculation of EER must be presented; additionally the results of COP and reference SEER etc may also be included where applicable.

6.1 Test Report

In the test report, the calculated EER and COP values and reference SEER /SCOP² values shall be based on the test results.

The test values of Energy Efficiency Ratio (EER) shall be presented up-to a two decimal fraction.

6.2 Selection of Sample for Test

The values presented in the test reports shall be based on the exact sample air conditioner chosen for the test. The energy efficiency label may only be affixed to the exact class/type of air conditioners, of which the sample is selected and tested.

For testing of energy efficiency ratio, one sample may be selected for each class/type. If it fails to meet the minimum requirements of this standard and test results, then two samples of the same class/type may be selected for the test, in this case both samples shall meet the test requirements and resulting values shall be within the acceptable limits as defined in section 5 of this standard. The sample not meeting the requirements of this standard may deem disqualified for energy efficiency labeling.

7. Labeling

7.1 Affixing of Energy Efficiency Label

The energy efficiency rating label shall be in the form of a sticker and affixed on the top of AC enclosure, as well as on the packing, so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model/type of the air conditioner. The format of the energy efficiency rating label shall be as given in Figure-1.

² (COP) – Coefficient of Performance, (SCOP) - Seasonal Coefficient of Performance, (SEER) – Seasonal Energy Efficiency Ratio



7.2 Color of Energy Efficiency Rating Label

Sample energy star rating label is given in Figure-2 for information only and the colors of the energy star label shall follow Adobe RGB or s RGB color profile, as under:

Yellow:	R=255,	G=255,	B=0
Red:	R=255,	G=0,	B=0
Green:	R=0,	G=150,	B=60

where, R = Red, G = Green, and B = Blue

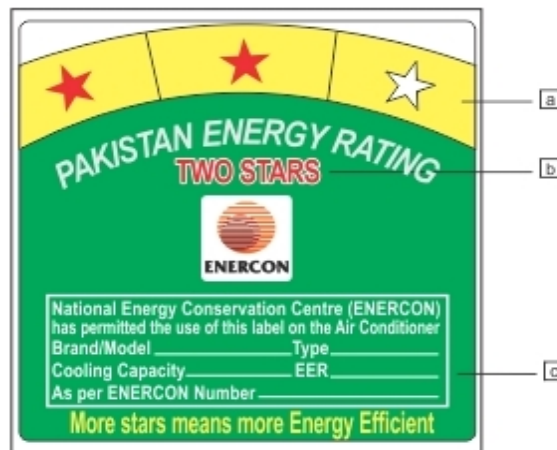


Figure-1: Format for the Energy Efficiency Rating Label

- Number of stars appearing on the curved band depends on the energy rating determined as per section 4 of this standard. More stars mean more energy efficient.
- Number of stars (in words) permitted for the model/type.
- Brand name, model number and cooling capacity of the air conditioner printed in the space provided.



Figure-2: Sample of Printed Energy Efficiency Rating Label



7.3 Dimensions of the Energy Efficiency Rating Label

Dimensions of the energy star label shall be as given in Figure-3.

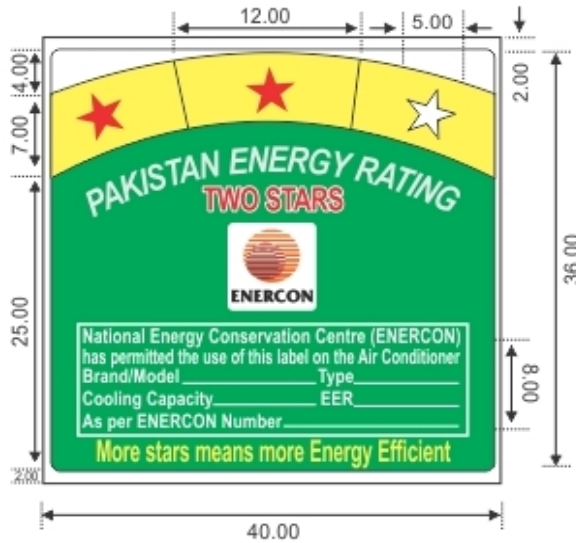


Figure-3: Dimensions of the Energy Efficiency Rating Label (all values in mm)

7.4 Character Size (height) of the Energy Efficiency Rating Label

Character size (height) of the energy star label shall be as given in Figure-4.

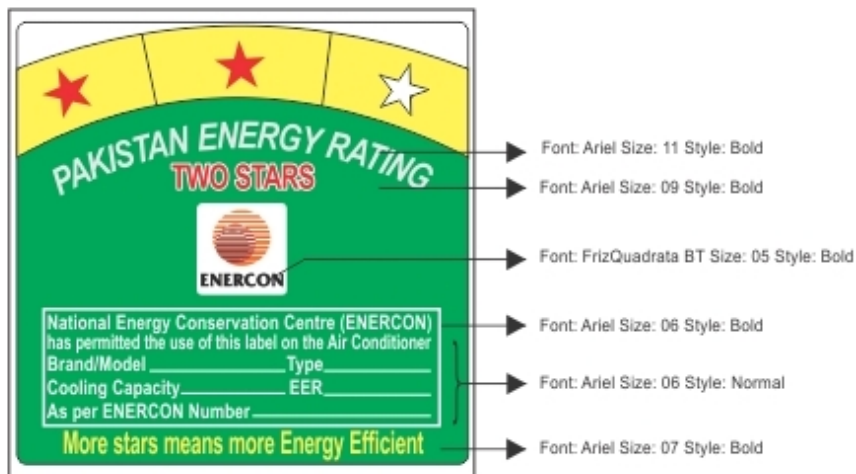


Figure-4: Print Type and Character Size of the Energy Efficiency Label



7.5 Color of Energy Efficiency Endorsement Logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or sRGB color profile, as follows:

- 1) Outer loop of logo: R=131, G=26, B=23
- 2) Middle loop of logo: R=161, G=41, B=39
- 3) Inner loop of logo: R=129, G=40, B=42

Where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Printed Energy Efficiency Endorsement Logo

7.6 Dimensions of the Energy Efficiency Endorsement Logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.

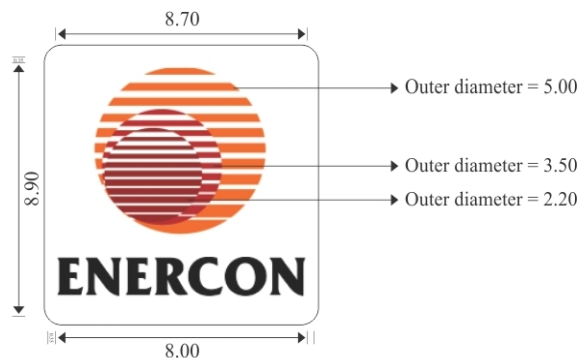


Figure-6: Dimensions of Energy Efficiency Endorsement Logo (all values in mm)

Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large circle:

- Outer Diameter = 22.0mm
- Thickness = 4 pt
- Number of horizontal bars = 11



2) Inner small circle:

Outer Diameter = 15.8mm
Thickness = 4 pt
Number of horizontal bars = 11

3) Inner most circle:

Outer diameter = 12.8mm
Thickness = 4 pt
Number of horizontal bars = 11

7.7 Character Size (height) of the Energy Efficiency Endorsement Logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure7.



Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

7.8 Prohibited information

Advertising information, other than that being included on the energy efficiency label, is prohibited.

-----End of Document-----

2. ENERCONが作成したロードマップ



ENERCON

Roadmap for phase out of appliances that do not comply with the MEPS for Fans, Motors, CFLs, and ACs

CFL: Compact Fluorescent Lamp, AC: Air Conditioner

December 2014



ENERCON, Ministry of Water and Power

1. Concept of MEPS

What is MEPS?

Minimum Energy Performance Standard

History of MEPS

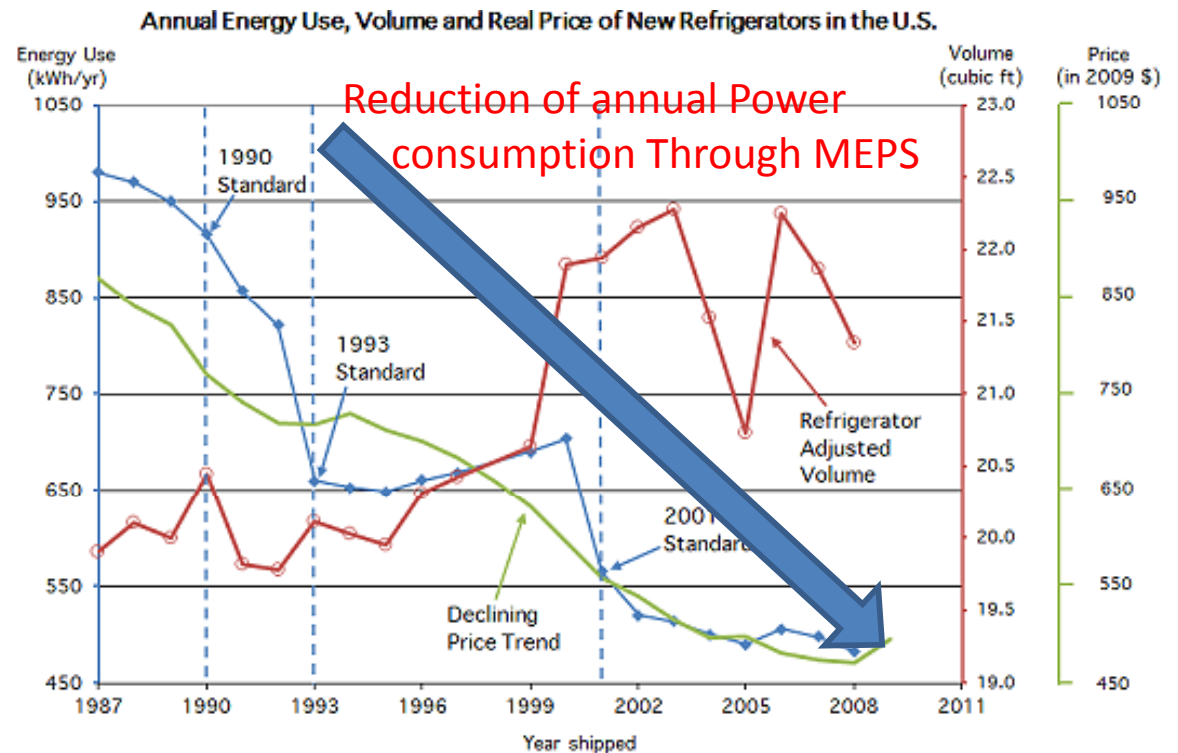
Introduced during the oil crisis of 1970s and 1980s in United States and then introduced in Europe and many countries

Benefit of MEPS

To reduce lower efficient home appliances through MEPS.

By:

- 1) Improvement of energy consumption
- 2) Improvement of power demand as reason of power shading



Source: Website of CLASP

2. Background of Introduction of MEPS (1/4)

Location of MEPS in overall energy sector

In order to solve issues of overall energy sector, energy efficiency is very important field, MEPS is one of strong political item for energy efficiency.

Item	Issuance	Competent authority	Location of MEPS
National power policy	Sep. 2013	Ministry of Water and Power	This is road map for overall energy sector. MEPS is not designated by name, but energy efficiency is specified as main countermeasure to solve issues of overall energy sector.
Energy Efficiency and Conservation Bill 2014	On the table	Ministry of Water and Power	This is fundamental law for energy efficiency and conservation. MEPS is designated by name as energy consumption standards, the legal control against equipment, appliance which consumes, generates, transmits or supplies energy.

Source: Prepared by ENERCON

2. Background of Introduction of MEPS (2/4)

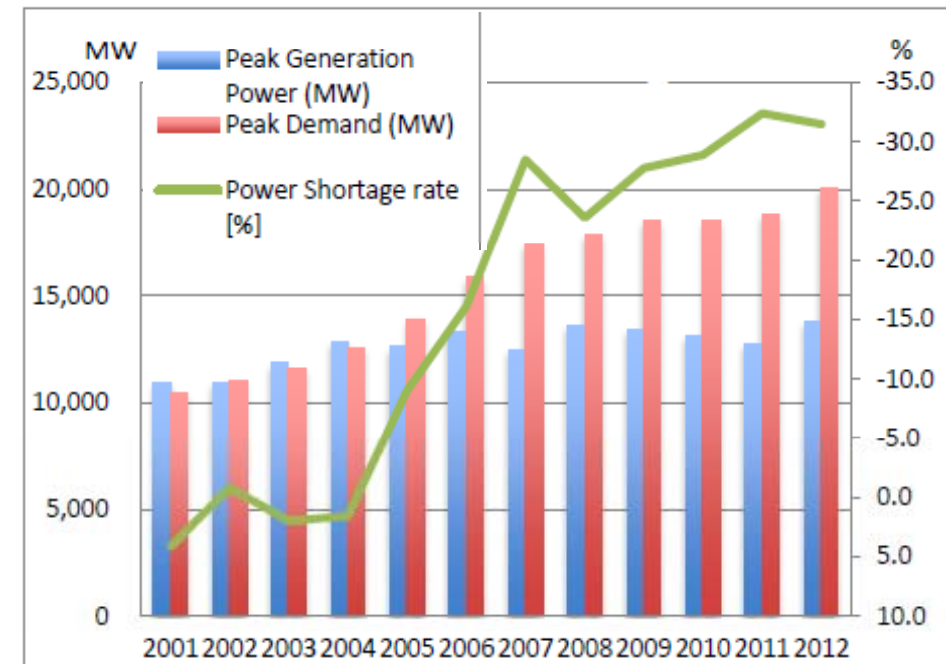
Power supply–demand Gap

Due to Power supply–demand gap, in recent years, scheduled load shading as well as unannounced power cuts are carried out on average 10-14 hours per day in Pakistan.

This has caused severe negative impact on daily economic activities

Countermeasure for power sector

Pakistan Gov. published ‘National Power Policy’ in September 2013



Source: NEPRA State of Industry Report 2013

Power Supply – Demand in Pakistan

Target	Details
Supply-demand gap	Reduce the current supply-demand gap of 4,500-5,000 MW to null by 2017
Affordability	Reduce the current power tariff of 12 to 10 cents/kWh or less by 2017
Efficiency	Reduce the current transmission and distribution loss of 23-25% to 16% or less by 2017
Financial V/C*	Increase the current collection rate of not higher than 85% to 95% by 2017
Governance	Increase speed and shorten a period for decision-making process in ministries/the others

Source: Summarized by ENERCON based on National Power Policy

*V/C: Viability and Collection

2. Background of Introduction of MEPS (3/4)

Demand side measure

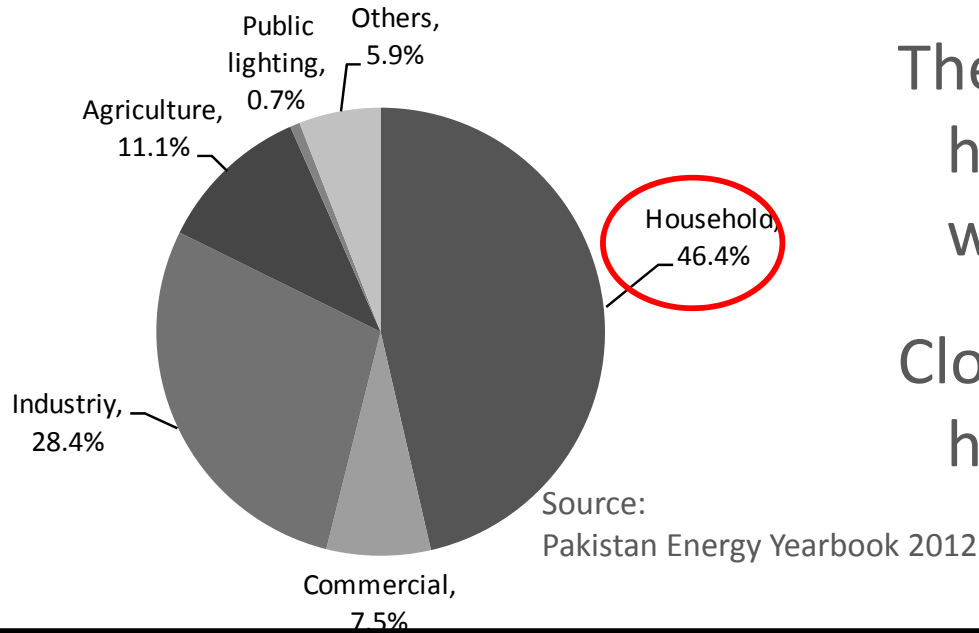
Energy Efficiency and Conservation Bill (EE&C Bill) is on the table of Parliament.

Item	Details	
MEPS See Article 9 (a)	the norms for processes and energy consumption standards for any equipment, appliance which consumes, generates, transmits or supplies energy	For household sector
Energy conservation in factories and buildings See Article 9 (h)	The Energy Intensive Industries specified to get energy audit conducted by an accredited energy auditor	For Commercial, Industrial Sector
Energy manager See Article 9 (l)	The energy manager in charge of activities for efficient use of energy and its conservation and submit a report	
Periodic Report See Article 9 (l)	Submit a report, in the form and manner as may be prescribed, on the status of energy consumption at the end of every financial year to the designated agency	

Source: Summarized by ENERCON based on EE&C Bill

2. Background of Introduction of MEPS (4/4)

Importance of countermeasure for household



The electricity consumption rate of household sector occupy almost half of whole electricity consumption in Pakistan.



Closed up importance to approach for home electric appliance



MEPS

With introduction of MEPS, approx. 400 MW /800 MW (Fans, Motors, CLFs and ACs) (*) of Reduction of Power demand in Voluntary / Mandatory phase against 5,000MW of demand-supply gap, respectively.

* energy saving effect per appliance: Fans 102W to 80W, Motors 1,400W to 1,344W, CFLs 25W to 23W, ACs 1,600W to 1,440W due to Decision of Project Steering Committee.

Penetration level per appliance: Fans 3.33, Motors 0.86, CFLs 4.86 and ACs 0.817 appliances per household, due to survey on Islamabad, Lahore and Karachi to total 120 household.

Estimate methodology: Subtraction from current demand from expected demand after MEPS introduction.(see below)

Current demand= current capacity (W/ app.) x penetration level (app./house) x load factor (%)

expected demand after MEPS introduction = capacity after MEPS(W/ app.) x penetration level (app./house) x load factor (%)

Federal Gov. aims to decrease energy issues through MEPS

3. Appliances subject to MEPS

Currently launching four appliance programs:



Fans



CFLs



Motors



Air Conditioners

Currently preparing other appliance programs:



Ballasts for
fluorescent lamp



Fluorescent lamps



TVs



Microwave ovens

Federal Gov. aims to increase kinds of MEPS appliances

4. Summary of MEPS scheme in Pakistan

Start: FY 2014

Enforcement: Currently voluntary basis

Pakistan Energy Label:

Appliances that comply with MEPS will get label grade for their degree of energy efficiency performance, after application for grant of 'Pakistan Energy Label' to ENERCON.

Future: Appliances subject to MEPS shall become mandatory

On mandatory basis, Federal Gov. may prohibit;

Manufacture

Sale

Purchase

Import

of appliances that do not comply with MEPS

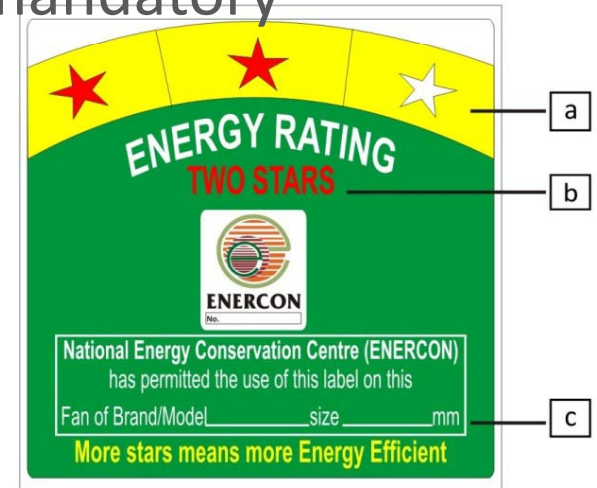


Image of Pakistan Energy Label

Support: Regional MEPS project(BRESL) supported by UNDP and MEPS project for improvement supported by JICA

Federal Gov. aims to promote MEPS appliances in steps

5. Approaches to promote MEPS – Legal framework

Enactment of EE&C Act

Federal Gov. is working to enact Energy Efficiency and Conservation Bill 2014, aiming at establishment and enforcement of implementation framework of MEPS.

Establishment of PEECB

As policy making body for Energy Efficiency and Conservation in Pakistan, Federal Gov. will establish Pakistan Energy Efficiency and Conservation Board (PEECB) based on provision of EE&C Act, promptly after its enactment.

Establishment of renewal ENERCON

As implementation body for Energy Efficiency and Conservation in Pakistan, Federal Gov. will establish renewal ENERCON based on provision of EE&C Act, promptly after its enactment.

In renewal ENERCON, MEPS and Labeling section will be newly established.

5. Approaches to promote MEPS – Policy (1/2)

Approval/Issuance of first three MEPS:

Ministry of Water and Power (MoWP) will issue documents for implementation guideline for 1) fans, 2) CFLs, 3) Motors and 4) ACs.

Preparation of draft additional MEPS:

ENERCON will prepare draft document for implementation guideline for 1) TVs, 2) Tube Fluorescent Lamps (TFLs), 3) Microwave Ovens, and 4) Ballasts for Fluorescent lamp

Approval/Issuance of draft additional MEPS:

MoWP will issue documents for implementation guideline for 1) TVs, 2) TFLs, 3) Microwave Ovens 4) ACs, and 5) Ballasts for Fluorescent lamp.

Announcement of MEPS:

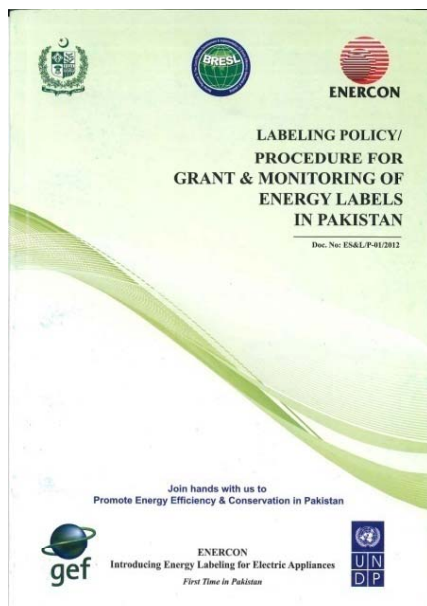
ENERCON will announce MEPS and labeling scheme through seminar or the other communications.

Review of entire policy:

ENERCON will review entire policy to develop MEPS and labeling scheme.

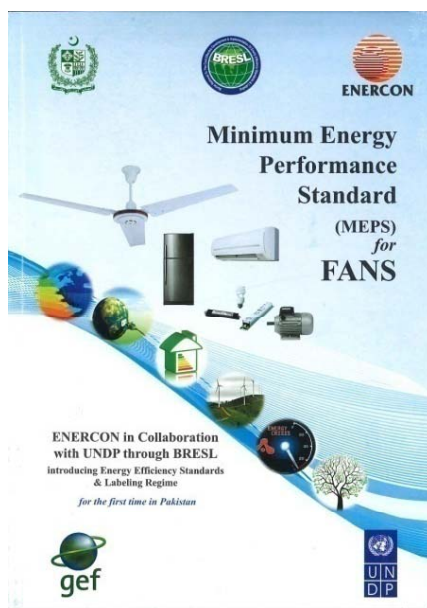
5. Approaches to promote MEPS – Policy (2/2)

Prepared documents:



ENERCON has already prepared, “MEPS and Labeling (Energy Efficiency Standards and Labeling: ES&L) Policy / Guidelines For Implementation of ES&L Scheme in Pakistan”, vide Document No. ES&L/P-01/2012

As, entire policy for ES&L scheme



ENERCON has already prepared, “Minimum Energy Performance Standard (MEPS) and Labeling for AC Electric Fans”, vide Document No. EES-01/2013

As, implementation guideline for fans

Implementation guideline for CFLs as well as Motors will be publicized SOON

5. Approaches to promote MEPS – Incentive(1/2)

Market based mechanisms & incentives:

Some countries adopt market mechanisms & incentives, e.g. environmental tax/ tax exemption, subsidy reform and rebate program, for promotion of energy efficiency. (See an example on next page)
ENERCON will study feasibility, expected impact and methodology.

Low interest Finance (for Bldg., Fac.) involving Banks:

Some countries adopt low interest funding, that is available to utilize on new construction or improvement construction with introduction of EE&C appliances. Under MoWP initiative, the such financing scheme with collaboration of commercial bank and Central Bank shall be established. (See an example on next page)
ENERCON will study feasibility, budget estimation and methodology.

Governmental purchasing program:

Some countries adopt governmental purchasing program, that is available to promote EE&C appliances on new construction or improvement construction of governmental building. (See example on next page)
ENERCON will study feasibility, existing legal framework & budget.

5. Approaches to promote MEPS – Incentive(2/2)

Item	Country	Summary
Replacement / retrofitting programs (Rebate program)	Japan	<p>The purchasers of green electric appliances mail to Secretariat for Eco-label, application forms, warranty certificates issued by manufacturers (copy), receipts (original), and copies of vouchers to prove electric appliance's recycling (in case of applying eco-points for recycling). Eco-points are issued after evaluation of Secretariat. The amounts of Eco-points are determined depending on the capacity of appliances and the amounts are added, if the appliances to be disposed are recycled in case of replacement. The applicants can exchange these eco-points with various gifts/coupons.</p> <p>Effect: 4,866GWh/year</p>
Low interest funding (Low interest Financing involving Banks)	Thailand	<p>Funds from DEDE / ENCON (Energy efficiency center, Thailand) Fund were provided as program loans to commercial banks through EERF at zero interest for amounts of THB 100 – THB 400 million (c.USD 3.2 million – USD 12.7 million). Banks on-lent this financing and were allowed to charge interest up to 4% to cover their costs and risk.</p> <p>EERF loans may be used to cover costs of purchase and installation of equipment, design, import taxes and duty, etc. as defined in the ENCON Act. (Energy Efficiency Act, Thailand)</p> <p>By April 2010, 335 EE projects and 112 renewable energy projects were financed by EERF for a total of USD 453 million (including USD 210 million from the EERF) generating USD154 million of annual energy cost savings.</p>
Green purchasing (Governmental purchasing program)	Japan	<p>Japan subsequently introduced the first dedicated Asian green purchasing legislation in 2000 with the Law on Promoting Green Purchasing. The law requires the central government to develop a green procurement policy and implementation plan and to set up a competent authority to publish guidelines and product criteria. Since 2001, the government has designated over 250 green procurement products in 19 product categories. Eco Mark criteria and labeled products are widely adopted in the governmental green purchasing program. Through implementing this law since 2007, all central government ministries, 47 prefectural governments, 12 designated cities, and 68% of 700 local governments and cities have been practicing green purchasing.</p> <p>Collectively, more than 95% of products purchased in the designated product categories, e.g. home electrical appliance, office equipment, papers, stationary, can be considered green.</p>

5. Approaches to promote MEPS – Awareness

Awareness Campaign through electric/print media : (with UNDP)

ENERCON will implement awareness campaign through electric/print media with assistance of UNDP.

Energy Assessment of Green School: (with WWF)

ENERCON will implement one hour lecture and training in elementary school as Energy Assessment of Green School with assistance of WWF.

EE&C Award:

ENERCON will establish EE&C Award that is aimed of EE&C included ES&L. Grant of prize to excellent model buildings and factories that tackle their EE&C issues.

Survey for consumer awareness:

ENERCON will implement survey for consumer awareness periodically, in order to grasp issues for implemented program and degree of awareness development.

·Seminar for Retail shop:

ENERCON will hold ES&L lecture covering its objectives and merits for consumer.

5. Approaches to promote MEPS – Facilities

Facilities Planning for energy performance test :

Pakistan Council of Scientific and Industrial Research (PSCIR), under Ministry of Science and Technology, will prepare facilities Planning for energy performance test through considering and estimating number of needed laboratories & expansion/installation cost.

Enforcement to existing Lab. / Install of new Lab.:

PSCIR will provide laboratories with all necessary equipment for testing energy performance under the facilities plan.

Collaboration of private Lab. :

PSCIR will consider feasibility of using private laboratories and arrange services with one.

Collaboration of foreign Lab. :

PSCIR will consider feasibility of using foreign laboratories.

5. Approaches to promote MEPS – M&E

M&E: Monitoring and Evaluation.

Publicizing to cooperative manufacturers for appliance types:

ENERCON will publicize to cooperative manufacturers for appliance types, aiming at manufacturer incentives and information sharing to consumers.

Survey of number of products / sales of appliances:

ENERCON will implement survey to clarify number and specification of appliances that are in circulation in domestic market, as collection of basic information for monitoring.

Verification of effectiveness of MEPS scheme introduction:

ENERCON will estimate effectiveness of MEPS scheme introduction, such as Reduction of Power Consumption and Reduction of Power Demand in whole Pakistan, and evaluate countermeasure relevant MEPS, and then publicize the result.

6. Road map for phase out of appliances or technologies that do not comply with MEPS

Activities	Item	2014	2015	2016	2017	2018	Target Indicator	Baseline(2014)	Source	Remarks	
Legal framework	Enactment of EE&C Act		■				-	On table	Enactment		
	Establishment of PEECB		■				-	NON	Establishment		
	Establishment of (Renewal) ENERCON		■				-	NON	Establishment		
Policy	Approval/Issuance of first four ES&L (Fans, Motors, CFLs*1, ACs*2)	■					Amendment for 1 Doc.	Under consideration	Gazette		
	Preparation of additional ES&L (TVs, TFLs*3, Microwave oven)		■				Preparation 3 Doc.	Under consideration	Drat Document		
	Approval/Issuance of draft of three additional ES&L after Market Survey		■	■			Preparation 3 Doc.	NON	Gazette		
	Announcement of ES&L (Voluntary basis)		■	■	■		-	NON	Activities record		
	Review of entire policy				■	■	Amendment for 1 Doc.	NON	Gazette		
Incentive	Market based mechanisms to be introduced & incentives for production of efficient equipment to be finalized as per PEECB recommendation			■	■	■	Among EE Fans /LED lights /EE AC or any other efficient appliance	NON	Establishment		
	Energy Efficiency Financing at low interest rates (for building, factory) by brining in loop the central & commercial banks			■	■		identification of focal person from main banks to deal with EE	NON	Establishment		
	Purchase of ES&L appliances to Governmental building			■	■	■	PPRA/MoWP notification	NON	Gazette		
Awareness	Awareness campaign through electronic/print media supported by UNDP	■					-	Under implementation	Activities record		
	Awareness Session/Energy Assessment of WWF Green School		■				MOU signed,upto 10 School	Under implementation	Activities record		
	EE&C Award by ENERCON for industries,buildings (hospitals,schools,shopping plazas etc.		■	■	■	■	EC Award Ceremoney Held	NON	Activities record		
	Survey for consumer awareness			■	■	■	-	NON	Report		
	Seminar for ES&L (for Retailer)		■	■	■		7-15cities	NON	Activities record		
Facility	Facilities Planning/Estimation of Improvement Cost		■				-	NON	Report		
	Enforcement to existing lab/ Install of new lab.		■	■	■	■	Setting after planning	Under implementation	Establishment		
	Collaboration with private laboratory, domestic (Arrangement)		■	■			Setting after planning	NON	Activities record/MOU		
	Collaboration with foreign laboratory (Arrangement)		■	■	■	■	Setting after planning	NON	Activities record/MOU		
Monitoring & Evaluation	Publicity of cooperative manufacturer and appliance type of ES&L		■	■	■		Increase 10% annual	NON	Publication by website		
	Survey of number of products / sales of appliances		■	■	■	■	90% or more of market	NON	Report		
	Verification / Evaluation of effectiveness of ES&L scheme introduction			■	■	■	-	NON	Publication by website		
Appliance No.1 *4	Facility		■				At least 8 person	NON	Activities record		
	Implementation	Preparation of test equipment		■	■	■	■	At least Acce.8	Acce.1, NON Acce.1	Provided	
		Implementation (Voluntary basis)		■	■	■	■	To Mandatory	Increase 15% annual	NON	Activities record
		Amendment (review) of criteria of ES&L				■	■	↓	-	NON	Draft Document
	Implementation (Mandatory basis on revised criteria)				■	■	↓	-	NON	Gazette	
Appliance No.2 *5	Facility		■				At least 4 person	NON	Activities record		
	Implementation	Preparation of test equipment		■	■	■	■	At least Acce.4	Under preparation	Provided	
		Implementation (Voluntary basis)		■	■	■	■	To Mandatory	Increase 15% annual	NON	Activities record
		Amendment (review) of criteria of ES&L				■	■	↓	-	NON	Draft Document
	Implementation (Mandatory basis on revised criteria)				■	■	↓	-	NON	Gazette	
Appliance No.3 *6	Facility		■				At least 3 person	NON	Activities record		
	Implementation	Preparation of test equipment		■	■	■	■	At least Acce.3	Under preparation	Provided	
		Implementation (Voluntary basis)		■	■	■	■	To Mandatory	Increase 15% annual	NON	Activities record
		Amendment (review) of criteria of ES&L				■	■	↓	-	NON	Draft Document
	Implementation (Mandatory basis on revised criteria)				■	■	↓	-	NON	Gazette	
Appliance No.4 *7	Facility		■				At least 1 person	NON	Activities record		
	Implementation	Preparation of test equipment		■	■	■	■	At least Acce.1	Under preparation	Provided	
		Implementation (Voluntary basis)		■	■	■	■	To Mandatory	Increase 15% annual	NON	Activities record
		Amendment (review) of criteria of ES&L				■	■	↓	-	NON	Draft Document
	Implementation (Mandatory basis on revised criteria)				■	■	↓	-	NON	Gazette	

*1 CFL: Compact Fluorescent Lamp

*2 AC: Air Conditioner

*3 TFL: Linear Fluorescent Lamp

*4 Appliance No.1 to be selected by Committee to be notified by MoWP or PEECB in case of enactment based on comprehensive market research through JICA support. Availability of Lab & Manufacturer Data

*5, *6, *7 is same as *4, excluded Appliance No..

■ :Implementation by ENERCON

■ :Implementation by ENERCON/MOST, with assistance of Donors

■ :Implementation by PCSIR

■ :Implementation by Federal Government

▨ :Continuously carrying out, if necessary

■ :Government/ENERCON

**3. ENERCONがJICA調査団の協力により作成した
追加の3機器のMEPS**

Pakistan
Minimum Energy Performance Standard (MEPS) and
Energy Star Rating for Television Receivers (Draft)

1. Purpose

Purpose of this standard is to provide guidance on setting up the minimum and high requirement limits for energy performance testing of television receivers (TVs) in Pakistan and to match with world best practices of energy performance testing of TVs.

2. Scope

This standard specifies the energy efficiency levels, minimum allowable values of energy efficiency, high energy performance values/evaluating values of energy conservation, test methods and inspection rules of TVs. This standards shall apply to the following types and sizes of TVs covering display size from 24 inch to 42 inch commonly used in Pakistan, with supply voltage of 230 V 50 Hz or range 220 -240 v, 50 Hz.

- LCD TV (Liquid Crystal Display TVs), plasma TVs, and LED TVs (Light Emitting Diodes TVs)

3. Normative References:

The following documentary standards, through reference in this text, constitute the provision of this standard. The latest edition of the normative document is applicable to this standard:

- IEC 60107-1: Method of measurement on receivers for television broadcast transmissions – Part 1: General conditions – Measurement at radio and video frequencies)
- IEC 60107-2: Method of measurement on receivers for television broadcast transmissions – Part 2: Audio channels – General methods and methods for monophonic channels
- IEC 60107-3: Method of measurement on receivers for television broadcast transmissions – Part 3: Electrical measurements on multichannel sound television receivers using subcarrier systems
- IEC 62301: Household electrical appliances – Measurement of standby power
- IEC 62087: Method of measurement for power consumption of audio, video and related equipment
- JIS C 6101-1: Method of measurement on receivers for television broadcast transmissions – Part 1: General considerations – Measurements at radio and video frequencies

- JIS C 6101-2: Method of measurement on receivers for television broadcast transmissions – Part 2: Audio channels – General methods for monophonic channels
- JIS C 6101-3: Recommended method of measurement on receivers for television broadcast transmissions – Part 3: Electrical measurements on multichannel sound television receivers using subcarrier system)
- PS (Pakistan Standards): Under examination
- Indian labelling standard: Schedule No. 11 Color Televisions

4. Terms & Definitions:

The following terms and definitions apply to this standard.

4.1 Television receivers

A commercially available electronic product designed primarily for the display/direct view and reception of audio visual signals from terrestrial, cable, satellite, Internet Protocol TV (IPTV), or other transmission of analog and/or digital signals, consisting of a tuner/receiver and a display encased in a single housing. The product usually relies upon a Cathode Ray Tube (CRT), Liquid Crystal Display (LCD) with Cold Cathode Fluorescent Lamp (CCFL) backlight, and Light Emitting Diode (LED) backlight and Plasma Display. TVs is an abbreviation of television receivers.

4.2 Power Modes:

The consumption of power in the modes mentioned below shall follow the definition of respective clause as mentioned in IEC 62301–Household electrical appliances measurement of standby power.

Power Modes	Definition
Standby power mode	As per clause 3.6 of IEC 62301
Active Mode	As per clause 3.8 of IEC 62301

4.3 Energy consuming efficiency

Energy consuming efficiency for evaluating the performance of TVs is annual power consumption calculated from the test of Clause 6.

4.3 Minimum Values of annual power consumption

Minimum Values of annual power consumption pertaining to energy efficiency rating shall not be less than Star-1 as mentioned in this standard in section 5.2, under the specific test conditions.

5. Technical Requirements

5.1 Basic requirements

The performance of the TVs applicable to this standard shall meet the requirements as specified in the standard IEC 60107, IEC 62087 and IEC 62301.

5.2 Energy efficiency levels / stars

Those products which meet the minimum requirements as specified in this standard, when tested regarding energy efficiency values, shall be eligible to apply for the use of Energy Efficiency Star Label.

The minimum allowable values of the energy efficiency i.e. minimum energy performance standard (MEPS) for grant of Energy Efficiency Star Label for TVs shall be as given in the Table-1. The energy efficiency level of TVs shall be divided into 3 stars (see Table-1) among which the 3 stars is the highest in energy efficiency. More stars mean more energy efficient TVs. The energy efficiency values of all the level of the product shall not be lower than those specified in Table-1.

Table -1 Energy Performance Values for TVs

Type	Screen size	Screen area A (inch ²)	Star rating criteria (kWh/year)		
			Star I	Star 2	Star 3
LCD (Normal)	Equation		0.386A+3.5	0.315A+3.50	0.245A+3.50
	24 inch	250	100	82	65
	32 inch	437.6	172	141	111
	42 inch	753.8	294	241	188

Note:

A= Screen area (inch²)

Operation condition: TV watching time = 6 hours/day in Pakistan

6. Methods of measuring energy efficiency performance

(1) Determination of energy consumption efficiency

Efficiency of energy consumption expressed in the value of kWh / year, calculated by the formula:

$$E = \frac{(P_o - P_A/4) \times t_1 + P_s \times t_2}{1000}$$

In this formula, E, P_o, P_s, P_A, t₁ and t₂ are representing:

E: Annual energy consumption [kWh / year]

P_o: Operational Power [W]

P_s: Power on standby [W]

P_A: The reduction in power consumption due to energy-saving function [W]

t₁: Annual operating standard time [hours] 2190 (=365 days x 6 hours)*1

t₂: Annual standby condition standard time [hours] 4380 (=365 days x 12 hours)*2

Note *1 Annual operating standard time is time on mode, which is average 6 hours according to interview survey by JICA Study Team in Islamabad, Lahore and Karachi in June 2014.

Note *2 Annual standby condition standard time is 18 hours/day in Japan and 12 hours/day in India, therefore the standby time is 12 hours/day in Pakistan.

(2) Measurement method of power consumption

Power consumption of TVs is implemented according to Clause 4.2, IEC 60107.

Measuring conditions are as follows:

- a) Power supply voltage and frequency: rated
- b) Video test signal: three vertical bars signal
- c) Audio test signal(s): 1 kHz sine-wave signal(s)
- d) Signal input: radiofrequency and/or baseband
- e) Modulation of sound channel(s): 100 %
- f) Input signal level: standard input signal level
- g) Test channel for r.f. input: typical channel
- h) Loading of terminals: loudspeaker terminals and baseband output terminals are terminated in accordance with standard audio output signal levels.
Loading of any ancillary circuit is included but any peripheral equipment that is powered from the receiver is excluded.

Measurement procedure is shown below:

- a) Set the receiver under test to the standard settings and then adjust the contrast and brightness controls so as to obtain the luminance specified as standard video output

level. The volume control of all the audio channels shall be set to obtain 50 mW at a 1 kHz single tone signal.

- b) Measure power consumption of the receiver with an electro-dynamic wattmeter or any other wattmeter of sufficient accuracy.

7. Testing Protocol and Type Inspection

7.1 Testing protocol

The input power, power factor and other relevant/required performance characteristics of the TVs shall be measured according to the procedure as specified in the standard IEC 60107 and IEC 62301.

7.2 Type inspection

Inspection over the minimum allowable value of energy efficiency shall be carried out if one of the following conditions prevails:

- (1) New product trial;
- (2) The design, technology or material of the product is changed and the performance is influenced;
- (3) Reproduction of the product after a period of more than 1 year;
- (4) The result of market delivery inspection is very much different than the previous type inspection;
- (5) Inspection requirements proposed by standards regulatory body/organization.

7.3 Testing of samples

Through random sampling for type inspection, three (03) samples of the product shall be collected, among which two (02) shall be tested and the third left over shall remain as standby. If the results of the two tested samples meet the requirements of this standard, the batch represented by these samples shall be declared qualified; otherwise, this batch shall be treated as disqualified. If one out of two tested samples fails to meet the requirements of this standard, the stand by sample shall be tested. If the test result meets the requirements of this standard, the batch shall be treated as qualified; otherwise it shall be declared disqualified.

8. Labeling

8.1 Affixing of energy star label

The energy star rating label shall be in the form of a sticker and affixed to the body of the TV, as well as on the packing, so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model of the fan. The format of the energy star rating

label shall be as given in Figure-1.

8.2 Color of energy star label

Sample energy star rating label is given in Figure-2 for information only and the colours of the energy star label shall follow Adobe RGB or s RGB color profile, as under:

Yellow: R=255, G=255 B=0

Red: R=255 G=0 B=0

Green: R=0, G=150 B=60

Where, R = Red, G = Green, and B = Blue

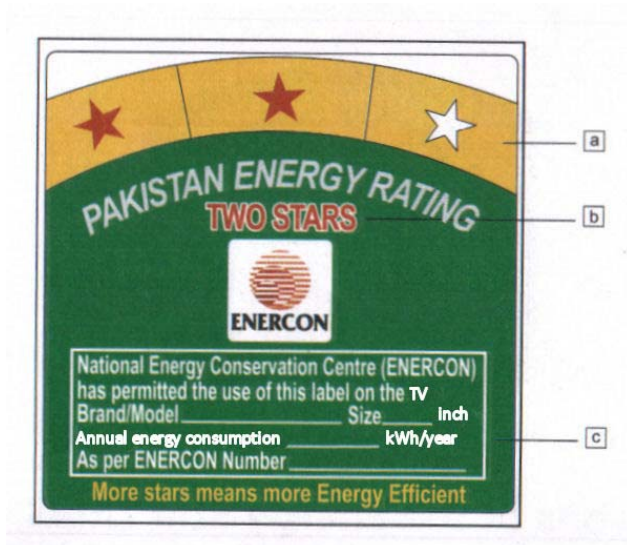


Figure-1: Format for the Energy Star Rating Label

- a) Number of stars appearing on the curved band depends on the energy rating determined as per section 4 of this standard. More stars mean more energy efficient.
- b) Number of stars (in words) permitted for the model.
- c) Brand name, model number and size of the TV in inch printed in the space provided.

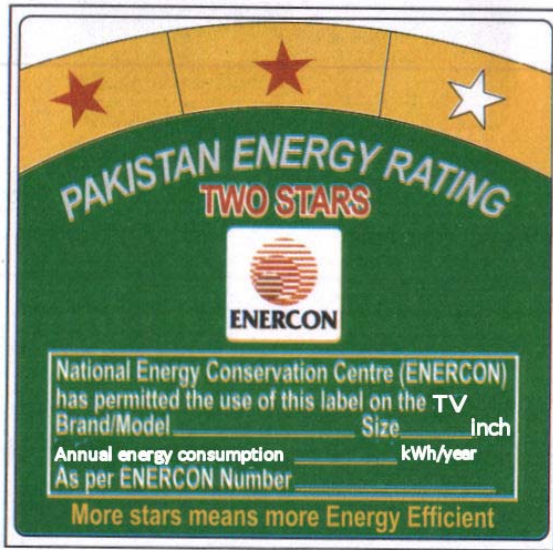


Figure-2: Sample of Printed Energy Star Rating Label

8.3 Dimensions of the energy star rating label

Dimensions of the energy star label shall be as given in Figure-3.

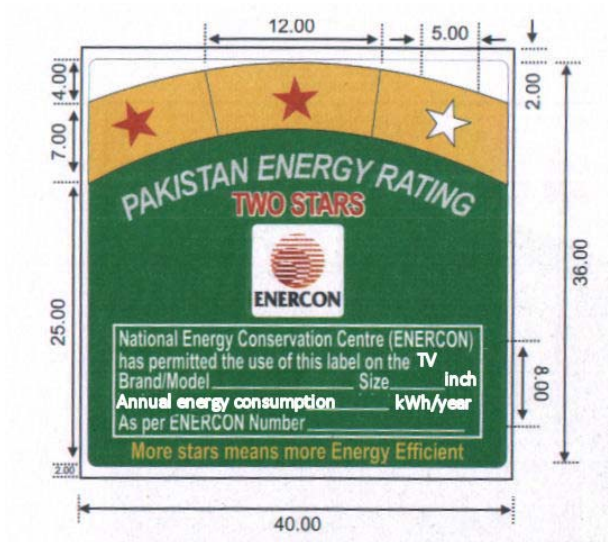


Figure-3: Dimensions of the Energy Star Label
(all values are in mm)

8.4 Character size (height) of the energy star rating label

Character size (height) of the energy star label shall be as given in Figure-4.

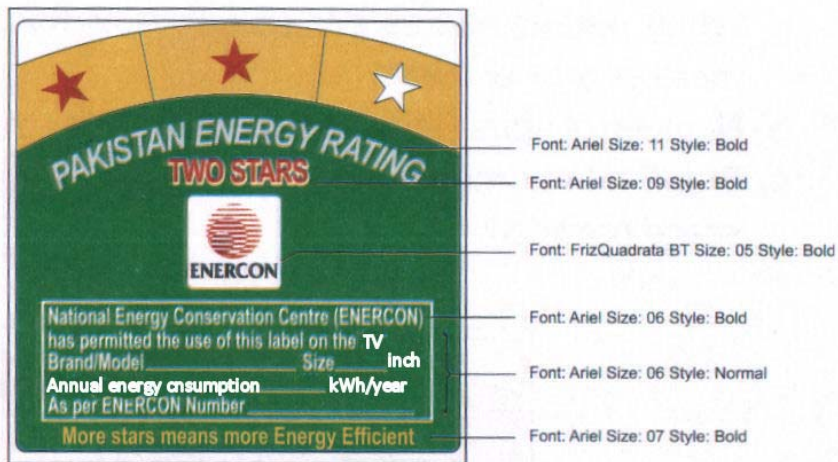


Figure-4: Print Type and Character Size of the Energy Star Label

8.5 Color of energy efficiency endorsement logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or s RGB color profile, as follows:

- 1) Outer/large Circle: R=153 G=174 B=106
- 2) Inner/small Circle: R=0 G=109 B=51
- 3) Inner most Circle: R=129 G=40 B=42

Where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Printed Energy Efficiency Endorsement Logo

8.6 Dimensions of the energy efficiency endorsement logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.

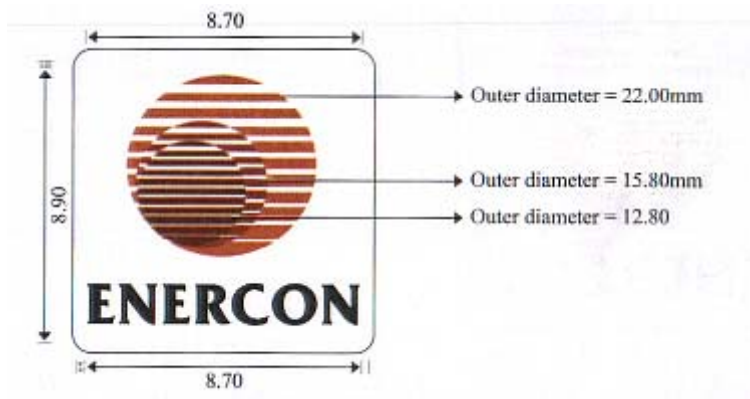


Figure-6: Dimensions of Energy Efficiency Endorsement Logo
(All values are in mm)

Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large Circle:

Outer Diameter = 22.0mm

Thickness = 4 pt

Number of horizontal bars = 11

2) Inner small Circle:

Outer Diameter = 15.8mm

Thickness = 4 pt

Number of horizontal bars = 11

3) Inner most Circle:

Outer diameter = 12.80mm

Thickness = 4 pt

Number of horizontal bars = 11

8.7 Character size (height) of the energy efficiency endorsement logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure-7.

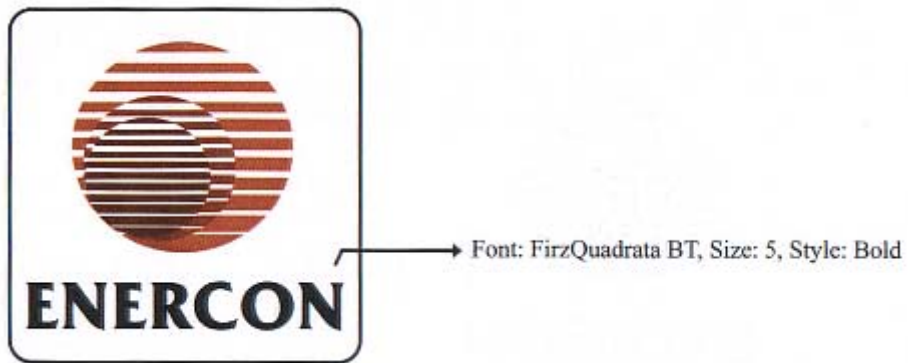


Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

8.8 Prohibited information

Advertising information, other than that being included in the energy star rating label, is prohibited.

Pakistan
Minimum Energy Performance Standard (MEPS) and
Energy Star Rating for Tubular Fluorescent Lamps (Draft)

1. Purpose

Purpose of this standard is to provide guidance on setting up the minimum and high requirement limits for energy performance testing of **Tubular Fluorescent Lamps (TFLs)** in Pakistan and to match with world best practices of energy performance testing of TFLs.

2. Scope

This standard specifies the energy efficiency levels, minimum allowable values of energy efficiency, high energy performance values/evaluating values of energy conservation, test methods and inspection rules of TFLs. This standards shall apply to the following types and sizes of TFLs commonly used in Pakistan, with supply voltage of 230 V 50 Hz or range 220 -240 v, 50 Hz.

- TFLs of T12 type, T8 type and T5 type
- 4 feet TFLs for wattages up to 40W

3. Normative References:

The following documentary standards, through reference in this text, constitute the provision of this standard. The latest edition of the normative document is applicable to this standard:

- IEC 60081: Double-capped fluorescent lamps - Performance specifications
- IEC 61195: Double-capped fluorescent lamps - Safety specifications
- JIS C 7617-1: Double-capped fluorescent lamps - Part 1, Safety specifications
- JIS C 7617-2: Double-capped fluorescent lamps - Part 2, Performance specifications
- IS 2418: 1977 Tubular fluorescent lamps for general lighting service
- PS (Pakistan Standards): Under examination

4. Terms & Definitions:

The following terms and definitions apply to this standard.

4.1 Tubular fluorescent lamp

Tubular fluorescent lamp is the by-name of double-capped fluorescent lamp. This lamp is a

fluorescent lamp having two separate caps and mostly tubular form and linear shape. TFLs is an abbreviation of tubular fluorescent lamps.

4.2 Initial luminous Efficacy:

The initial luminous efficacy for evaluating the performance of the TFLs is the ratio of measured initial luminous flux and the measured input power of the TFL. The unit is lumens per watt (lm/W).

4.3 Minimum Values of Initial luminous efficacy pertaining to energy efficiency rating shall not be less than criteria of MEPS as mentioned in this standard in section 5.2, under the specific test conditions.

5. Technical Requirements

5.1 Basic requirements

The performance of the TFLs applicable to this standard shall meet the requirements as specified in the standard IEC 60081.

5.2 Energy efficiency levels / stars

Those products which meet the minimum requirements as specified in this standard, when tested regarding energy efficiency values, shall be eligible to apply for the use of Energy Efficiency Star Label.

The minimum allowable values of the energy efficiency i.e. minimum energy performance standard (MEPS) for grant of Energy Efficiency Star Label for TFLs shall be as given in the Table-1. The energy efficiency level of TFLs shall be divided into 3 stars (see Table-1) among which the 3 stars is the highest in energy efficiency. More stars mean more energy efficient TFLs. The energy efficiency values of all the level of the product shall not be lower than those specified in Table-1.

Table-1 Energy Performance Values for TFLs

STAR RATING		Star 1	Star 2	Star 3
	Criteria of MEPS	100% or over, Less than 113%	113% or over, Less than 127%	127% or over
Lumens per Watt at 100 hours of use	86	≥ 86 & < 97.2	≥ 97.2 & < 109.2	≥ 109.2

6. Performance Testing Protocol for Tubular Fluorescent Lamps:

6.1 General Requirement of Tests

The test for performance evaluation of TFLs shall be carried out according to the general requirements as specified in the standards IEC 60081.

6.2 Marking on the Lamp:

Lamp shall be clearly and durably marked with at least the following mandatory markings:

- (1) Mark of origin (this may take the form of a trade mark, the manufacturer's name or the name of the responsible vendor).
- (2) Rated voltage or voltage range (marked "V" or "volts").
- (3) Rated wattage (marked "W" or "Watts").
- (4) Rated frequency (marked in "Hz").

6.3 Marking on the Lamp Packing:

In addition to the mandatory marking on the lamp, the following data are to be provided on the lamp packing:

- (1) Country of Origin
- (2) Rated Luminous Flux
- (3) Luminous Efficacy (lm/W)
- (4) Correlated Color Temperature (CCT)
- (5) Rated Life
- (6) A written Warrantee in at least one applicable local language
- (7) A local address for customer contacts and complaints

6.4 Lamp Wattage:

Input Power shall not deviate by more than $\pm 15\%$ of rated power when measured at test voltage of 230V, 50Hz.

6.5 Initial Luminous Flux:

The initial luminous flux measured after the ageing time shall not be less than 90% of the rated luminous flux when measured at test voltage of 230 V, 50 Hz.

6.6 Lumen Maintenance:

After 2000 h of operation, including the ageing period, the luminous flux shall not be less than 85% of the initial luminous flux.

6.7 Life Time:

A TFL shall have a minimum rated life time of 8,000 hours. The manufacturer / supplier will produce a test report showing the compliance of rated life time of a particular rating, make/ model of TFL.

7. Samples for Inspection and Testing:

7.1 Quality Acceptance Test for Market Delivery

The manufacturers / suppliers of tubular fluorescent lamps shall carry out quality level acceptance test for minimum energy efficiency values and those rejected in the test shall not be allowed in the market. The lamps used for the acceptance test shall be selected among the lot of same type of lamps produced daily. The test shall be carried out according to the requirement of standard IEC 60081 in conjunction with those as specified in the Table-3 below.

Table-3: Quality Acceptance Level and Sampling

Test Item	Technical Requirement	Sampling Scheme	Sample Size	AQL % (Acceptance Quality Level)
Initial Lumen Efficacy	As described in section 4.2	One time	8 TFLs	75%

7.2 Routine Test

(a) The manufacturers / suppliers shall carryout routine test on the minimum values of energy efficiency, at least twice (half yearly basis) in a year on its TFLs. The routine test shall also be carried out if one of the following conditions prevails;

- (i) Identifying product’s trial production and settings
- (ii) The performance may be altered due to change in the design, technology or material of the product.

- (iii) Reinstating the production of the product after a halt of more than 1year.
 - (iv) Requirement of routine test is proposed by standard regulatory body/organization.
- (b) The routine test shall be carried out according to the requirements as specified in the Table-4 given below;

Table-4: Routine Test & Reject able Quality Level (RQL)

Test Item	Section	Sample Size (TFLs)	RQL%
Initial Lumen Efficacy	4.2	8	25
Lamp Wattage	6.4	16	25
Initial Luminous Flux	6.5	16	25
Lumen Maintenance	6.6	16	25
Life Time	6.7	20	25

8. Labeling

8.1 Affixing of energy star label

The energy star rating label shall be in the form of a sticker and affixed to the package box of the TFL, as well as on the packing, so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model of the TFL. The format of the energy star rating label shall be as given in Figure-1.

8.2 Colour of energy star label

Sample energy star rating label is given in Figure-2 for information only and the colours of the energy star label shall follow Adobe RGB or s RGB color profile, as under:

Yellow: R=255, G=255 B=0
 Red: R=255 G=0 B=0
 Green: R=0, G=150 B=60
 Where, R = Red, G = Green, and B = Blue

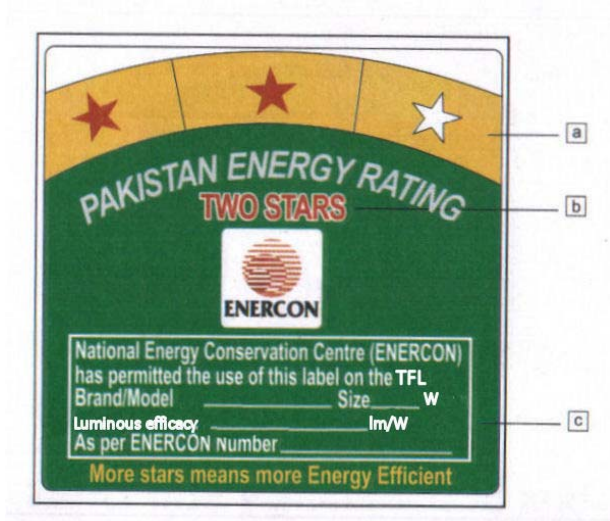


Figure-1: Format for the Energy Star Rating Label

- a) Number of stars appearing on the curved band depends on the energy rating determined as per section 4 of this standard. More stars mean more energy efficient.
- b) Number of stars (in words) permitted for the model.
- c) Brand name, model number and size of the TFL in Watt printed in the space provided.

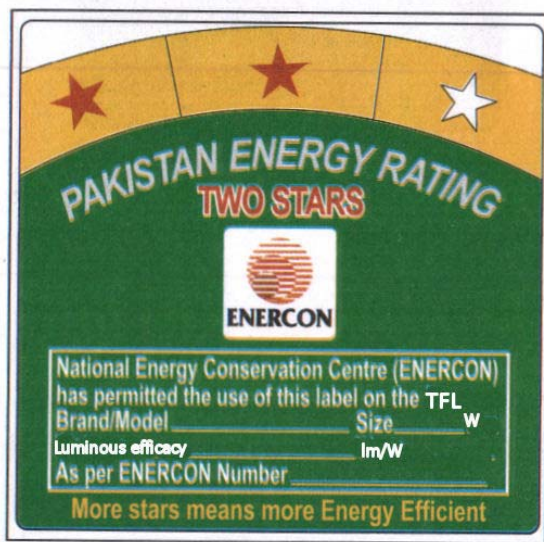


Figure-2: Sample of Printed Energy Star Rating Label

7.3 Dimensions of the energy star rating label

Dimensions of the energy star label shall be as given in Figure-3.

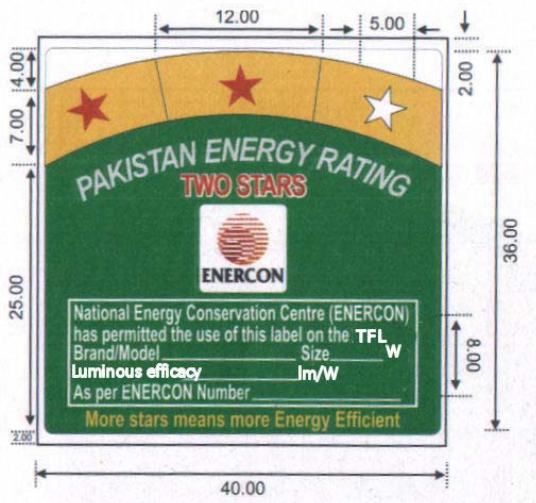


Figure-3: Dimensions of the Energy Star Label
(all values are in mm)

7.4 Character size (height) of the energy star rating label

Character size (height) of the energy star label shall be as given in Figure-4.

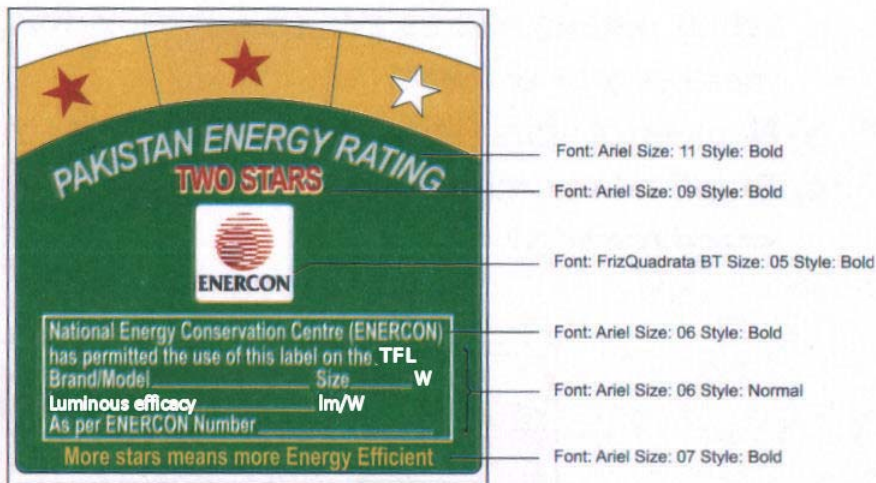


Figure-4: Print Type and Character Size of the Energy Star Label

7.5 Color of energy efficiency endorsement logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or s RGB color profile, as follows:

- 1) Outer/large Circle: R=153 G=174 B=106

- 2) Inner/small Circle: R=0 G=109 B=51
- 3) Inner most Circle: R=129 G=40 B=42

Where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Printed Energy Efficiency Endorsement Logo

7.6 Dimensions of the energy efficiency endorsement logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.

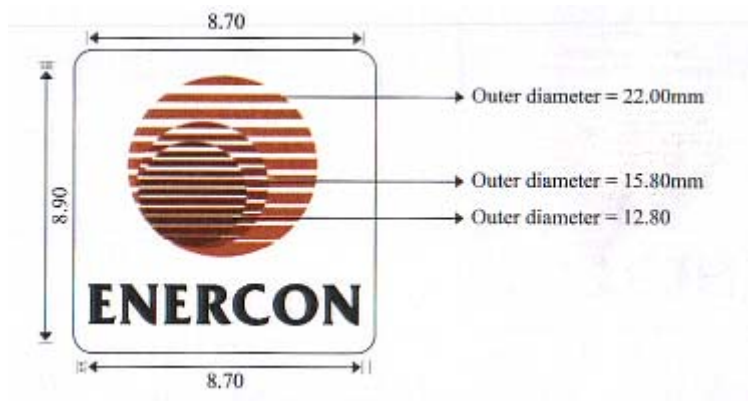


Figure-6: Dimensions of Energy Efficiency Endorsement Logo
(All values are in mm)

Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large Circle:

Outer Diameter = 22.0mm

Thickness = 4 pt

Number of horizontal bars = 11

2) Inner small Circle:

Outer Diameter = 15.8mm

Thickness = 4 pt

Number of horizontal bars = 11

3) Inner most Circle:

Outer diameter = 12.80mm

Thickness = 4 pt

Number of horizontal bars = 11

7.7 Character size (height) of the energy efficiency endorsement logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure-7.

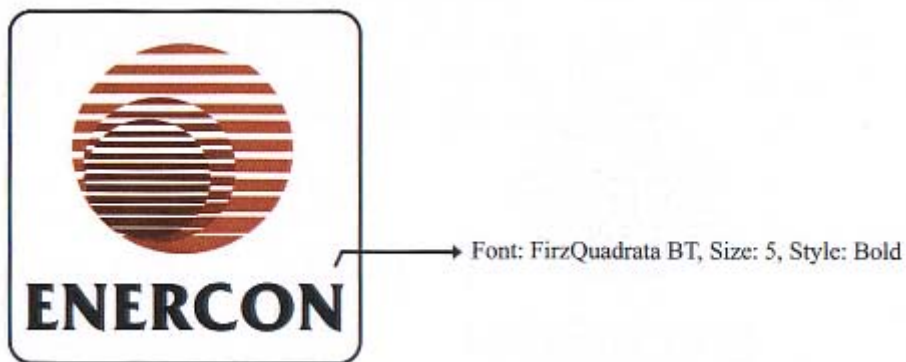


Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

7.8 Prohibited information

Advertising information, other than that being included in the energy star rating label, is prohibited.

Pakistan
Minimum Energy Performance Standard (MEPS) and
Energy Star Rating for Microwave Ovens (Draft)

1. Purpose

Purpose of this standard is to provide guidance on setting up the minimum and high requirement limits for energy performance testing of microwave ovens in Pakistan and to match with world best practices of energy performance testing of microwave ovens.

2. Scope

This standard specifies the energy efficiency levels, minimum allowable values of energy efficiency, high energy performance values/evaluating values of energy conservation, test methods and inspection rules of microwave ovens. This standard shall apply to the following types and sizes of microwave ovens commonly used in Pakistan, with supply voltage of 230 V 50 Hz or range 220 -240 v, 50 Hz.

- Microwave ovens which heat foods with high frequency wave of 2,450 Hz zone
- Output of high frequency wave is 2kW or less.
- Combined type microwave ovens with gas and other heat sources are out of scope.
- Microwave ovens with inner height of 135mm or less are out of scope

3. Normative References:

The following documentary standards, through reference in this text, constitute the provision of this standard. The latest edition of the normative document is applicable to this standard:

- IEC 60705: Methods for measuring the performance of microwave cooking appliances for household and similar purposes
- IEC 60335-1: Safety of household and similar electrical appliances.
Part 1: General requirements
- IEC 60335-2-6: Safety of household and similar electrical appliances.
Part 2: Particular requirements for cooking ranges, cooking tables, ovens and similar appliances for household use
- IEC 60335-2-25: Safety of household and similar electrical appliances.
Part 2: Particular requirements for microwave ovens

- JIS C 9250: Microwave ovens
- Quality labelling regulation Electrical appliances quality labelling regulation,
Consumer Affairs Agency, Japan
- PS (Pakistan Standards): Under examination

4. Terms & Definitions:

The following terms and definitions apply to this standard.

4.1 Microwave oven

Appliance using electromagnetic energy in the ISM frequency band of 2 450 MHz, for heating food and beverages in the cavity

4.2 Energy consuming efficiency

Energy consuming efficiency for evaluating the performance of microwave ovens is annual power consumption calculated from the test of Clause 6.

4.3 Minimum Values of annual power consumption

Minimum Values of annual power consumption pertaining to energy efficiency rating shall not be less than criteria of MEPS as mentioned in this standard in section 5.2, under the specific test conditions.

5. Technical Requirements

5.1 Basic requirements

The performance of the TVs applicable to this standard shall meet the requirements as specified in the standard IEC 60705.

5.2 Energy efficiency levels / stars

Those products which meet the minimum requirements as specified in this standard, when tested regarding energy efficiency values, shall be eligible to apply for the use of Energy Efficiency Star Label.

The minimum allowable values of the energy efficiency i.e. minimum energy performance standard (MEPS) for grant of Energy Efficiency Star Label for microwave ovens shall be as given in the Table-1. The energy efficiency level of microwave ovens shall be divided into 3 stars (see Table-1) among which the 3 stars is the highest in energy efficiency. More stars mean more energy efficient microwave ovens. The energy efficiency values of all the level of the product

shall not be lower than those specified in Table-1.

Table -1 Energy Performance Values for Microwave Ovens

STAR RATING		Star 1	Star 2	Star 3
	Criteria of MEPS (kwh/year)	100% or over, Less than 105%	105% or over, Less than 110%	110% or over
Microwave oven (Heating only)	80	>=80 & <76	>=76 & <72	>=72

6. Methods of measuring energy efficiency performance

(1) Determination of energy consumption efficiency

Power consumption required to heat model load from 4C to 70C and expressed in the value of kWh / year is calculated by the formula:

$$E = \frac{[(580.8 \times AV285 + 66 \times AV245 + 571.1 \times AV125 + 205 \times AV185) + 31 \times B + 6400 \times C]}{1000}$$

In this formula, E, AV285, AV245, AV125, AV185, B and C are representing:

E: Annual energy consumption [kWh / year]

AV285: Power consumption per 1 time required to heat model load of 285 gram [Wh / time] to heat frozen food

AV245: Power consumption per 1 time required to heat model load of 245 gram [Wh / time] to frost raw food

AV125: Power consumption per 1 time required to heat model load of 125 gram [Wh / time] to heat frozen food and frost raw food

AV185: Power consumption per 1 time required to heat model load of 185 gram [Wh / time] to heat beverage

B: Power consumption per 1 time required to use oven function [Wh / time]

C: Standby power consumption per hour [Wh / hour]

(2) Model load is water and model load mass is specified as shown in Table 2.

Table 2 Specifications of model load mass and test container

Model load mass M [g]	Specifications of test container
285	A crystallizing dish of outer diameter of 150mm and height of 75mm specified in JIS R 3503
245	
125	A crystallizing dish of outer diameter of 90mm and height of 45mm specified in JIS R 3503
185	A tall beaker of outer diameter of 66mm and height of 135mm specified in JIS R 3503

- (3) Temperature in the range is $23 \pm 2\text{C}$ before the start of test.
- (4) Mass of model load and container is measured.
- (5) Temperature of model load and container is $10 \pm 1\text{C}$ before the start of test.
- (6) Model load is heated to $70 \pm 2\text{C}$ with the function of microwave oven
- (7) Output of microwave oven is set at maximum output.
- (8) After heating, temperature of model load is measured, and mass of model load and container is measured. Power consumption required to heat load is measured.

7. Testing Protocol and Type Inspection

7.1 Testing protocol

The input power, power factor and other relevant/required performance characteristics of the microwave ovens shall be measured according to the procedure as specified in the standard IEC 60705 and Quality labelling regulation.

7.2 Type inspection

Inspection over the minimum allowable value of energy efficiency shall be carried out if one of the following conditions prevails:

- (1) New product trial;
- (2) The design, technology or material of the product is changed and the performance is influenced;
- (3) Reproduction of the product after a period of more than 1 year;
- (4) The result of market delivery inspection is very much different than the previous type inspection;
- (5) Inspection requirements proposed by standards regulatory body/organization.

7.2 Testing of samples

Through random sampling for type inspection, three (03) samples of the product shall be collected, among which two (02) shall be tested and the third left over shall remain as standby.

If the results of the two tested samples meet the requirements of this standard, the batch represented by these samples shall be declared qualified; otherwise, this batch shall be treated as disqualified. If one out of two tested samples fails to meet the requirements of this standard, the stand by sample shall be tested. If the test result meets the requirements of this standard, the batch shall be treated as qualified; otherwise it shall be declared disqualified.

8 Labeling

8.1 Affixing of energy star label

The energy star rating label shall be in the form of a sticker and affixed to the body of the microwave oven, as well as on the packing, so that the label is prominent and clearly visible. The label shall display the approved energy star rating for the model of the fan. The format of the energy star rating label shall be as given in Figure-1.

8.2 Colour of energy star label

Sample energy star rating label is given in Figure-2 for information only and the colours of the energy star label shall follow Adobe RGB or s RGB color profile, as under:

Yellow: R=255, G=255 B=0
 Red: R=255 G=0 B=0
 Green: R=0, G=150 B=60
 Where, R = Red, G = Green, and B = Blue

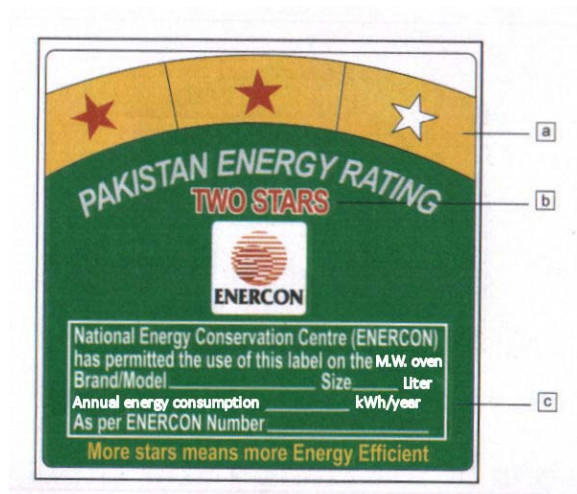


Figure-1: Format for the Energy Star Rating Label

a) Number of stars appearing on the curved band depends on the energy rating determined as

- per section 4 of this standard. More stars mean more energy efficient.
- b) Number of stars (in words) permitted for the model.
- c) Brand name, model number and size of the microwave oven in liter printed in the space provided.

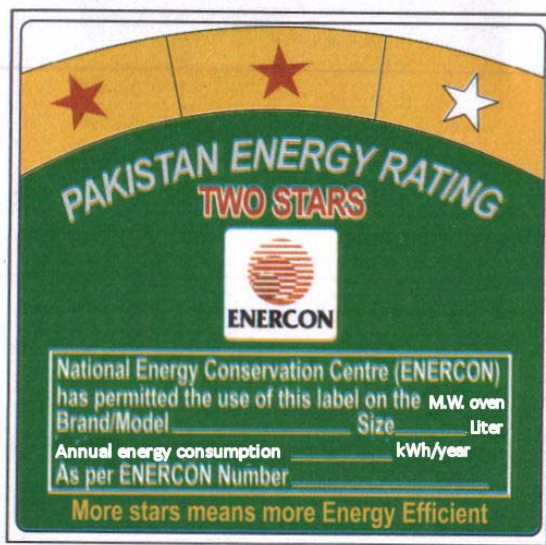


Figure-2: Sample of Printed Energy Star Rating Label

8.3 Dimensions of the energy star rating label

Dimensions of the energy star label shall be as given in Figure-3.

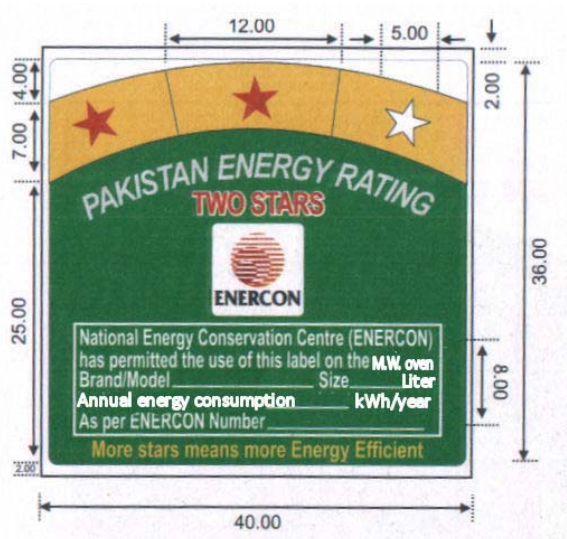


Figure-3: Dimensions of the Energy Star Label
(all values are in mm)

8.4 Character size (height) of the energy star rating label

Character size (height) of the energy star label shall be as given in Figure-4.

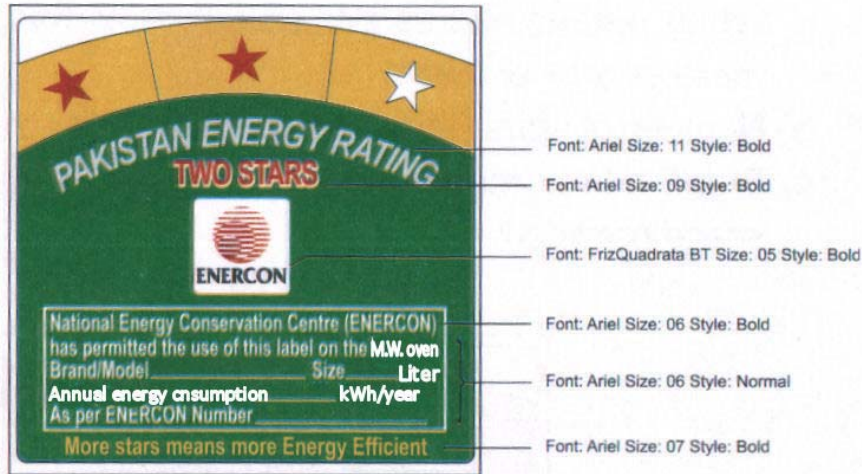


Figure-4: Print Type and Character Size of the Energy Star Label

8.5 Color of energy efficiency endorsement logo

Sample energy efficiency endorsement logo shown in the energy efficiency star rating label is given in Figure-5 for information only and the colors of the logo shall follow Adobe RGB or s RGB color profile, as follows:

- 1) Outer/large Circle: R=153 G=174 B=106
- 2) Inner/small Circle: R=0 G=109 B=51
- 3) Inner most Circle: R=129 G=40 B=42

Where, R = Red, G = Green, and B = Blue



Figure-5: Sample of Printed Energy Efficiency Endorsement Logo

8.6 Dimensions of the energy efficiency endorsement logo

Dimensions of the energy efficiency endorsement logo shall be as given in Figure-6.

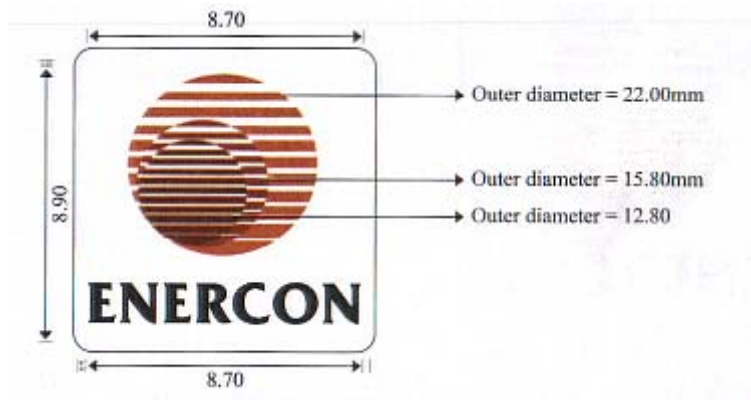


Figure-6: Dimensions of Energy Efficiency Endorsement Logo
(All values are in mm)

Details of the dimensions given in Figure-6 are further elaborated as under:

1) Outer/large Circle:

- Outer Diameter = 22.0mm
- Thickness = 4 pt
- Number of horizontal bars = 11

2) Inner small Circle:

- Outer Diameter = 15.8mm
- Thickness = 4 pt
- Number of horizontal bars = 11

3) Inner most Circle:

- Outer diameter = 12.80mm
- Thickness = 4 pt
- Number of horizontal bars = 11

8.7 Character size (height) of the energy efficiency endorsement logo

Character size (height) of the energy efficiency endorsement logo shall be as given in Figure-7.

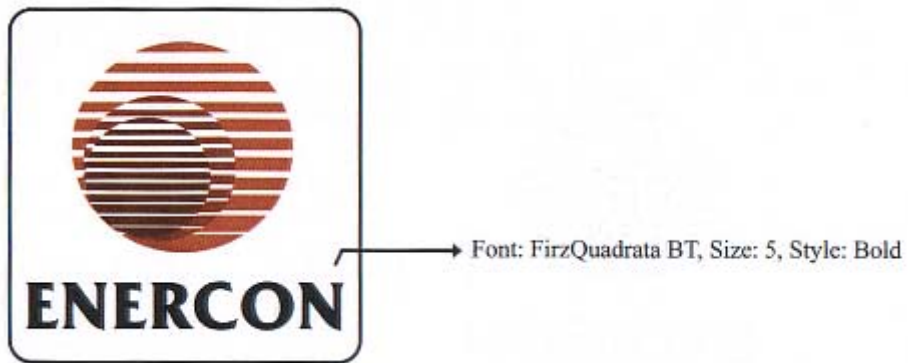


Figure-7: Print Type and Character Size of the Energy Efficiency Endorsement Logo

8.8 Prohibited information

Advertising information, other than that being included in the energy star rating label, is prohibited.

4. 協議議事録

- (1) 第1次現地調査議事録
- (2) 第2次現地調査議事録
- (3) 第3次現地調査議事録
- (4) 第4次現地調査議事録

Meeting Memo

Date	June 19, 2014	Time	9:00 am – 10:45 am
Organization	Japan International Cooperation Agency (JICA) – Serena Business Complex, Islamabad		
Department			
Attendances	JICA: Mr. Imran Ahmad, Senior Program Officer Nippon Koei Company/JST: Kuroki, Fukushima, Amber, Ilyas		
Obtained Documents	-NONE-		
Discussed	<ul style="list-style-type: none">▪ The Senior Program Officer welcomed the Delegation of JST, and discussed the scheduled program agenda briefly. Informed the delegation that due to the security concerns the meetings with ENERCON and MOWP, which were cancelled have to be re-scheduled at the later time.▪ Mr. Ahmad, extended his cooperation during the meeting, for organizing and scheduling appointments with different companies whenever needed.▪ Mr. Kuroki, Team Leader briefed JICA about the objectives of survey as described in inception report on the promotion of Energy Efficiency and Conservation in Pakistan, which is in collaboration with the Government of Pakistan and ENERCON. <p><u>Main Points & Suggestion :</u></p> <ul style="list-style-type: none">▪ Mr. Ahmed from JICA, will be scheduling the meeting with UNDP and ENERCON. Will inform NIPPON Koei delegation accordingly.▪ He suggested that it is very important for JST to meet the officials at Ministry of Industries and brief them about the objectives of the Energy Efficiency and Conservation inception report.▪ Also, suggested that it will be very useful to meet GIZ-Pakistan's (German Cooperation Organization) energy focal point if possible.▪ Mr. Ahmed (JICA), immediately organized the meeting with Engineering Development Board (EDB) at the Ministry of Industries.		

Meeting Memo

Date	June 19, 2014	Time	11:00-12:30
Organization	EDB (Engineering Development Board)		
Department			
Attendances	EDB: Mr. S.M.Adil Saha, General Manager Muhammad Shahzad, DGNM JICA Pakistan: Imran Ahmad Nippon Koei Co., Ltd./JST: Kuroki, Fukushima, Amber, Ilyas		
Obtained Documents	Nothing		
Discussed	<ul style="list-style-type: none"> ▪ The General Manager of EDB welcomed the distinguished guests/participants of JICA Survey team (JST) and introduced them the functions and aims of EDB. Similarly Mr. Kuroki, Policy Leader introduced the aims of his Company for the promotion of Energy Efficiency and Conservation in Pakistan in collaboration with the Government of Pakistan through collaborative Agency i.e. ENERCON. <p><u>CONCERNS OF MR. ADIL</u></p> <ul style="list-style-type: none"> ▪ He seriously expressed his concerns that there is no mention of counterpart organization i.e. Ministry of Industry Government of Pakistan and Engineering Development Board as these are the major Agencies. At the first glance, he requested the Mr. Kuroki to include both organizations i.e. Ministry of Industry and EDB into counterpart Agencies as they will provide information as much as no other organization can provide. He further discussed that EDB consists upon the Board of Technical Committee and having standards and its members are ENERCON and some other organizations and they had already met for appliances. He also introduced the background of EDB and significance for its establishment. ▪ He further highlighted the problems, which are being faced by the Industrial Sector in Pakistan that merits special attention for its amelioration. Problems were: <ul style="list-style-type: none"> i. Raw material availability ii. Skilled labour iii. Quality and standards. <p><u>Suggestion of Mr. Adil</u></p> <ul style="list-style-type: none"> ▪ After protracted deliberations upon the development of MEPS in Pakistan, he was of the view that this delegation should interact with the Industrial Sector preferably not to government organization because without involvement of industrial sector, no standards can be developed. Once the industrial sector will know the standards, which are developed by JST, Pakistani Industrial sector will implement it accordingly. ▪ Well pumps should be added, which are installed almost households. <p><u>Reference document</u></p> <ul style="list-style-type: none"> ▪ A report “Development of energy efficient studies and labeling program” sponsored by GTZ in 2010 is shown, which includes test data of ceiling fans and manufacturers name. This report can be read in website of ENERCON according to Mr. Shahzad, EDB. But this report is not found in the website of ENERCON (Fukushima) 		

Over

Meeting Memo

Date	June 20, 2014	Time	10:30-11:00
Organization	Retail Shops of home appliances		
Department	Research area: G-6 Area (Aabpaara Market)		
Attendances	JST: Fukushima, Ilyas		
Obtained Documents	Nothing		
Discussed			
<ul style="list-style-type: none"> ▪ Market research of home appliances in 2 shops in Islamabad. ▪ Shop-1: Haire Home appliances: <ol style="list-style-type: none"> 1. Refrigerator: PEL, 240 to 400 liters in inner volume 2. Refrigerator: Haire, 300 to 400 liters in inner volume, Haire brand is popular. 3. Fan: SOGO, Input voltage 220 to 240V, DC motor drive with chargeable battery cell. 4. TV: Ecoater, 16 to 32 inch LCD display, Price of 32 inch: Rs.30,500, 32 inch LCD is mostly selling. 5. Washing machine: Haire, BOSS, SONEX 6. Air-conditioner: GREE, Model GS14, Capacity 1.5ton, 7. Air-conditioner: GREE, Model OS19MK, Capacity 19,000Btu/h, Input power 1,830W, <u>COP 3.04 (=19,000*0.293/1,830)</u> 8. Microwave oven: 9. Freezer box: Haier, Size small to large. Freezer is not so much popular in terms of sale. 10. Hot water server: company Boss, Size small. 11. Fans: G.FC ▪ Shop-2: Singer Home appliances: <ol style="list-style-type: none"> 1. Refrigerator: Singer, 300 to 400 liters in inner volume, 2. Air-conditioner: Singer, Model: SSAC-18SF, Non-inverter type, Price 48,000Rp 3. TV: 16 to 42 inch LCD, Price of 32 inch: 35,900Rp, 32 inch type is popular. 			
			Over

Meeting Memo

Date	June 20, 2014	Time	11:00 am – 1:00 pm
Organization	United Nations Development Programme (UNDP), ENERCON Venue: JICA office, Serena Business Complex, Islamabad		
Department			
Attendances	UNDP: Usman Manzoor, ENERCON: Ms. Tamana Banori, National Project Coordinator, Mr. Naseem Anwer Khan, JICA: Mr. Imran Ahmad, Senior Program Officer Nippon Koei Co., Ltd/JST: Kuroki, Fukushima, Amber, Ilyas		
Obtained Documents	MEPS for fans, Labeling policy / Procedure for grant & monitoring of energy labels in Pakistan		
Discussed			
<ul style="list-style-type: none"> ▪ The Senior Program Officer welcomed and thanked the members of UNDP, ENERCON and JICA Survey Team (JST) for participating in the meeting on Energy Efficiency and Conservation. ▪ Mr. Ahmad, briefed the participants about the BRESL's project of UNDP and ENERCON and the achievements made so far. He also talked about the objectives of JST briefly. ▪ He stressed on the importance of non-duplication of the work, and said that we should not re-invent the wheel, in fact look at the second phase of the BRESLs. ▪ Suggested that any work which JST will do, should complement the actions already taken by different agencies and government offices to avoid duplication. ▪ Mr. Naseem Anwer Khan, the Project Expert from UNDP/ENERCON team on Energy Efficiency briefed the participants on the UNDP BRESL project. ▪ The appliances harmonized among 6 countries in BRESL are fans and CFLs. <p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ Mr. Naseem from ENERCON informed that the BRESL's project is in its final stage. First phase finishes at the end of December 2014. ▪ The labeling procedure for Minimum Energy Performance Standards (MEPS) have been developed and approved for five appliances out of the selected 6. The 5 appliances are fans, air conditioners, CFL's, Ballasts and motors except the refrigerators. ▪ Mr. Fukushima said that energy performance values of fans in the document of MEPS of fans include small fans such as diameter of blades of 200mm to 300mm which electricity consumption is 20W or less. He recommends small diameter fans should be out of scope of MEPS of fans. Mr. Naseem said this document is prepared according to results of harmonization of BRESL. ▪ The mass awareness labeling campaign for MEPS for fans will be launched on the 22nd of June in all over the country. ▪ Chinese Government will be providing funds through GEF for the MEPS second phase. ▪ Mr. Naseem informed the participants that there are no testing facility for air conditioners, motors and refrigerators. Suggested that it will be very useful for JST and JICA to look at the possibility of establishing testing facilities for the above mentioned appliances. Also, suggested that one of the options could be to look at the existing labs/testing facilities in the Universities. These existing facilities are outdated, and perhaps it will be useful to upgrade and bring them up to the internationally recognized testing laboratory standards. (and comply them to international standards) ▪ A common understanding from UNDP, ENERCON and JICA was to focus on household appliances like iron, microwave, washing machines, UPS etc. for the second phase of MEPS 			

and labeling.

- **Concluding remarks: The meeting was adjourned at 1:00 pm. Another meeting with UNDP, ENERCON and JICA will take place towards the end of survey to share the findings and experience.**

Meeting Memo

Date	June 20, 2014	Time	03:00 pm – 4:00 pm
Organization	ENERCON Venue: Avari Hotel, Islamabad.		
Department			
Attendances	ENERCON: Mr. Asad Mahmood, Manager Technical, National Energy Conservation Center (ENERCON), MOWP Nippon Koei Company/JST: Kuroki, Fukushima, Amber, Ilyas		
Obtained Documents	-NONE-		
Discussed	<ul style="list-style-type: none"> ▪ The informal meeting was held with Mr. Asad, Technical Manager of ENERCON at Conference Hall, Avari Hotel, Islamabad for discussion on Energy Efficiency and Conservation. ▪ Mr. Kuroki, and Mr. Fukushima introduced him the aims of their company for the promotion of Energy Efficiency and Conservation in Pakistan in collaboration with the Government of Pakistan through collaborative Agency i.e. ENERCON. <p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ Mr. Asad is a focal point of ENERCON to JICA Survey Team (JST). ▪ Mr. Asad succinctly floated some ideas for MEPS while highlighting the work of UNDP and lauded their voluntary efforts for achievement of MEPS of five home appliances for Fans, Air Conditioners, CFL, Ballasts and Motors except refrigerator. ▪ He suggested to discuss the standards and labelling regime in the meetings with the manufacturing companies for getting their opinion thereupon which would be useful for prioritizing the appliances which are not covered under the BRESL Project so far and try to identify the barriers from end users and manufacturers perspective. ▪ He informed regarding the legislation upon MEPS by the Government of Pakistan. He further stated that EE&C Bill was approved to enter to National Assembly by CCI on 29 May and is now going to be put up for next steps including presenting it before National Assembly that most probably be done within upcoming months or maximum 6 months. MD ENERCON who is presently Additional Secretary of MOWP might be able to give specific timeline for next steps and approval by National Assembly, and the legislation shall then give the legal cover to standards and labelling regime being set. ▪ Mr. Asad said Standards of MEPS was approved by PSQCA. Mr. Fukushima asked him to show Gazzetta on the approval of Standarads of MEPS. ▪ Mr. Fukushima confirmed Mr. Asad about testing organizations of appliances for MEPS in JICA questionnaire. Mr.Asad said accredited testing organization is only PCSIR for fans and ENERCON considers overseas testing oraganizations such as INTERTEC in Bangkok for other appliances. And also Mr. Asad said testing organizations in pakistan are necessary for domestic manufactures of appliances for MEPS. ▪ Mr. Asad said to introduce main manufactures and related industrial associations of appliances later to JST. ▪ Mr. Asad assured to support in arranging meetings of the delegation with relevant organizations and shall also try to convene meeting with Managing Director alongwith all technical experts tentatively on 25th June or 26th June, 2014 for sharing their views with the Experts of JST. 		

Meeting Memo

Date	June 23, 2014	Time	11:00 am – 12:00 pm
Organization	Super Asia Company, JICA Survey Team Venue: Avari Hotel, Lahore		
Department			
Attendances	Super Asia Company: Mr. Muhammad Ashraf, Chief Executive, Muhammad Yaseen, R&D Manager. Nippon Koei Company/JICA Survey Team: Mr. Kuroki Hiedeaki, Ms. Amber Pervaiz		
Obtained Documents	-NONE-		
Discussed	<ul style="list-style-type: none"> ▪ Mr Kuroki, Team leader, JICA Survey team welcomed and briefed the representatives from Super Asia Company on the objectives of NIPPON Koei company on the Energy Efficiency and Conservation Survey. ▪ Mr. Kuroki, shared the questioner with the reps' prepared specifically for Super Asia. 		
	<p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ Mr. Ashraf and Mr. Yaseer thanked the JICA survey team for meeting them. They talked about the products which their companies currently have, and the ongoing work on MEPS for fans. ▪ During the discussion, they stressed on the need to have the invertors installed in the appliances, specially the air conditioner, as it will bring down the total cost of the electricity bill for the consumers. Explained the importance of converter's in the Pakistani market and how it will bring boom in the energy sector if introduced at the lower cost. He indicated that invertors are the future for energy efficiency in Pakistan. Therefore, Nippon Koei's survey must focus on this aspect as well. ▪ On the products, they informed JICA team that the currently washing machines are semi-auto and do not have the energy efficient component included in them. However, they are working on the full automatic machine, which will have the energy efficient component. ▪ Currently, Super Asia is only following the MEPS for fans. They would like to work with relevant authorities to work on the MEPS for other appliances and to bring them up to date according to the international labeling standards. ▪ They also noted that energy efficient products are very expensive and unaffordable for a common man. Therefore, there is an urgent need to bring the costs down of the energy efficient products to make them affordable for the consumer market. ▪ Concluding remarks: The Super Asia Company's team has extended their cooperation to NIPPON Koei Co. They would like to learn more about the energy efficiency & conservation process and would be great-full if NIPPON Koei can help them in any way to update their products. 		

Meeting Memo

Date	June 23, 2014	Time	2:00 pm – 4:30 pm
Organization	PEL, JICA Survey Team Venue: PEL factory, Ferozpur Road, Lahore		
Department			
Attendances	Super Asia Company: Mr.Haroon Ahmad Khan, Managing Director & Mr. Adnan Aftab, General Manager Nippon Koei Company/JICA Survey Team: Mr. Kuroki Hiedeaki & Ms. Amber Pervaiz		
Obtained Documents	Completed PEL company questionere; Copy of: the Invitation for the technical committee meeting for “Electrical appliances and accessories” (TC-3); Draft minutes of the 1 st meeting of the project stakeholder coordination committee (PSCC) of BRESL Project; Draft summary for the Cabinet- Barrier Removal to the cost effective development and implementation of energy efficiency standards and labeling- Manufacturer support programme; Minimum Energy Performance Standards (MEPS) for AC Electric Ceiling fans; document by Intertek Pakistan; Ref Power consumption details		
Discussed	<ul style="list-style-type: none"> ▪ Mr Kuroki, Team leader, JICA Survey team briefed the representatives from PEL Company on the objectives of Energy Efficiency and Conservation Survey. ▪ Mr. Kuroki, informed the PEL company representatives about the survey and the briefed them about the objectives of NIPPON Koei. ▪ He also informed that NIPPON Koei will support the MEPS & Labelling process. The main documents and implementation will be done by the ENERCON and Ministry of Water and Power, whereas JICA will provide support. ▪ The representatives of PEL company gave Mr.Kuroki the completed questionere form. <p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ Mr. Adnan stressed the importance of implementing MEPS across the board and for all the companies. MEPS should not be enforced on one company as it will impact its growth and production. ▪ Mr. Adnan also explained the advantages and disadvantages of MEPS & Labeling. They mentioned that it depends if labeling is implemented across the board, only then its going to benefit. But if it will not be beneficial if its made mandatory for only one company. This mandatory implementation will cause losses for the manufacturing company as the cost of product will be higher due to raising the standards of labeling. ▪ They also talked about the Government policies related to import duty and tax. They have expressed their concerns about lowering the taxes for foreign appliances. The government has reduced the tax, which has impacted the market competition for the local companies. He expressed that due to this market competition, it is very difficult for local companies can survive. The Government must encourage local companies by increasing the duty on imported appliances. ▪ PEL is the leading company in Pakistan, who is fully equipped with latest technology and lab facilities. Mr. Adnan gave us the tour of the testing labs for refrigerators and air conditioner’s, and informed that they have the best testing facility available in Pakistan, which follows international standards. ▪ The other leading company with the latest laboratory factory is Dawlance. ▪ The priorities related to energy requirement are different in Pakistan. For instance PEL’s priority is to make the appliance and the compressor sustainable, so that they don’t burnout during the announced and consistent load-shedding and power cuts. 		

- On inverter technology Mr. Adnan, informed us that inverter technology might not be a good idea for Pakistan at this moment because of the weather variant. For instance, the weather in Pakistan is very hot, and inverter's only start to work when the temperature in the room is brought to a certain level. Before that, the compressor keeps working without saving any energy.
- **Concluding remarks:** PEL has extended their support and help to NIPPON Koei Co. Requested NIPPON Koei, if possible, to focus on knowledge sharing, technology transfer for energy efficient appliances. They would like to learn more about the energy efficiency & conservation process and would be great-full if NIPPON Koei can help them in any way to update their products.
- On policy side related to energy. They have reiterated the importance of encouraging products/appliances from the local companies. Increase the import tax on foreign goods/appliances, which will encourage the local companies products in the market.
- PEL is open for suggestions on how to proceed with JICA for this survey.

MEETING MEMO

Date	June 23, 2014	Time	03:00 pm – 4:00 pm
Organization	PCSIR Venue: PCSIR Laboratory Complex, Lahore.		
Department			
Attendances	PCSIR: Eng. Irfan Rabbani and supporting engineers. Nippon Koei Company/JST: Fukushima, Ilyas		
Obtained Documents	Accreditation Document		
Discussed	<ul style="list-style-type: none"> ▪ Eng. Irfan Rabbani welcomed and thanked the distinguished guests for the visit of PCSIR Laboratory Lahore and introduced them the aims and functions of the laboratories and their efforts on Energy Efficiency and Conservation. ▪ Mr. Fukushima introduced him the aims of Nippon Koei company for the promotion of Energy Efficiency and Conservation in Pakistan in collaboration with the Government of Pakistan through collaborative Agency i.e. ENERCON for implementation of MEPS. <p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ At the outset, Mr. Rabbani requested to know the update status of the MEPS Project which is being carried out by Nippon Koei Company, ADB, BRESL under UNDP, ENERCON. According to him, before 2-3 years, the Asian Development Bank (ADB) conducted frequent sustainable energy meetings and they were just wasting the time as they did nothing on that. Mr. Rabbani stated that it has only single laboratory in Pakistan for testing the electrical products, while there are some other organizations working for establishment of testing facilities but hitherto they could not be succeeded. He further stated MEPS are normally covered by independent organisations around the globe, therefore, reiterated that ENERCON should be an autonomous body for implementation of MEPS. ▪ Mr. Fukushima discussed regarding the legislation upon Energy Efficiency and Conservation by the Government of Pakistan and was accordingly responded by Mr. Irfan Rabbani that Energy Efficiency and Conservation bill was approved by the Honourable Prime Minister of Pakistan and Council of Common Interest (CCI) on 29th May, 2014 which is now under discussion before the Parliament of Pakistan for its finalization. ▪ Mr. Rabbani informed that PCSIR has been working to establish Labs for testing refrigerator, freezer, water cooler and other products as well during a year which most probably be finalized in the year 2015. He further stated that PCSIR has facility to test the following products as per standards of International Energy Commission (IES): <ul style="list-style-type: none"> i. Electric Fans ii. Washing Machines iii. Electric Room Heaters. iv. Electric Storage Water Heaters. v. Electric Water Coolers vi. Room Air Coolers, etc. vii. Cables & Conductors. viii. Switches, Sockets and Plugs. ix. Electrical Conduits. x. Rubber Insulating Gloves. 		

- xi. Terminals & Connectors.
- xii. Lam Holders, etc.
- xiii. Compact Fluorescent Lamps (Only PCSIR has facility to test CFL)
- xiv. Tubular Fluorescent Lamps.
- xv. Tungsten Filament Lamps
- xvi. High Pressure Discharge Lamps.
- xvii. Magnetic and Electronics Ballasts (70% facility but also going to establish at 100% during current year).
- xviii. Luminaries,

- It is pertinent to mention here that PCSIR is only accredited organization which maintains safety and performance both collectively at maximum level while testing the electronic products, but does not have facility to test Television (T.V) Motor and A.C. As testing of A.C is very much expensive and unaffordable thus working on establishing this facility is not being carried out by PCSIR, its better to send A.C abroad for their testing keeping in view of the economic efficiency. Moreover, PCSIR has been serving the 400 clients in Pakistan, hence, Labs usually remain engaged.
- Mr. Rabbani also lauded the efforts, being carried out by Nippon Koei Company in collaboration of Government of Pakistan for promotion of Energy Efficiency and Conservation in Pakistan and assured to support at maximum level which would be routed through Ministry of Science and Technology.
- The meeting ended with the vote of thanks to each other.

Meeting Memo

Date	June 26, 2014	Time	11:00 am – 12:00 pm
Organization	United Nations Industrial Development Organization (UNIDO), JICA Survey Team Venue: UNIDO Office, Serena Business Complex, Islamabad		
Department			
Attendances	UNIDO: Mr.Essam Alqararah, Country Representative UNIDO,Mr.Muhammad Matloob Khan – National Programme Officer, Mr.Muhammad Ahmed- National Project Manager. Nippon Koei Company/JICA Survey Team: Mr. Kuroki Hiedeaki, Ms. Amber Pervaiz		
Obtained Documents	-NONE-		
Discussed	<ul style="list-style-type: none"> ▪ Mr. Kuroki, Team leader, thanked UNIDO’s Country Representative for accepting the request for a meeting on a short notice. Appreciated the courtesy by UNIDO’s Country Representative. ▪ He briefed the representatives from UNIDO on the objectives of NIPPON Koei company on the Energy Efficiency and Conservation Survey. ▪ Mr. Kuroki, requested UNIDO’s team to provide us with the information and knowledge about the ongoing projects by UNIDO, as well as, any gaps in the field. <p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ Mr. Essam, also thanked the JICA team for considering UNIDO for the energy efficiency and conservation initiative. Expressed great interest in learning more and partnering with JICA on the energy efficiency and conservation project. ▪ Mr. Khan said that they are the ones who work closely with the industries and have great understanding of the needs of the industrial sector. ▪ He also mentioned that UNIDO is currently carrying out auditing survey for the industries, to determine the efficiency of various plants. ▪ <u>During the discussion, “motor” for tubewells as well as for industries was identified by UNIDO as a gap for energy efficiency.</u> ▪ They (UNIDO) mentioned that the USAID project on tubewell’s was an excellent project, but unfortunately failed due to the negligence of the Government and wrong sub-contractor who did not carry out the work properly. (PITCO was sub-contracting company who was given the USAID project, attaching the newspaper clipping for reference in the end). ▪ UNIDO has extended their cooperation in this regard, and suggested that perhaps UNIDO and JICA can work in this area. ▪ Concluding remarks: UNIDO’s Country Representative thanked JICA’s survey team. Also, suggested to have UNIDO as part of the inception report since they are directly doing lot of work with various industries. Extended their full cooperation for the objectives of energy efficiency and conservation survey. They will contact JICA office to explore further on the subject and possible cooperation. 		

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Meeting Memo

Date	June 26, 2014	Time	02:30 pm – 3:15 pm
Organization	ENERCON Venue: Meeting room, ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERNON: Suhail Akbar Shah, Managing Director, Mr. Asad, Manager Technical and Mr. Naeem, Company Secretary JICA Pakistan: Mr. Imran Ahmed. Nippon Koei Company/JST: Kuroki, Fukushima, Amber, Ilyas		
Obtained Documents	-NONE-		
Discussed	<ul style="list-style-type: none"> ▪ Mr. Suhail Akbar Shah, Managing Director, ENERCON welcomed the JICA survey team and lauded the efforts of Nippon Koei Company regarding promotion of Energy Efficiency and Conservation Project carried out and shared the importance of energy sector in Pakistan. He further regretted that meeting with ENERCON was to be held before this time but due to security reasons and very engaged schedule of M.D, could not be held. ▪ Mr. Kuroki, and Mr. Fukushima thanked the M.D for arrangement of this meeting as the M.D did not have sufficient time due to his busy schedule. They further introduced the participants of the aims and objectives of their company for the promotion of Energy Efficiency and Conservation in Pakistan in collaboration with the Government of Pakistan through collaborative Agency i.e. ENERCON. <p><u>Main Points & Suggestions:</u></p> <ul style="list-style-type: none"> ▪ At the very outset, Mr. Suhail informed and discussed working on Energy Efficiency and Conservation Bills (EEC Bills) and stated that Bill has already been approved to enter Parliament by the Council of Common Interest (all Provincial Chief Ministers’ Meeting) held on 29th May, 2014 and put it before Parliament for discussion and final approval. Admission of budget session has been done in the month of June, 2014 He further assured that in the upcoming Session of National Assembly, EEC Bills will most probably be approved, thereafter, further rules and regulations will immediately be formulated in order to develop standards. ▪ He further shared information regarding Local Conference, which is scheduled to be held on 24th August, 2014 for awareness of the general public and to build connection between the electric items producing companies. Nevertheless, he highlighted the work of UNDP and lauded their voluntary efforts for achievement of MEPS of five home appliances for Fans, Air Conditioners, CFL, Blasts and Motors except refrigerator. Moreover, he apprised that BRESL project was to be completed within one year but now tenure will be extended for further one year. ▪ With the approval of the Chair, Mr. Asad succinctly recapped whole picture regarding discussions on the subject which is being carried out by Nippon Koei Company in collaboration with the government of Pakistan. He further discussed that upon the communication of JICA through 		

Economic Affairs Division, he helped the JST for arrangement of meetings with the private limited companies in Lahore as well as in Karachi.

- Mr. Kuroki focused on the legal framework and stated the necessity of preparation of rules and regulation for disbursing joint loan with World Bank, Asian Development Bank and JICA, the Ministry of Water and Power must issue regulations until March, 2015.
- Most pertinently, Mr. Kuroki requested Mr. Suhail to provide JICA survey team with official service such as office space in ENERCON building, security service and medical service. Mr. Suhail replied to provide with suitable place for establishment of office in ENERCON although they had already given place to BRESL, UNDP and other projects.
- Mr. Kuroki further requested to nominate focal person of ENERCON, and Mr. Suhail stated that kindly make request of office space and focal person in writing, then Ministry and ENERCON will let them know the name of focal person
- Mr. Fukushima requested Mr. Suhail to know the time deadline for approval of EEC bill. Mr. Suhail reiterated his earlier stance and stated that it may be finalized within July-August, 2014 in the next session of parliament. He further stated once EEC Bills approved, rules and regulations will soon be finalized. Mr. Suhail didn't declare to enact the regulation of MEPS by the end of March 2015.
- Mr. Fukushima asked Mr. Suhail that regulations of MEPS and Energy Labeling will be prepared as combined regulation of MEPS and Energy Labeling or separated regulations of MEPS and Energy Labeling. Mr. Suhail didn't comment the regulation framework..
- Mr. Asad assured to support in arranging meetings of the delegation with relevant organizations from time to time.
- Meeting ended with the vote of thanks to each other.

Meeting Memo

Date	June 26, 2014	Time	3:45 pm – 5:00 pm
Organization	GIZ (German Organization) Venue: GIZ Office, F/8-4, Islamabad		
Department			
Attendances	GIZ: Mr. Bernhard Meyhoefer, Renewable Energy-Energy Efficiency Project, Dr. Frank Fecher, Senior Advisor, Senior Advisor. Nippon Koei Company/JICA Survey Team: Mr. Kuroki, Mr. Fukushima, Mr. Ilyas, Ms. Amber		
Obtained Documents	GIZ activities brochures: Energy efficiency, renewable energy and gender		
Discussed	<ul style="list-style-type: none"> ▪ Mr. Kuroki, Team leader, thanked GIZ's Principle advisor for accommodating our request for meeting on a short notice. ▪ He briefed the representatives from GIZ on the objectives of the survey on Energy Efficiency and Conservation being carried out by JICA and NIPPON Koei company. ▪ Mr. Kuroki, requested the GIZ representative to share their experiences on the work of energy efficiency in Pakistan, as well as, what kind of initiatives or projects GIZ is working on currently related to energy sector. <p><u>Main Points & Suggestions:</u></p> <ol style="list-style-type: none"> 1. GIZ activities in energy conservation area <ul style="list-style-type: none"> ▪ GIZ starts technical assistance in Pakistan in 2005. ▪ Energy labeling program was implemented from 2005 to 2010. The study report on performance test of fans is prepared with ENERCON. As UNDP starts BRESL program in 2010, GIZ stopped his assistance program in 2010. ▪ GIZ starts Renewable Energy and Energy Efficiency Programme (REEE), promotes the application of sustainable energy efficiency improvement in industry, particularly textile, food & beverages, steel re-rolling and edible oil sectors in 2010. ▪ GIZ works closely with the industries and carries out auditing survey for them to determine the efficiency of various plants. ▪ They work on projects related to solar energy (grid and off-grid stations); biomass projects and hydro. These projects are based in remote villages of Gilgit-Baltistan, Sindh, Punjab and Khyber Pukhtunkhwa. 2. Labeling program <ul style="list-style-type: none"> ▪ A copy of study report of fans for labeling will be sent to JST. ▪ GIZ doesn't join energy labeling program since 2010. ▪ In Mayhoefer's opinion, the label program should be voluntary, and not standard or mandatory labeling, as it will not work in Pakistan. ▪ Appliances like electric heaters, gas heaters, heat pump for the winter's can be other options where JICA's survey team can focus on. 3. Others <p>Mr. Mayhoefer said that ENERCON is not perceived positively with the industries and the associations. Anything, which is being promoted by ENERCON is looked at negatively and not entertained by the manufactures. The industries do not recognize ENERCON.</p> 		

Meeting Memo

Date	August 28, 2014	Time	3:30 pm ~ 4:30pm
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERNON: Mr. Suhail Akbar Shah, Managing Director, Mr. Asad, Manager Technical, Mr. Noman Rafiq, Company Secretary, Mr. Jamil Ahmed JICA Pakistan: Mr. Ozaki. Nippon Koei Company/JST: Mr. Kuroki, Mr. Hidehito, Mr. Ilyas and Ms. Amber,		
Obtained Documents	-NONE-		
Discussed	<ul style="list-style-type: none"> ▪ Mr. Suhail Akbar Shah, Managing Director, ENERCON welcomed the JICA survey team (JST) for second survey to Pakistan and lauded the efforts of Nippon Koei Company regarding promotion of Energy Efficiency and Conservation Project carried out and shared the importance of energy sector in Pakistan. He further appreciated the distinguished participants to be present in the meeting knowing the political turmoil in Islamabad. ▪ JICA introduced the JST and eloquently stated that Mr. Ishaq Dar, Federal Minister for Finance and Revenue has made commitment upon which the loan has been disbursed by the World Bank as well as JICA. He further emphasized on deadline, 31st December, of MEPS and Energy Labeling System in Pakistan and requested the participants of ENERCON to share which institution have drafted the Energy Efficiency and Conservation (EE&C) Bill 2014. He was accordingly replied by Mr. Jamil that all home appliances are tested by the Pakistan Standards and Quality Control Authority (PSQCA) and then ENERCON drafts the Bill for onward transmission/submission to the concerned quarter for approval. (Current situation of enacting EE&C Bill) ▪ JST highlighted the importance of EE&C Bill 2014 and requested the Managing Director to know the actual timelines for its approval and enactment, Mr. Suhail also highlighted that EE&C Bill has already been approved by the Council of Common Interest (all Provincial Chief Ministers' Meeting) held on 29th May, 2014 and put it before the Parliament for discussion and final approval. He further assured that in on going Session of National Assembly, EE&C bill will most probably be approved, thereafter, further rules and regulations will immediately be formulated in order to develop standards (Procedure of MEPS and Labeling if Bill is not approved by the Parliament) ▪ JST requested the Managing Director to let him know the procedure of MEPS and Labeling if Bill is not approved by the Parliament due to any reasons. Mr. Suhail lawfully stated that in case the Session of Parliament is adjourned due to political turmoil or any other cogent reasons, they will call this Bill back and will move to the Honourable President of Pakistan for issuance of an Ordinance which will later be ratified by the Parliament in upcoming Session of National Assembly. On observation of 		

JST, the Managing Director stated that as per Constitution of Islamic Republic of Pakistan, 1973, when any Ministry moves a Bill to Prime Minister for its onward submission to the President of Pakistan for his approval to issue an Ordinance, the President has to agree to the advice of Prime Minister within 15 days. If the President raises any question/query and sends Bill back to P.M, it will further take 15 days to approve it. Pertinently, if the President does not approve/agree to the advice of P.M regarding Bill, it would be deemed to be signed by the President. However, he hopefully stated they will get this Bill done in on going Session.

(Constitution of Pakistan Energy Efficiency and Conservation Board)

- JST asked regarding Pakistan Energy Efficiency and Conservation Board's (PEECB) constitution and functionality. Mr. Suhail clearly stated that this Board is yet presently rather it will be constituted after approval of EE&C Bill 2014. He further highlighted that constitution of Board is ready, they are just waiting for approval of the Parliament. He further stated that in order to comply with policy matrix, everything is under consideration of MEPS and Energy Labeling System on volunteer basis. The ENERCON has already worked without any Act in the BRESL Project on volunteer basis.

(Actual timeline for completion of MEPS and Labeling)

- JST emphasized that MEPS and Labeling should be finalized by mid of October, 2014 in order to keep the deadline, the end of December, 2014 for enactment of the regulations of MEPS and Labeling but Mr. Suhail denied the deadline and stated that it is insufficient time to do the needful as they need adequate time to formulating committees, and making department functional and appointing staff. He further stated that once EE&C Bill is passed then they would be able to give actual timeline for completion of MEPS and Labeling.
- In order to accept the longer leading time, JST requested ENERCON to review and present the detailed procedures together with the time required for the enactment of the regulations of MEPS and Labeling, submitting the questionnaires to Mr. Suhail to answer by 10 September, 2014, the schedule for JST to leave Pakistan.

(Unification and Non-Unification of MEPS and Energy Labeling System)

- JST highlighted the idea of Unification and Non-Unification of MEPS and Energy Labeling System referring to the cases of Japan, India and member Nation of BRESL and sought suggestion of the participants. He asked Mr. Suhail to confirm the method selected by ENERCON is Unification basis. Mr. Suhail confirmed that ENERCON selected Unification. He also suggested the possibility of switching to Non-Unification subject to the monitoring after the implementation.

(Submission of inception report and Interim Report)

- JST returned the revised inception report according and responding to the previous requests from ENERCON. He also submitted Interim Report of JST and questionnaire to the Managing Director

with request to his input on it.

(Reply against important question from ENERON)

- Mr. Suhail deliberated upon the matter and stated that his Team will do work on it till upcoming Monday or Tuesday including the following:
 - The each procedure with necessary time for enactment of MEPS and Labeling regulation (the rough road map)
 - The answers to the questionnaires
 - The input and response to Interim Report

(Focal point and office space for this project)

- At the end, JICA requested the Managing Director for possibility of office space who denied with the reason that they did not have sufficient place in ENERCON building. However, he assured to look into this matter till the 3rd survey in October, 2014. Mr. Ozaki also requested for nomination of focal person of ENERCON, Mr. Suhail immediately nominated Mr. Asad, Technical Manager, ENERCON as Focal Person of ENERCON. Mr. Asad stated as the person in charge of focal person, he would share the information and procedures with his team member, i.e. Mr. Noman, Company Secretary, Mr. Muhammad, Admin & Finance Assistant (BRESL) and etc.

MEETING MEMO

Date	August 29 th , 2014	Time	11:15 am 12:15 pm
Organization	Ministry of Water and Power, Government of Pakistan. Venue: A-Block, Pak Secretariat, Islamabad.		
Department			
Attendances	MOWP: Ms. Samar Ihsan, Joint Secretary (Dev), Mr. Naveed, Section Officer ENERCON: Mr. Asad, Technical Manager EAD: Mr. Asghar Ali, Section Officer JICA Pakistan: Mr. Ozaki. Nippon Koei Company/JST: Mr. Kuroki, Mr. Hidehito, Mr. Ilyas and Ms. Amber.		
Obtained Documents	-NONE-		
Discussed	<p><u>Introduction and preliminary discussion.</u></p> <ul style="list-style-type: none"> ▪ At the very inception, Ms. Samar Ihsan, Joint Secretary (Dev) requested the participants to introduce themselves briefly, thereafter, she requested the participants to brief her on the update status of the Project. JST informed her that this Project is jointly carried out by JICA, World Bank and Asian Development Bank (ADB). JST further discussed the target of the formulation of Regulations, rules in order to implement MEPS and Energy Labeling System and also deliberated upon achieving the target within stipulated time i.e. 31st December, 2014. <p><u>Legal cover and Bill/Act discussion</u></p> <ul style="list-style-type: none"> ▪ JST requested Ms. Samar for update status of Energy Efficiency and Conservation Bill, she accordingly replied that as the Council of Common Interest (CCI) had approved the Bill on 29th May, 2013 which is presently tabled before the Parliament for further discussion and its approval within the shortest possible time but due to political turmoil in Islamabad it is difficult to get it approved in the ongoing Session and hoped it will get approval from the Parliament till Mid of October, 2014 perhaps. If not so, Presidential Ordinance will immediately be followed. ▪ Ms. Samar was briefed that this project was started in the month of June, 2014. Interim Report of EE&C Project was also submitted to Ms. Samar for feedback of Ministry of Water and Power within shortest possible time, she accepted and requested to provide soft copy of Interim Report which would soon be sent from ENERCON to her. She further assured to give necessary suggestion on it in upcoming week. ▪ JST asked question to Ms. Samar that kindly provide latest information regarding approval organization whether it is ENERCON, MOWP, Cabinet or any other organization. She replied that there are so many internal procedures within the Ministry of Water and Power, ENERCON, PSQCA, PCSIR, and Ministry of Science and Technology, ENERCON is the executing Agency for implementation of MEPS and Energy Labeling System in Pakistan. 		

Procedure and approval of MEPS and Energy Labeling System

- JST raised point and sought attention of the Ms. Samar that as the Energy Efficiency and Conservation Bill is under consideration before the Parliament for approval and thereafter Ministry of Water and Power will have to do working on MEPS and Energy Labeling System and this is very important and requires serious attention of Ministry of Water and Power and ENERCON to get it approved within shortest possible time. JST further wanted to know the procedures of MEPS and Labeling System, Mr. Asad succinctly explained that as this practice has already been done by various counterpart agencies in BRESL Project, therefore, it would be appropriate to have meeting with BRESL/UNDP in order to know actual procedures whatever they followed. Ms. Samar Ihsan also explained that ENERCON is under the Ministry of Water and Power, hence they would share information collectively with all the concerned agencies in order to facilitate the JST for achieving target within stipulated time.
- JST emphasized that MEPS and Labeling should be finalized by mid of October, 2014 in order to keep the deadline, the end of December, 2014 for enactment of the regulations of MEPS and Labeling but Ms. Samar stated that exact time and schedule would be given as and when Bill is approved by the Parliament. The each procedure with necessary time for enactment of MEPS and Labeling regulation (the rough road map) was asked to Ms. Samar, she assured to respond within short span of time along with the following.
 - i. The answers to the questionnaires
 - ii. The input and response to Interim Report

MEETING MEMO

Date	September 1, 2014	Time	01:00 pm 2:00 pm
Organization	ENERCON Venue: Avari Express Hotel, Islamabad.		
Department			
Attendances	ENERCON: Mr. Asad, Technical Manager Nippon Koei Company/JST: Mr. Kuroki, Mr. Hidehito, Ms. Samar, Mr. Ilyas and Ms. Amber.		
Obtained Documents	-NONE-		
Discussed			

Introduction and preliminary discussion.

- JST welcomed Mr. Asad, Manager Technical for his participation and lauded his efforts to come to Avari despite the political turmoil in Islamabad.

1). Confirmation of Statement on Interim Report

- At the very inception, JST asked Mr. Asad regarding the road map on MEPS and Energy Labeling System which was committed by the Managing Director during the meeting held on 28-08-2014 at ENERCON Office. Mr. Asad informed that he along with consultation of his team member has prepared the road map and also sent to the Managing Director for his approval prior to submission to JST but due to political turmoil in Islamabad, Ministry of Water and Power remained closed and hopefully he will send road map to JST by 03-09-2014 positively.
- Mr. Asad was asked by JST to let the JST know that how BRESSL Project selected the electrical home appliances for development of MEPS, he stated that after conducting feasibility study by Technical Working Group, these appliances were selected for regional harmonization.
- Mr. Asad further deliberated that in order to educate the people of Pakistan, the ENERCON has started various workshops/seminars in the four provinces. Main objective of the workshops/seminars are to (i) improving energy efficiency in electrical system, (ii) improving boiler operating efficiency and (iii) tub-well energy audits. Schedule of the workshops/seminars in all four provinces are mentioned below:

Workshop in Karachi: 8th, 9th and 10th September, 2014

Workshop in Islamabad: 11th, 12th and 13th September, 2014

Workshop in Peshawar:

Workshop in Lahore

- Mr. Asad was further asked to inform regarding preparation of MEPS and Energy Labelling System, he responded that Mr. Ali Raza Shah has prepared/drafted the MEPS and has also submitted to Parliament and to Ministry of Law and Justice for its presentation.

Mr. Asad was requested by JST to update the position of EE&C Bill which is tabled before the Parliament for its approval, he stated that as the Session of the National Assembly is going to be end on 5th or 6th September, 2014, therefore, the ENERCON can call back that Bill through its Legal Advisor for further submission to the Ministry of Water and Power for onward submission to the Honourable President of Pakistan for issuance of an Ordinance. He stated that the Presidential Ordinance is expected to be issued in the first week of October, 2014 if the draft bill is converted into Presidential Ordinance format before 2nd week of September. Mr. Asad also gave presentation of how to apply for registration of MEPS in ENERCON and also explained the entire procedures.

- Mr. Asad has also highlighted the barriers which are being faced by the ENERCON that includes the Ban on induction of officer, employment qualification, competitive salary, shortage of staff, ban of recruitment by the Government of Pakistan were discussed in details.
- On question of JST, Mr. Asad stated BRESL Project in collaboration with Engineering Development Board (EDB) is going to arrange one or two days workshop in Gujranwala wherein various people would likely to participate that include the general consumers, manufacturers, technical experts and speaker of different companies.

MEETING MEMO

Date	September 1, 2014	Time	2:00 pm 3:30 pm
Organization	Joint Meeting with UNDP, BRESL's, JICA & ENERCON Venue: Avari Express Hotel, Islamabad.		
Department			
Attendances	BRESL: Ms. Tamana Banuri, Mr. Jamil Ahmed ENERCON: Mr. Asad, Technical Manager UNDP: Usman Manzoor Nippon Koei Company/JST: Mr. Kuroki, Mr. Hidehito, Ms. Samar, Mr. Ilyas and Ms. Amber.		
Obtained Documents	-NONE-		
Discussed	<p><u>Introduction and preliminary discussion.</u></p> <ul style="list-style-type: none"> ▪ The main discussion on the meeting was on the questionnaire prepared for UNDP by JICA Study Team (JST). <p><u>1). Confirmation of Statement on Interim Report</u></p> <ul style="list-style-type: none"> ▪ The expert from BRESL's project Mr. Jamil informed that the process of selection and proposing the appliances that includes washing machines, refrigerators, tv set, electric oven electric iron and electric water heater is recommended by the Steering Committee of BRESL's project based in China. ▪ On the approval process related to Draft MEPS, BRESL's Expert informed the JICA team that Technical Committee and National Standards Committee under PSQCA are the main authority for approval of Draft MEPS (scientific aspect other is implementation). In addition, they informed that in order to meet the deadlines i.e 31st December, 2014, ENERCON and BRESL's Project Team can make request to the PSQCA for holding meeting of Technical Committee as well as National Standards Committee earlier than expected date scheduled date in 10-14 days notice. PSQCA's National Standard Committee is very cooperative in this regard and they will facilitate the process if the request is made by ENERCON for arrangement of an additional meeting for approval of MEPS by PSQCA. ▪ Regarding the current time schedule for the Technical Committee and National Standard Committee BRESL's team has to confirm scheduled meetings of Technical Committee and National Standards Committee of PSQCA and have to inform the ENERCON and JST team as soon as possible (ENERCON should request to Ministry of Science and Technology for arrangement of an additional meeting of Technical Committee and National Standards Committee by PSQCA simultaneously as soon as possible). <p><u>2). UNDP monitoring:</u></p> <ul style="list-style-type: none"> ▪ UNDP is part of the National Standards Committee that approves the draft MEPS. To meet the 		

timelines UNDP, ENERCON and BRESL's experts work together as a team to meet the tight deadlines with Mr. Ali Raza Shah who is Incharge of drafting MEPS in ENERCON.

- The scope of targeted appliances is selected through the Steering Committee assisted by the Chief Technical Advisor after conducting feasibility study by all 6 Regional Countries **based in China**.

3). **Testing Facility/LABS:**

- Feasibility of selecting technical facility in any other country depends if its economically feasible to send the appliances abroad for testing. Because of transaction cost external regional testing facility may not be good option. Second option could be to bring the testing standard equipment to Pakistan and testing could be carried out in the country. Mr. Jamil explicitly highlighted and stated that if we want to get tested any electrical home appliance from another country, we may request them in this regard and they will establish their all testing equipment in Pakistan in order to test the appliances but due to paucity of time it could not be materialized at this stage.
- In order to choose the facility in any other country, Pakistan Council for Scientific and Industrial Research (PCSIR) needs to be on Board to approve the testing from abroad provided that ENERCON agrees to do that.
- BRESL's Team further discussed and informed that in Pakistan, only two manufacturers (Haier Group, Lahore and Dawlance Group in Karachi) are having testing labs for refrigerator but both of them do not meet the International Standards according to BRESL Team.

4). **Mandatory and Voluntary MEPS:**

- Mr. Hidehito requested the BRESL Team and UNDP participants regarding status of MEPS whether mandatory or voluntary. He further discussed that if there is requirement of World Bank and Asian Development Bank for mandatory MEPS what are the procedures and their implementation status. Pertinently, it was discussed that as the World Bank has not yet fixed any criteria regarding volunteer or mandatory MEPS, therefore, the ENERCON should consult this issue with the Focal Person of World Bank. Mr. Jamil accordingly replied that currently the MEPS are voluntary as far as the BRESL Project is concerned and if the EE&C Bill is approved by the Parliament or issued an Ordinance by the President, all volunteer MEPS will be converted into mandatory. Mr. Jamil, however, stated that as and when the EE&C Bill is approved by the Parliament or an Ordinance is issued by the President, the volunteer MEPS of BRESL Project will be converted into mandatory after 2 years. the change will be made gradual from voluntary to mandatory. It will backfire if the government imposes mandatory MEPS abruptly rather than through gradual process.
- ENERCON will organize awareness programs which will have impact in the market.

5). **Legal Institution:**

- Under the EE&C Bill/Act, ENERCON will be the executing Agency of MEPS and will have sole

authority to implement the MEPS and Energy Labeling System strictly in true letter and spirit.

Mr. Jamil further deliberated that there are numerous Consumer Courts in Pakistan for redressal of public grievances against the manufacturers.

- According to deliberations of BRESL Team, there are numerous technical barriers which needs to be resolved.
- The issue of Free Trade Agreement with China was also discussed. It was noted that due to this agreement between Pakistan and China, China has been able to export substandard products like CFL's and LED's. The import of substandard products should be banned in order to promote energy efficiency products. It was suggested by Mr. Asad from ENERCON that perhaps through the Ministry of Foreign Affairs this matter could be addressed, but its still complicated.

6). BRESL's Second Phase:

- It was stated by Mr. Jamil, BRESL's expert that the second phase of BRESL project will be coming soon. In the second phase they will focus on the targeted appliances i.e. Washing Machine, TV Set, Electric Oven, Electric Iron, and Electric Water Heater as already identified/recommended by Steering Committee of BRESL Project.

7). World Bank:

- There is still confusion who is exactly the focal point at the World Bank and ADB.

MEETING MEMO

Date	September 3, 2014	Time	1:00 pm 3:15 pm
Organization	Meeting with UNDP, BRESL's, JICA Survey Team Venue: Best Western Hotel, Islamabad.		
Department			
Attendances	BRESL: Mr. Jamil Ahmed Nippon Koei Company/JST: Mr. Kuroki, Mr. Hidehito, Ms. Samar, Mr. Ilyas		
Obtained Documents	-NONE-		
Discussed	<p>(1). BRESL Project's MEPS voluntary or mandatory:</p> <p>On question of JST, Mr. Jamil, informed that as and when the EE&C Bill is approved by the Parliament or an Ordinance is issued by the President, MEPS of BRESL Project will be voluntary for 3~5yeras subject to the implementation status depending on the appliances and the Project Steering Committee of BRESL which is the highest form for decision making for BRESL Project. The committee consists of:</p> <ul style="list-style-type: none"> ✓ MoWP (Secretary) & ENERCON ✓ Ministry of Industry ✓ Ministry of Commerce ✓ Ministry of Science and Technology <p>(2). Information with regard to PSQCA:</p> <p>JST requested Mr. Jamil for sharing information regarding PSQCA.</p> <p>Mr. Jamil stated that PSQCA is a National Standards Body mandated to develop national standards and have formed various technical committees (mechanical, electrical, hazardous materials, for lighting depending upon the appliances) in order to review and examine the draft of MEPS for its onward recommendations to National Standards Committee for final approval) that comprises on representatives from public sector institutions, private sector institutions and from industrial sector institutions. He further stated that PSQCA normally adopts the International Standards, i.e. International Electrotechnical Commission (IEC) and ISO. PSQCA is to approve MEPS drafted by ENERCON and such approved MEPS will be National Standards after reviewing and evaluating by Technical Committees, e.g. Electrical and Electronic Committees.</p> <p>(3). Selection of Target appliances:</p> <p>On request of JST, Mr. Jamil discussed and informed that Project Steering Committed has already recommended 6 home appliances for the first phase of BRESL Project and also recommended 6</p>		

additional home appliances for the second phase as follows:

6 appliances (first phase)

- ✓ Fans
- ✓ CFL
- ✓ Magnetic & Electronic Ballast
- ✓ Electric Motors
- ✓ Air conditioners
- ✓ Refrigerators

(Rice cooker: cancelled because of NA in Pakistan)

The second phase of BRESL Project will start mid of 2015.

6 + appliances (second phase)

- ✓ Washing machine
- ✓ Refrigerators
- ✓ TV set
- ✓ Electric oven
- ✓ Electric iron
- ✓ Electric water heater
- ✓ Computers (laptop and PC both)
- ✓ Instrument transformer

He stated that JST can choose any of three home appliances whatever they like among the six proposed by BRESL Team.

(4). Testing facility for MEPS:

JST discussed the present situation of Japan regarding development of MEPS for Washing Machine and stated that washing machine in general is very complicated regarding MEPS and Labelling because the judgment of cleanliness after washing is differ from inspectors. JST further stated that how and why BRESL Project proposed/selected the washing machine for their second phase. Mr. Jamil replied that after approval of Project Steering Committee of BRESL, they will have to include the washing machine into their second phase as it is the most used home appliance in Pakistan.

On question of JST, Mr. Jamil stated that Pakistan does not have testing facility for certain electrical home appliances, thus, these appliances can be tested outside the country such as Japan, Korea, and Australia. PSQCA does not have objection for testing outside the country. However, the test oversea is not recommend because of the transportation time loss and cost including testing fees and etc.

(5) Standardization in the member countries of BRESL

According to Mr. Jamil there are six countries included in BRESL project for standardization. The appliances include:

- ✓ Motors and Rice Cooker for China,
- ✓ CFL for Indonesia and
- ✓ Fans for Pakistan

for development of testing procedure and development of MEPS in order to promote regional harmonization. Every country is based on the Basic Reference Standards for International Standards.

JST asked question that how do you know the 12 appliances are potential. Mr. Jamil stated that Regional Project Steering Committee of Regional Project Management Unit (RPMU) proposed/recommended six appliances in the first phase and other more than six appliances in the second phase.

As an evidence of potential appliances, Mr. Jamil stated that inception paper of the BRESL project identifies the potential appliances.

JST asked question that in case of Pakistan for MEPS of Fans, who does test on Fans. Mr. Jamil stated that PCSIR does, but only technical testing with the various technical committees organized within PSQCA and ENERCON but without any assistance from any donors for technical aspects.

(5). Other than technical aspect:

JST requested Mr. Jamil to provide information and name of organizations other than the technical aspect. Mr. Jamil responded that there are some organization workings relating to following which include Ministry of Industry and Production, Engineering Development Board (EDB). He further highlighted the status of production of Fans in Pakistan as follows:

- a) Product Standers in Pakistan (use of quality).
- b) Penetration level. Thereby energy consumption being used by Pakistani citizens.
- c) 44 million Fans are being used in Pakistan.

d) BRESL Project targeted the Fan MEPS as this appliance is potential to conserve the energy

(6). Deadline of MEPS and Energy Labeling System:

JST informed Mr. Jamil that 31st December, 2014 is deadline to develop MEPS and may be same deadline is to be achieved by BRESL Project as well and requested him to know how BRESL Team will meet the deadline. Mr. Jamil replied and stated that BRESL Project has achieved 95% target. Only two activities are left i.e. development of MEPS for refrigerator and collection of data of energy labelled products to ascertain the level of energy efficiency.

(7). Documents to be supplied by Mr. Jamil with shortest possible time.:

Mr. Jamil will supply to JST documents below.

- a) Latest draft of MEPS of BRESL Project.
- b) Detail presentation of target achieved and left over by BRESL project.
- c) GIZ report (F/S)
- d) Constitution of Project Steering Committee specifically for BRESL Project.
- e) Inception paper of the BRESL project

MEETING MEMO

Date	September 9 th , 2014	Time	11:00 am 12:45pm
Organization	ENERCON Building, G-5, Islamabad. Conference room		
Department			
Attendances	<p>11:00~12:45</p> <p>ENERNON: Mr. Noman Rafiq, Company Secretary, Mr. Jamil Ahmed Chaudhary, BRESL Project.</p> <p>JICA Pakistan: Mr. Ozaki.</p> <p>Nippon Koei Company/JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Ilyas and Ms.Samer,</p>		
Obtained Documents	-NONE-		
Discussed	<p><u>Policy Matrix by ADB WB JICA</u></p> <ol style="list-style-type: none"> 1. For the reference of ENERCON and BRESL, JST reviewed the policy matrix issued by International Donors i.e. ADB, WB and JICA as follows: <ol style="list-style-type: none"> 1) Deadline of the implementation: 31 December, 2014/ 2) MoWP issues regulation (s) on <ol style="list-style-type: none"> (a) MEPS for at least 3 energy intensive consuming appliances or technologies, and (b) Appliance labeling. 2. Mr. Noman replied that international donor agencies have written correctly but until the Energy Efficiency and Conservation Bill, 2014 is approved, they cannot make regulations. <p>He further clarified that ENERCON can issue regulations after approval of Act on behalf of MoWP.</p> 4. As there is no regulation on ES&L to be issued by MOWP at the moment, JICA will propose to replace the word “regulations” with “guidelines” in the policy matrix to enable MOWP to clear the requirement in the policy matrix. <ol style="list-style-type: none"> (a) JST asked if BRESL/ENERCON have already developed standards of 5 electrical home appliances that have also been approved by PSQCA and now called Pakistan Standards (PS). (b) Mr. Noman in collaboration of Mr. Jamil stated that as these standards have been developed without any legal act, hence, did not have regulations but they have prepared guidelines which were approved by Government of Pakistan through its highest policy making committee i.e. Project Steering Committee. 		

Three Additional Appliances by JICA Program & Market Survey

5. JST informed the work of JST and stated that JST will identify 3 additional electrical home appliances for development of ES&L (MEPS and Labeling) amongst more than 15 appliances which had already been selected by BRESL Project.
6. JST informed the participants that JST has been conducting the interview on market survey and household survey including industries, commercial areas in Lahore, Islamabad and Karachi. Through the results from the surveys, JST would be able to identify 3 additional appliances for development of ES&L.

JST further highlighted the importance of Project Stakeholder Coordination Committee (PSCC). Mr. Noman stated that during the meetings of PSCC, all stakeholders deliberated upon the standards and initially they resisted not to develop or adopt such standards, because Fan Industry is the major industry in Pakistan and almost 90% are the lower manufacturers, cottage factories. They could not survive if regulated.

After various meetings with manufacturers, BRESL was able to convince them for development of ES&L for Fans that has been developed, approved and now being launched to the manufacturers for introduction.

ES&L Implemented by the assistance of JICA Program

6. JST briefed that JST is to assist the ENERCON in order to develop ES&L of 3 additional electrical home appliances.

JST deliberated upon the procedures and stated that as 3 additional appliance identified by JST will be under ENERCON's supervision. JST asked how long will it take for approval.

Mr. Noman in collaboration of Mr. Jamil stated that Managing Director, ENERCON is fully competent authority to approve.

MoU between JICA and ENERCON/MOWP

7. But first, JICA and MoWP/ENERCON must sign an agreement, i.e. Memorandum of Understanding, thereafter Managing Director can constitute Steering Committee asking the various stakeholders to join the Steering Committee. Members generally include ENERCON, PSQCA, PCSIR and other members.

Regulations & Guidelines/Technical Regulations

8. On question of JST, Mr. Jamil informed that the guidelines prepared by BRESL project do not require approval of any other organization rather these guidelines were approved by the National Project Director of BRESL after evaluation of BRESL Team. He further stated

whoever is the Managing Director of ENERCON carries the position of National Project Director of BRESL as well.

He further stated, therefore, that guidelines prepared by BRESL Project were ultimately taken as if issued by Ministry of Water and Power and authorized and guaranteed by Government of Pakistan.

On question of JST, Mr. Jamil stated that standards of the 5 electrical home appliances approved by PSQCA are not having 'Regulations' under legal framework but can say 'Technical Regulations'.

Voluntary or Mandatory

9. Since 2010, the industry, manufacturers and factories were very much reluctant for ES&L. JST asked question that when the BRESL Project selected voluntary basis to be adopted, how did you manage the stakeholders? He replied that there had been various meetings of PSCC 'consultative meetings' with the relevant industry, manufacturers and had frequent visits in order to convince them for adoption of ES&L to listen to their ideas and intention. PSCC was having interactive meetings with concerned thereafter the Project Steering Committee discussed and approved voluntary ES&L with consultation of stakeholders

Mr. Jamil in collaboration of Mr. Noman stated that it is not necessary to promote the voluntary ES&L into mandatory even the Bill is passed because after approval of bill and constitution of PEECB, they will have to make survey of the market in order ascertain the current position of the manufacturers. The Act empowers the ENERCON to make ES&L mandatory if it is necessary.

JST asked the SRO which was issued in the year may be 2009 or 2010. It was issued, but due to personal involvement of Deputy Prime Minister of Pakistan on request of the Fan manufacturers it was cancelled. Mr. Jamil stated that there a SRO issued by the Ministry of Science and Technology, Government of Pakistan for quality standards of Fans but was not for development of mandatory MEPS. On request of participant, Mr. Jamil informed that the BRESL Project was established in January, 2010 in order to develop MEPS.

To Change Title of the Documents on ES&L

10. JST stated that in the policy matrix it was written MEPS and Energy Labeling but BRESL's document is indicated only for Labeling and separately for MEPS.

Mr. Jamil informed that title of the first page can be changed upon submission of recommendations by JST while giving the reasons to do so. He further stated that Managing Director of ENERCON can change the title page, he can also forward recommendations/suggestion of JST to Steering Committee in order to make deliberations

thereupon for change of title page.

Mandatory & Voluntary (2)

11. Once again JST asked the question and stated that International Donors may ask for mandatory MEPS and as ENERCON is working on voluntary MEPS. Are there any such document/minutes of the meeting wherein voluntary MEPS were selected?

Mr. Noman in collaboration with Mr. Jamil informed that they had number of meetings with the manufacturers and more than 90% are the small manufacturers and they knew they could not afford to establish factories etc. with consideration EE&C. In addition, they were also focusing on economic conditions of people as if these standards were mandatory, it could have created massive unemployment.

JST stated that in case of voluntary MEPS, the consumer is also important which cannot be neglected in terms of provision of good quality appliances. Mr. Noman in collaboration of Mr. Jamil stated that the BRESL Project is going to launch awareness campaign through the following:

- (a) Electronic media,
- (b) Print media and
- (c) Seminars in order to educate the consumers and masses.

He further stated that they are in process of signing an Agreement with WWF (World Wide Fund for Nature: International NGO) in order to educate children, students studying in schools, colleges, and universities of throughout Pakistan but labeling is missing in the booklet of WWF which will be covered in future plan. He further highlighted the components of this campaign as follows:

- (a) Policy making
- (b) Manufacturers support program.
- (c) Regional Cooperation
- (d) Consumers awareness program

Mr. Jamil will provide the details of the components.

Road Map for Sub-Standard Products

12. JST raised point that after launching of MEPS, the substandard products should disappear but how will BRESL/ENERCON manage? Mr. Noman replied that in the voluntary scheme of MEPS, manufacturers will apply label and the ENERCON will see that how many manufacturers converted inefficient appliances into efficient appliance and vis versa. Most importantly he stated that planning of mandatory MEPS is under considerations and all the manufacturers in Pakistan know one day voluntary MEPS have to be mandatory.

MEETING MEMO

Date	September 9 th , 2014	Time	13:00 am 13:30pm
Organization	MOWP: Building, Room of Additional Secretary		
Department			
Attendances	<p>13:00~13:30 ENERCON (Managing Director: MD), MOWP (Additional Secretary) Mr. Sohail</p> <p>JICA Pakistan: Mr. Ozaki. Nippon Koei Company/JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Ilyas and Ms.Samer,</p>		
Obtained Documents	-NONE-		
Discussed			
<u>Policy Matrix by ADB WB JICA</u>			
<p>1. JST reviewed for the policy matrix issued by International Donors i.e. ADB, WB and JICA as follows:</p> <ol style="list-style-type: none"> 1) Deadline of the implementation: 31 December, 2014/ 2) MoWP issues regulation (s) on <ol style="list-style-type: none"> (a) MEPS for at least 3 energy intensive consuming appliances or technologies, and (b) Appliance labeling. <p>2. There is no regulation: Proposal of replacement of ‘Regulation’ to ‘Guideline’ (see below)</p> <p>3. Improve the title of the ES&L documents (see below)</p> <p style="color: blue;">MD understands the requirement by ‘Policy Matrix’.</p>			
<u>Propose to replace ‘Regulation’ to ‘Guideline’</u>			
<p>4. As there is no regulation on ES&L to be issued by MOWP at the moment, the word “regulations” should be proposed to be replaced with “guidelines” in the policy matrix to enable MOWP to clear the requirement in the policy matrix.</p> <p>MOWP is to issue ‘Guidelines’, which is already authorized as the National Standard by PSQCA through the approval by the highest policy making committee i.e. Project Steering Committee.</p> <p style="color: blue;">MD understood and agreed.</p>			

MOU between JICA and ENERCON/MOWP

5. JICA and MoWP/ENERCON must sign an agreement, i.e. Memorandum of Understanding, thereafter Managing Director can constitute Steering Committee asking the various stakeholders to join and authorize.
6. MD agreed the following:
 - (a) JST is to identify and propose the three appliances by 25 September, 2014
 - (b) JST is to draft MOU to submit to MD by 30 September, 2014
 - (c) ENERCON will organize to have authorization by MD by 31 October, 2014

Road Map (1) Three Appliances by JICA Scheme

6. JST is to draft Road Map for 3 appliances to be developed as ES&L scheme.
7. The draft of Road Map is to be authorized along with Policy paper (Green).

MD understood and agreed.

To Correct Title of the Documents on ES&L

8. JST stated that in the policy matrix it was written MEPS and Energy Labeling but BRESL's document is indicated only for Labeling and separately for MEPS in guideline.
9. JST proposed to use the terminology of 'MEPS and Labeling' instead 'MEPS' either 'Labeling' for the whole documents under ES&L scheme.

MD understood and agreed to ensure and convince the international donors to recognize ES&L as well done.

The Third Visit by JST

10. JST informed the schedule of the third visit will be during 20 October for three weeks. If necessary, it is scheduled in early December for one week.
11. The demarcation of the tasks between JST and ENERCON should be clarified each other.

MD understood and agreed

Road Map (2) for Sub-Standard Products

12. JST raised point that after launching of ES&L scheme, the substandard products should disappear from the market.
13. Since there is no planning of conversion process from inefficient products to efficient products, MD agreed ENERCON will draft the road map and discuss to be authorized by PSC.

Road Map (3) and Answers to Questionnaires

The following are agreed by MD.

14. Road Map (3) and the questionnaires requested at the first meeting with MD on Thursday, 28 August, 2014 are to be provided from Mr. Asad.

Road Map (3) will refer the prospect of Presidential Ordinance as the alternative to EE&C Bill and related affairs to be scheduled as well.

Mr. Jamil will provide the details of the components.

MEETING MEMO

Date	October 27 th , 2014	Time	3:00 pm to 5:00 pm
Organization	BRESL's, UNDP, JICA Venue: Best Western Hotel, Islamabad.		
Department			
Attendances	ENERNON: Mr. Jamil Ahmed Chaudhary, BRESL Project, Ms. Tamana Banori – BRESL's Project, JICA Survey Team (JST): Mr. Norio Fukushima, Ms. Amber Pervaiz and Mr. Muhammad Ilyas		
Obtained Documents	-NONE-		
Discussed	<p>JST informed the BRESL's team about timeline of 3rd mission. The hard copy of draft progress report was shared with the BRESL Team. JST and BRESL Team discussed about the technical matters other than registration and EE&C Bills.</p> <p><u>1. Research of EE&C Awareness</u></p> <p>JST elaborated on the method of collecting data through interview of household and buildings in Karachi, Lahore and Islamabad with professional Research Company. Data analysis work of energy consumption of each home appliance is under being conducted by JST. BRESL Team commented that appliance wise power consumption data in household sector is not reported so much and it is very useful.</p> <p><u>2. Research of specifications of electrical appliances</u></p> <p>Next JST explained that the market survey of the retail shops in Karachi, Islamabad and Lahore that were also conducted to collect the data of the kind, specifications and manufacturers of appliances.</p> <p><u>3. Review of draft MEPS for fans</u></p> <p>1) Scope</p> <p>JST recommended that fans of small capacity are to be out of scope. BRESL Team didn't accept JST recommendation at present because the standard was approved by PSC. However BRESL Team will consider this matter at the review of standard after 2 years of start of implementation.</p> <p>2) Equipment and standard for measurement</p>		

BRESL Team informed that testing facilities are in PCSIR-Lahore and other manufacturing factories of fans.

4. Review of draft MEPS for CFLs

1) Scope

JST recommended that CFLs of 3W and 4W are to be out of scope. BRESL Team didn't accept JST recommendation at present because the standard was approved by PSC. However BRESL Team will consider this matter at the review of standard after 2 years of start of implementation.

2) Regulation values

JST recommended that the criteria of MEPS are to be lifted in future. BRESL Team agreed to the recommendation.

5. Review of draft MEPS for Motors

1) Scope

JST recommended that energy labels for motors are not necessary because of establishment of international standard IEC60034-30-1 for high efficiency motors. And also JST recommended that the scope of capacity of motors is to be covered to 55 kW, if labeling program is applied. BRESL Team didn't accept JST recommendation at present because the standard was approved by PSC. However BRESL Team will consider this matter according at the review of standard.

2) Regulation values

JST asked to show the star-rating labeling rule of high efficiency motors, but BRESL Team didn't explain in detail. BRESL Team agreed to grant the labels to imported high efficiency motors with test reports.

JST recommended that indications of IE1, IE2 and IE3 of MEPS are to be changed to other indications at initial stage, because efficiency values of high efficiency motors at initial stage are lower than that of standard motors IE1 of international standard. If not so, imitation of high efficiency motors are manufactured in Pakistan. BRESL Team commented to consider the change of indication of rating at initial stage.

3) Equipment and standard for measurement

BRESL Team informed that testing facilities are not installed in Pakistan. BRESL

Team expects that PCSIR introduces testing machines of motors.

6. Testing capacity and measures

BRESL Team recognized that testing capacity of performance is not sufficient. According to BRESL Team, the exchange of energy labels of other countries were discussed about CFLs and fans among Pakistan, Bangladesh and Indonesia, but this matter was not realized yet.

BRESL Team further informed that there is a possibility that the Government authority and Haier Company may join hands to have a joint technical laboratories and testing facilities. This collaboration proposal is to maximize the use of existing resources and raise the standards of the existing laboratories to the international level.

7. Other comments from BRESL

In the end, JST requested the BRESL's team to review the report and provide us with their comments and inputs.

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MEETING MEMO

Date	October 31 st , 2014	Time	10:30 am to 11:30 noon
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERCON: Mr. Asad Mehmood, Technical Manager, Mr. Mansoor, Administrative Officer, and Mr. Ali Raza Shah, In charge Labelling Section. JST: Mr. Norio Fukushima, Mr. Muhammad Ilyas, and Ms. Amber Pervaiz		
Obtained Documents	-NONE-		
Discussed	<p>1. <u>Introduction and preliminary discussion.</u></p> <p>The ENERCON focal person welcomed the JICA Study Team in ENERCON Building and introduced them Mr. Mansoor, Administrative Officer of ENERCON and Mr. Ali Raza Shah, Incharge Labeling Section of ENERCON.</p> <p>Mr. Asad asked JST to conduct technical transfer about the following items:</p> <ol style="list-style-type: none"> 1) Development of energy labeling and MEPS program in Japan 2) Assessment of energy labeling and MEPS program of BRESL in Pakistan <p>2. <u>Technical Discussions (MEPS and Energy Labeling):</u></p> <p>At the outset, JST shared the Technical Transfer Report to all the participants and briefly discussed the following points while making comparison of Pakistan MEPS and Labeling System with the Japan MEPS and Labeling System:</p> <p>2.1 Energy Labeling & MEPS Program: JST explained that the MEPS was developed in USA about 30 years ago* in order to protect consumers from buying low efficiency products. The Japan also adopted the same parameters. (* National Appliance Energy Conservation Act was enacted in USA in 1987.)</p> <p>2.2 Energy Labeling Program in Japan: JST informed that MEPS are mandatory in Japan, whereas, the Energy Labeling program is voluntary. Endorsement label and comparable label systems are implemented. Energy labels are appended by retail shop.</p> <p>2.3 Top Runner Program in Japan: JST explained the Japanese MEPS; multistage rating. Further discussed that five stars is the best label. The Ministry of Economic, Trade and Industry (METI) had been established to focus on energy efficiency and they have continuously been interacting the manufacturers and importers directly.</p> <p>2.4 Review of MEPS of Fans in Pakistan: Discussed the activities of BRESL for development of MEPS of Fans in Pakistan.</p> <p>2.5 Review of MEPS of Motors in Pakistan: Discussed the activities of BRESL for development of motors</p>		

in Pakistan.

2.6 Review of MEPS of CFL in Pakistan: Discussed the activities of BRESL for development of CFL in Pakistan

2.7 Selection of additional 3 electrical home appliances: JST is considering the following to select as additional 3 electrical home appliances for development of MEPS.

- a) Refrigerator.
- b) Color Television Set
- c) Tubular Fluorescent Lamps

3. Top Runner and Energy Labeling Program in Japan:

On question of Mr. Fukushima, Mr. Ali Raza Shah explained that he knows the Top Runner Program which is being carried out in Japan and he also joined JICA training course of energy conservation by ECCJ in Japan last year. JST stated that Japan is having experience for 20 years in energy labeling program while the ENERCON does not have sufficient experience comparatively, so that ENERCON may get experience from Japan.

4. Legislation:

JST asked to progress the legislation of energy labeling program by EE&C Acts or issuance of Presidential Ordinance. Mr. Mansoor is a Director in charge of registration of EE&C Act from 6 years ago and now wait for instruction of MoWP for registration of energy labeling program..

5. ENERCON organization:

ENERCO makes effort to increase officers.

JST asked what umbrella organizations ENERCON had for implementation of energy labeling program and other energy conservation measures such as Japanese organization of METI and ECCJ. ENERCON answered to have no sub-organization.

6. Next meeting

Next meeting is held with JST and ENERCON at 11AM on 6 November. Attendants of ENERCON are Mr. Mansoor and Mr. Ali. Mr. Asad is going out of office from 5 to 7 November.

MEETING MEMO

Date	October 31 st , 2014	Time	11:30 am to 12:00 noon
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERNON: Mr. Asad Mehmood, Technical Manager, JST: Mr. Norio Fukushima,		
Obtained Documents	-NONE-		
Discussed	<p>1. <u>Comments of ADB on 27 Oct.</u></p> <p>Fukushima informed Mr. Asad that JST got discussed commented items with Mr. Jamil of BRESL on 30 October.</p> <p>2. <u>MEPS of CFLs</u></p> <p>Fukushima recommended to delete Equation-1 because of exception of duplication of Table 2.</p> <p>3. <u>Star-rating label of AC induction motors</u></p> <p>MEPS of AC induction motors is drafted by BRESL and not approved in PSC, because new MD of ENERCON is not nominated. Star-rating label of motors will be drafted until next PSC.</p> <p>4. <u>Joint Committee on energy labeling program with ENERCON, JST and BRESL</u></p> <p>Mr. Asad proposed to hold Joint committee on technical discussion and implementation of energy labeling program with ENERCON, JST and BRESL in next week or later. If not possible, a meeting with e-mail like a chat was proposed by Mr. Asad. JST agreed to join the Joint Committee.</p>		

MEETING MEMOneru

Date	October 31 st , 2014	Time	4:00 pm to 5:00 pm
Organization	USAID & JICA Venue: JICA Office, Serena Business Complex, Islamabad		
Department			
Attendances	USAID: Michael R.Curtis, Director, Office of Energy; Ross Hogan, Director, Office of Infrastructure and Engineering; Imran Ahmed, Program Management Specialist, Office of Energy JICA Survey Team: Mr. Norio Fukushima, Ms. Amber Pervaiz and Mr. Muhammad Ilyas		
Obtained Documents	-NONE-		
Discussed			
<p><u>1. Briefing of JICA Project</u></p> <p>JST briefed the USAID team about support of ENERCON for establishment of MEPS and energy labeling program to perform the JICA, ADB and WB Program Loan. JST provided a copy of Energy Efficiency Draft Progress Report to USAID team. JST also briefed about the market survey in retail shops and manufacturers and the household interview survey on use of appliances.</p>			
<p><u>2. CLASP by USAID</u></p> <p>JST requested the USAID team to give JICA a brief introduction about USAID's "<u>Collaborative Labeling and Appliance Standards Program</u>" (CLASP). USAID team answered that CLASP is finished until 2010 and nobody explains the details of CLASP now. JST requested USAID team to provide reports and other documents of CLASP. USAID team provides the documents to JST next week.</p>			
<p><u>3. USAID activities for energy sector</u></p> <p>The activities related to energy sector in Pakistan are rehabilitation of Hydro and thermal power plant projects in Pakistan, working with DISCO's, NEPRA, NTDC etc. Besides that USAID also provides assistance related to the Government of Pakistan on energy policy making as well.</p> <p>USAID is now exploring the private sector investment because more sustainable model for energy efficiency and private investments are the key for such programs.</p>			
<p><u>4. USAID activities for demand side</u></p> <p>1) USAID has done project for the support of tube-wells and water pump motors by change</p>			

of motors.

2) USAID studied testing facilities in Pakistan for the appliances, but USAID didn't provide testing facilities to Pakistan.

3) USAID studied GRID's performance caused by low power factor of CFLs. JST also studied influence of power factor of CFLs in Indonesia.

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MEETING MEMO

Date	November 6 th , 2014	Time	11:30 am to 01:00 p.m
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERNON: Mr. Asad Mehmood, Technical Manager, Mr. Mansoor, Administrative Officer, and Mr. Ali Raza Shah, Incharge Labelling Section/Deputy Chief. BRESL: Ms. Tammana Banori JST: Mr. Kuroki Hideakki, Mr. Norio Fukushima, Mr. Muhammad Ilyas, and Ms. Amber Pervaiz		
Obtained Documents	STATUS OF VACANT POSITIONS		
Discussed	<p><u>Presentation of item of letter:</u></p> <p>JST explained the item of letters. And, amended and added parts from draft letter at last week are clarified.</p> <p><u>Importance and deadline of letter:</u></p> <p>JST explained the participants that the amendment letter is not only prepared on the idea of JST but also with the consultation of JICA, ADB, and WB. JST further informed that these international donors think strongly that ES&L scheme must be established rapidly with effectiveness.</p> <p>As 1st topic, JST pointed out that recipient must be clarified as soon as possible.</p> <p>As 2nd topic, JST pointed out that All proposals of letter must be considered at responsible organization, and for example PSC shall be hold. On question, Ms. Tammana Banori NPC of BRESL Project informed that meeting of PSC can be arranged but only after the appointment of M.D as the M.D is the National Project Director of BRESL Project. However, before completion of BRESL Project, a meeting of PSC will definitely take place sooner or later.</p> <p>As 3rd topic, JST informed that Dead-line to complete suggestion is 31st December, no more time left.</p> <p>As 4th topic, Despite to face difficulties, e.g. no more time left, vacant post of M.D., international donors request to do it with ENERCON's full strength. If not, they may not accept ENERCON's fruits regarding policy action.</p> <p>Mr. Mansoor in collaboration with Mr. Asad stated that the JST has to convey all suggestions to MoWP. They further informed as there is no Managing Director to whom JST may send letter, therefore, as a interim arrangement, the amendment letter may be sent to the Secretary, MoWP in the present scenario.</p> <p><u>Decision of additional three appliances:</u></p> <p>Fukushima San explained the method of choosing three additional appliances and stated that in agreement of ENERCON and JST, following appliances have been selected as additional three:</p> <ol style="list-style-type: none"> i. Refrigerator. 		

- ii. Color Television Set
- iii. Tubular Fluorescent Lamps.

On selection of above appliances, Mr. Asad stated decision maker is MD, today's participant from ENERCON do not have authority to approve this suggestion. JST understood this issue must be put before the Secretary, MoWP, the same as JST letter.

Combine meeting of JST, ENERCON and BRESL Team:

It was decided that a combine meeting of JST, ENERCON and BRESL will be held in ENERCON Building on 10th November, 2014 in order to discuss the energy labeling programme.

JST informed that international donors meeting will hold on 11th or 12th November. And, it is better to have the combined meeting prior to donors one.

Mr. Asad will coordinate, the time, and nominated person.

New ENERCON's Budget and Human Resource:

JST requested the participants to provide the new ENERCON's budget plan. Hopefully, they will provide draft budget plan.

JST further requested the participants to provide the new ENERCON's human resource plan. And, JST pointed out that human resource regarding ES&L section must be decided based on relation between assumption of number of application and the time for treatment of application. Mr. Mansoor informed that Mr. Ali Raza Shah is the Incharge of Energy Labeling Section of ENERCON. They will also take all activities of BRESL Project after its completion. Mr. Mansoor also provided sanctioned strength of staff of ENERCON showing the vacant positions and filled in positions. (ENERCON shared the document 'STATUS OF VACANT POSITIONS')

JST will suggest the appropriate budget and human resource regarding ES&L, if current plan is not sufficient to implement ES&L scheme.

License renewal:

JST requested the participants to give the reasons that why is license renewal period has been set 2 years; why not 3 years or other years despite that fact that Section 12.1 of EE&C Act explicitly says that 'granted initially for one year' but later mentioned in Section 12.2, 'License renewal fee will be Rs.20,000/- for renewal for two years'. Mr. Asad responded and stated that as it entirely relates to BRESL Project, so it would be appropriate to take this matter with BRESL Team during upcoming combine meeting which will be held on 10th November, 2014.

Development of EE&C Awareness in Philippine:

JST discussed that JICA has already suggested EE&C curriculum in Philippine and they have introduced at elementary level, junior level and higher level. Participants informed such kind of scheme is not prevailing

in Pakistan. However, they have been asking the Engineering Universities to focus on energy efficiency and educate the students as maximum level. They further deliberated that since there is no M.D, they have not yet signed MoU with WWF, but hopefully it will be signed after appointment of M.D, thereafter, they will start EE&C curriculum in schools.

Green purchasing legislation/governmental purchasing programe for ES&L appliances

JST showed and explained the government purchasing programe for ES&L in Japan, Korea, and China and stated that such programe is not prevailing in Pakistan. Mr. Asad informed that there is a government regulatory body i.e. Public Procurement Regulatory Authority (PEPRA) which deals with the government procurements involving more than 100,000 amount. They further said there is need to change procurement rules in Pakistan.

Meeting Memo

Date	November 07, 2014	Time	3:00 pm ~ 4:00pm
Organization	Ministry of Water & Power Venue: A- Block, Pak Secretariat -Islamabad.		
Department			
Participants	MOWP : Mr. Mahfooz Ahmed Bhatti - JS Development, Mr. Sadaruddin Khurho-DS (E&D), Mr. Sajeel Saeed- MOWP ENERCON : Mr. Asad Mahmood- Manager Technical ECF, Mr. Ali Raza Shah- Deputy Chief (Transport/Labelling Section Incharge), Mrs. Fozia Khan (Industry & Power). Nippon Koei Company/JST : Mr. Kuroki, Mr. Fukushima, Mr. Ilyas and Ms. Amber		
Important Points			
<ul style="list-style-type: none"> ▪ JS Development welcomed the JICA survey team (JST) for third survey to Pakistan and lauded the efforts of JST regarding promotion of Energy Efficiency and Conservation Project carried out and shared the importance of energy sector in Pakistan. He further told that he has taken over the charge today so the representatives of ENERCON and MOWP would respond to the queries mainly on his behalf wherever required. <p>1. <u>Submission of letter.</u></p> <ul style="list-style-type: none"> ▪ The meeting agenda was shared by Mr. Kuroki .As per agenda item one, a letter which was sent to MD ENERCON was handed over to JS Development for necessary action and consideration as there was no one notified as MD ENERCON since last month.JS Development told that this issue would be resolved and additional charge would be given to someone on priority next week hopefully after discussing this with Secretary MoWP. <p>2. <u>Importance and dead-line of our letter.</u></p> <ul style="list-style-type: none"> ▪ Mr. Kuroki eloquently stated that Mr. Ishaq Dar, Federal Minister for Finance and Revenue has made commitment upon which the loan has been disbursed by the World Bank as well as JICA. He further emphasized on deadline, 31st December to achieve milestones per the policy matrix. Moreover Mr. Kuroki also highlighted that JICA, ADB & WB are very concerned and serious about matters related to ENERCON. Manager Technical (MT)-ECF ENERCON pointed out that the request for sharing the minutes of the meetings of the consortium comprising of WB,JICA,ADB and Ministry of Finance was made to JST .JS Development also requested JST to share the minutes WB,ABD & JICA meetings. ▪ MT ECF-ENERCON briefed about the previous interactions with the JST and the points which were discussed with the previous JS Development and JICA team while discussing item 2 of agenda. <p>3. <u>Decision of additional three appliances.</u></p> <p>Moreover MT ECF-ENERCON also briefed about the JICA survey and selection of additional three items for developing Minimum Energy Performance Standards(MEPS) while discussing item 3.MT ECF-ENERCON told that the changes being suggested by JICA team in the documents of</p>			

UNDP-MOWP/ENERCON Project “Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling (*BRESL*)” could be incorporated after approval of the Competent Authority/Project Steering Committee(PSC) Meeting and BRESL team have almost agreed on the suggested changes. However for additional three items ENERCON,MOWP along with the other stakeholders most of which are in the BRESL PSC can take action on selection of additional three appliances as per JICA suggestion.

- JS Development asked to have a meeting with the BRESL team next week and share the details of the PSC members. It was further ensured by JS Development that the efforts would be done to call PSC meeting within short duration of time. MT-ECF ENERCON highlighted that by December 2014, the BRESL Project is going to get closed and would be handed over to ENERCON for carrying out the respective tasks and would only yield results if supported by legal cover through enactment of Energy Efficiency Legislation.

4. New ENERCON’s budget and human resource.

- While discussing item no.4 about the ENERCON Budget & Human Resource, Mr. Kuroki stressed about the donors concern that ENERCON should be allocated sufficient budget for its technical activities and experienced professionals should be recruited. DC(Transport) & DC (I & P) mentioned that the case for recruitments have been sent to the Ministry few times in past however DS (E & D) clarified that they have not got any such request from ENERCON as being stated.MT-ECF ENERCON thereafter mentioned that the copy of the last correspondence on recruitment with the FPSC or any other respective department matter would be shared with JS Development.
- JS Development responding to the concern of JICA/WB/ADB assured JST that he would take up the matter with Secretary MOWP on Monday and the same would be communicated to him to resolve the matter on priority as a confidence building measure.

5. Enactment of EE&C Act and Issuance by MOWP to material regarding ES&L

- Mr.Kuroki then stressed on item 5 and 6 in which he highlighted the importance of EE&C Bill 2014 and requested JS Development to know about the actual timelines for its approval and enactment. DS (E&D) briefed about its present status that the case for fresh approval from Cabinet has been put before the Secretary and might not take more than a month to be tabled in Parliament after cabinet approval.JS Development mentioned that the Cabinet meetings are being held every week so the approval may not take much time. By keeping in view the deadline date, Mr.Fukushima suggested to initiate the case for Efficiency Legislation in the form of Presidential ordinance as it requires less time for approval.
- JS Development stated that the he will bring this aspect of deadline in Secretary’s notice and as well as the concerned departments for promulgation of the legislation on fast track basis before deadline for passage through Parliament which is much more effective than presenting it in an ordinance form.

The efforts would be done to strengthen ENERCON as well which is the National focal department to carry out energy efficiency activities in all sectors of economy across Pakistan.

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MEETING MEMO

Date	10 th November, 2014	Time	04:00 pm to 05:30 pm
Organization	JICA Study Team Venue: Best Western Hotel, Islamabad.		
Department			
Attendances	PCSIR: Mr. Irfan Ahmed Rabbani, Chief Engineer, PCSIR, Lahore and Shaheen Raja, Director General JST: Mr. Kuroki Hideaki, Mr. Ilyas, and Ms. Amber		
Obtained Documents	-NONE-		
Discussed			

Introduction and preliminary discussion.

JST welcomed the distinguished guests for participation in the meeting at Best Western Hotel, Islamabad. At the outset, Draft Progress Report (hard copy) prepared by JST under directions of JICA was shared with distinguished participants and requested them to give their necessary input on it. After reviewing it, they will give their suggestions on it.

Mr. Kuroki informed the participants that MEPS and labeling for 3 electrical home appliances have been prepared by BRESL Project, and for additional 3 electric appliances will be prepared by ENERCON with assist of JST. Then ENERCON has to prepare plan for establishment testing facilities with assist of JST. He further requested the participants for the necessary time and cost of the following appliances. Mr. Rabbani accordingly provided information as below:

i. Fan

Minimum time is 5 working days and cost is Rs.15,000/- for testing the performance of Fans. It might be increase in the next year from 10% to 15% (Rs.15,000/- to Rs.20,000/- approximately). He further informed PCSIR is going to segregate the cost of Fans in January, 2015 for ceilings fans, brackets fans, pedestal fans etc separately.

ii. CFLs

Minimum time is 7 to 10 working days and cost is Rs.25000 for testing the performance of CFLs. He further informed that presently PCSIR does have complete testing facility for CFLs and fully equipped with the essential testing facility at its laboratory situated in Lahore.

iii. Motors

PCSIR does not have complete testing facility, but partially they are testing performance of induction motors. He further informed that Pakistan does not have testing facility in accordance with the latest international standards. However, PCSIR tried to upgrade the testing facility of induction motors, but could not be materialized due to lack of financial resources.

iv. Refrigerator

Tentative time is 10 working days, but they do not exactly know the cost of testing of performance of refrigerator. However, PCSIR is working for establishment of testing facility for performance of refrigerating appliances that include Freezer, water dispenser, refrigerator etc. and if everything goes up accordingly without any delay, they will be in a position to conduct testing in the next year.

v. LED TV Set

PCSIR does not have testing facility, therefore, he does not exactly know the actual time and cost of testing performance of LED TV Set. However, he assured to work on it and soon he will let us know the required information.

vi. Tubular Fluorescent Lamps

Time for testing the performance of Tubular Florescent Lamps is 5 working days and cost is Rs.25000.

Deliberation on number of laboratories.

Mr. Kuroki deliberated that JICA has serious concerns and intends to know that how many laboratories are necessary to establish in order to undertake the testing the performance of electrical home appliances. Mr. Rabbani informed that establishment of new laboratories is not important issue rather to equip the existing laboratories is important. However, he suggested that there may be at least 3 to 5 laboratories to be established two in Punjab (Lahore and Faisalabad or Multan), one in Sindh (Karachi), one in KPK (Peshawar) and one in Baluchistan (Quetta) depending upon the manufacturers in each province. As the Punjab is main manufacturing hub, it needs to be fully equipped.

Types of appliance in market:

Mr. Rabbani informed that there are many appliances in the market. He will provide list of appliances soon.

Grant level of label of appliances

Mr. Rabbani informed that at present he does not calculate the percentage of appliances whether it is 15% or more. The grant level for each appliance varies in its type, therefore, he will let us know the approximate calculation soon.

How much time acceptable as waiting time

Mr. Rabbani informed that actual waiting time will depend upon the population to whom testing is to be undertaken. For instance, one day for Fan, one day for CFL, refrigerator (they are going to test two refrigerators at one time i.e. two test station). So it depends on the test cycling.

Responsibility allocation of preparation of test laboratories

JST shared the road for phase out of appliances or technologies that do not comply with first three ES&L and stated that they suggest to prepare test laboratories with cooperation of ENERCON and PSQCA/PCSIR. The participants suggested to modify certain name and status of organizations to carry out their assignments as reflected at P3-37 in draft progress report.

Responsibilities allocation (Planning, facilities preparing)

Mr. Rabbani stated that if the BRESL/ENERCON is going to support PCSIR, it would be advantageous and if not it would not be easy to accomplish the task of development of MEPS and Labeling.

He further stated that it is very much important for JST to have interactive meeting with the Ministry of Science and Technology which is the parent department of PCSIR, otherwise PCSIR will not be in a position to help without the instructions of the parent ministry.

Utilization of foreign laboratory.

Mr. Rabbani explained that they do not have sufficient testing facility for A.C and most of the A.C is imported from other countries.

Non-accredit laboratory

Kuroki San asked question regarding non-accredited laboratory, Mr. Rabbani invited the attention to Section 7.7 of Labeling Policy/Procedure for Grant and motoring of Energy Labels in Pakistan and stated that non-accredit laboratory section explicitly says that:

Following may entail rejection of application:

- Incomplete application submitted by the applicant
- EE test Report not enclosed with the applicant
- Enclosed EE test Report has not been issued by an accredited laboratory
- The results in the report do not meet the qualification threshold of the product as specified in the relevant MEPS(Minimum Energy Performance Standards)
- Not accompanied with prescribed registration fee

Therefore, no non-accredited laboratory is acceptable even on voluntary

Idea of support from donors in future

Suggestions from participants

Mr. Rabbani and Mr. Shaheen Raja deliberated that as the PCSIR is attached/autonomous department of Ministry of Science of Technology (MOST), therefore, it is imperative for JST to have interactive meeting with MOST, therefore PCSIR would be able to help the JST, otherwise it will be impossible to help JST without having MOST on board.

MEETING MEMO

Date	12 th November, 2014	Time	11:00 am to 12:15 pm
Organization	Ministry of Science and Technology (MoST) Venue: Evacuee Trust Building Islamabad		
Department			
Attendances	MoST: Mr. Khalid Siddique, Joint Secretary PCSIR: Mr. Irfan Ahmed Rabbani, Chief Engineer, JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Ilyas, and Ms. Amber		
Obtained Documents	-NONE-		
Discussed			

Introduction and preliminary discussion.

Mr. Khalid Siddique welcomed the JST at MoST. At the outset, he suggested that an officer of ENERCON should have joined this meeting as ENERCON is the executing Agency of MEPS and Labeling. He requested the JST to let him know the role of JICA in this Project, Mr. Wakabayashi stated that JICA, being one of the donor, has been working in order to promote Energy Efficiency and Conservation in Pakistan. JST informed that some funds are prepared by the International Donors to the Government of Pakistan for energy efficiency and conservation:

- 20 million USD for streamlining the testing machines in Pakistan, but no application from the Government of Pakistan is yet been sent to ADB.
- 14 testing laboratories to be established by UNDP, it is also being planned.

Legislation

At the inception, Mr. Wakabayashi briefed the participants regarding activities being carried out by the JST and deliberated on the Energy Efficiency and Conservation Act which is presently lying in the Parliament for its approval. He stated that No Bill has yet been approved by the Parliament, therefore, making regulations is entirely difficult. He further deliberated that it is very much essential to get it approved from the Parliament as quickly as possible because the deadline is 31st December, 2014. For that matter, Mr. Khalid stated that MoST may push the Federal Minister for MoWP through Federal Minister for MoST, if it is required in any case.

Identification of 3 additional energy intensive appliances.

Mr. Wakabayashi briefed that JST knows the activities which have been carried out by BRESL Project since 2010, but at the moment JST needs to identify 3 additional energy intensive appliances. Mr. Siddique asked to know the list of targeted appliances, he was accordingly informed that 6 appliances have been selected by the BRESL Project, 5 appliances excluded refrigerator are approved as National standard by PSQCA:

- i. CFL
- ii. Fan
- iii. Motors
- iv. Blasts

- v. ACs
- vi. Refrigerators

Out of above mentioned appliances, standards of only 3 appliances have been prepared by BRESL. At this moment, JST is considering the following 3 additional appliances (intensive energy consuming) for development of standards:

- i. Tubular Fluorescent Lamps
- ii. Color TV Set
- iii. Refrigerators.

Role of PCSIR, PNAC and PSQCA:

On request of JST, Mr. Khalid briefly provided the major role of the following three government organization relating to standards:

PCSIR for standards.

PCSIR is National Standards making Body in Pakistan. It formulates, develops, declares, and announces the standards to be implemented in Pakistan. It has many testing laboratories in all over the Pakistan (in all provinces) which almost covers the entire industrial sector in the country.

PNAC for standards:

Pakistan National Accreditation Council (PNAC) is the sole accreditation body under Ministry of Science and Technology which strives for improvement, competence and integrity of conformity assessment bodies by providing them an internationally recognized accreditation service and also promotes quality culture, which ultimately benefits the consumers, producers, regulators and other stakeholders.

PSQCA for standards:

The Pakistan Standards and Quality Control Authority, under the Ministry of Science and Technology, is the national standardization body. The main function of the Department is to foster and promote standards and conformity assessment as a means of advancing the national economy, promoting industrial efficiency and development, ensuring the health and safety of the public, protecting the consumers, facilitating domestic and international trade and furthering international co-operation in relation to standards and conformity assessment.

Deliberation on laboratories.

Mr. Khalid informed that ENERCON does not possess any laboratory in Pakistan, while, PCSIR is having most of accredited testing labs in Pakistan. He argued that JST should focus on the labs and equipments which PCSIR does not possess.

He further discussed that BRESL has technical regulations for MEPS and Labeling. PCSIR was the major stakeholder and assisted the BRESL Project for development of MEPS. While highlighting the importance of

PCSIR, he informed that without involvement of PCSIR, BRESL could not have done anything.

JST asked the participants for suitable place for establishment/upgradation of laboratories in Pakistan both Public Sector and Private Sector. Mr. Khalid informed that if JST intends to establish or upgrade the public sector laboratory in Lahore, it is PCSIR. Similarly, in Karachi it is PSQCA.

As regards the Private Laboratories, they do not know exactly, however, they will provide information if available.

Responsibilities allocation (Planning, facilities preparing).

Mr. Rabbani in collaboration with Mr. Khalid stated that:

- Facilities Planning/Estimation of Improvement Cost is directly under the purview of PCSIR/PSQCA which will be done with the coordination of ENERCON depending upon the situation.
- Enforcement to existing lab/installation of new lab is under the purview of PCSIR.
- Collaboration with private laboratory, domestic (arrangement) is under the purview of both PSQCA and PNAC. They would only like to have interaction with Public Sectors laboratories after receiving written request of ENERCON as it is the executing Agency for MEPS and Labelling.
- Collaboration with foreign laboratory (arrangement) is under the purview of both PSQCA and PNAC. They would only like to have interaction with Public Sectors laboratories after receiving written request of ENERCON as it is the executing Agency.

MEETING MEMO

Date	12 th November, 2014	Time	1800 hours to 1920 hours
Organization	Ms. Natasha's home. Venue: House No.5, Street No.2, F-6/3, Islamabad.		
Department			
Attendances	Lawyer: Ms. Natasha Jahangir JICA: Ms. Sasabe JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Ilyas, and Ms. Amber		
Obtained Documents	-NONE-		
Discussed			

Introduction and preliminary discussion.

Ms. Natasha welcomed the JICA Study Team at his home. JST introduced the participants.

At the outset, Ms. Natasha briefly discussed the situation of law in the country and stated that Energy Efficiency and Conservation Law had been drafted and was placed before the Council of Common Interest (CCI) for its approval because energy efficiency is purely the provincial matter, therefore, all Chief Ministers deliberated upon the law and approved it for further submission to the Parliament. Now the Law is lying in the Parliament for its approval.

She further stated that passing/approving Bill is not the major issue, but what will be the next is the main issue which needs special merit to address it accordingly.

Ms. Sasabe informed that we intend the Minimum Energy Performance Standards (MEPS) and Labeling to be mandatory earlier than spending 3 to 4 years.

Ms. Natasha discussed that most of electrical appliances are being imported from European Union, Japan and China. EU is entirely sending energy compliant products legitimately and the Japan too, but China does not have the same.

Ms. Sasabe deliberated that 60% products are not energy compliant and do not having MEPS, if 45% of products come under energy efficiency compliance, 6000 MW electricity can be conserved. Ms. Natasha intended to see the statistical data, surveyed for electrical home appliances.

There are so many political lobbies in the country and they do have their personal interests. In order to avoid these activities, it is essential to contact the Custom Department and need to speak them for formulation of efficient, transparent, fair mechanism to maintain checks and balances at the time of entry for collection of taxes accordingly. It is also important to provide opportunities for the Custom Officers to train them and they should also be given handsome market based salaries so that they could not do corruption. She further stated more checks and balances are involving more human factors, which resultantly creates corruption and adversely effect on investment, therefore, preferably do not make lengthy and complex procedures rather than fewer procedures can comply with the law. She also provided the name of person who is working on the Custom Project Mr. Amjad Bashir, IFC. JST needs to contact the IFC and ask them to find out efficient mechanism at the point of entry where more human factors do not involve.

She also highlighted that since the government took over the charge, no legislation has yet been done,

therefore, getting law passed is very much difficult in Pakistan, but if International agencies (donors) push the MoWP and other stakeholders by putting their pressure, it can be finalized soon.

Ms. Sasabe briefed the participants that JICA is also going to send expert to reduce the cost of energy in order to educate the people that how can they decrease their electricity bills by using energy efficient products.

Ms. Natasha suggested JST that for development of MEPS and Energy labeling in Pakistan, following is to be considered necessary, otherwise it would be very difficult assignment.

- i. Local market must be surveyed in order to see their products, capacity, and problems.
- ii. Black market is the main problem in Pakistan, therefore, Government should introduce tax incentive schemes to manufacturers. Presently only registered manufacturers have to pay 35% tax regardless size of their industry whether it is small or large.
- iii. As 60-70% economy of Pakistan is undocumented/unregistered, thus, we need to focus launching mandatory registration for all manufactures depending upon their size of business. As larger industrial units has more lobbying element in Pakistan, therefore, they do not intend such campaigns to be launched.
- iv. Local Industry should be taken on board in order to get their confidence. Until now the Industry is not aware of the activities regarding energy efficiency and conservation.
- v. Energy efficiency campaigns through electronic as well as print media should also be considered mandatory.
- vi. Advocacy programme for the manufacturers while giving them incentives. For instance, if they do conserve energy, they will be given more energy like that.

MEETING MEMO

Date	November 13 th , 2014	Time	16:30 am to 18:30 noon
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	<p>ENERNON: Mr. Hassan Jamy, M.D, Mr. Noman Rafiq, Company Secretary, Mr. Asad Mehmood, Technical Manager, Mr. Mansoor, Administrative Officer, and Mr. Ali Raza Shah, Incharge Labelling Section, Ms. Fozia Khan deputy chief (I&P).</p> <p>BRESL: Mr. Jamil Ahmed, Technical Expert, One other lady, Ms. Tammana Banori, NPC</p> <p>JICA: Mr. Ozaki, JICA Pakistan office and Ms. Sasabe Yoshie, JICA head quarter</p> <p>JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Muhammad Ilyas, and Ms. Amber Pervaiz</p>		
Obtained Documents	-NONE-		
Discussed	<p><u>Introduction.</u></p> <ol style="list-style-type: none"> Mr. Hassan Jamy, newly appointed Managing Director (MD) welcomed JICA Study Team in ENERCON Building for combined meeting regarding energy efficiency and conservation in Pakistan. At the outset, Mr. Ozaki briefed the M.D summary of JICA survey regarding ES&L and stated that JST and BRESL are information and views for development of ES&L. <p><u>Suggestion of Improvement of ES&L framework (letter) and deadline of implementation.</u></p> <ol style="list-style-type: none"> JST requested ENERCON/MoWP to take necessary action regarding the letter submitted to Joint Secretary on 7th November, 2014. JST emphasized that there is a requirement by the International Donors (JICA, ADB, WB) for labeling by ENERCON/MoWP which has to be done before 31st December, 2014. On request from JST, M.D in collaboration with BRESL Team assured that they will soon arrange meeting of Project Steering Committee (PSC) in order to make necessary amendments in the documents as proposed by the JST. He assured to look the matter of amendment and its finalization till coming Monday. <p><u>Submission of Progress report.</u></p> <ol style="list-style-type: none"> JST submitted the Progress Report to the MD for his comments. MD requested Soft copy of the Progress report, JST requested MD to provide comment from ENERCON aspect, before their departure for Tokyo on 21st November. <p><u>Enactment of EE&C act.</u></p> <ol style="list-style-type: none"> JST further deliberated upon the issue of legislation and stated that labelling regulation is key element to carry out energy efficiency activities. With regard to EE&C Bill progress, M.D informed that first of all the Bill was unanimously approved by 		

Council of Common Interest (CCI) that consists upon all provincial Chief Ministers, thereafter it was placed before the Cabinet for discussion and onward approval from the Parliament. But at this stage, due to certain objections raised by the Parliament, bill is in MoWP which will soon be resubmitted to the Parliament for its final approval. He said hopefully it will be discussed in the next meeting of Cabinet.

8. As regards the Presidential Ordinance, he stated that since the Parliament in Session (Democratic Government), thus, under the constitution it is very much difficult to get Presidential Ordinance approved. However, he will also get opinion from concerned Legal person to see what could be done.
9. Mr. Asad with the approval of Chair presented the discussion of previous meeting held in MoWP with Mr. Mehfooz Ahmed Bhatti in which he assured to take up this matter with the Federal Secretary.

Selection of additional three appliances.

10. JST discussed that ES&L for 3 products have been done by BRESL Project and also informed the participants of the 3 additional electrical home appliances which have tentatively been selected by JST for development of ES&L. Detail thereof is as under:
 - i. Refrigerator
 - ii. Color TV
 - iii. Tubular Fluorescent Lamps
11. For the above mentioned products that have been done by BRESL Project, JST wants to know the road map for implementation of ES&L. The ENERCON needs to make certain legal/regulatory framework before 31st December, 2014.
12. BRESL Team stated that JST is considering refrigerator, while, they have already been working on it, but could not finalize due to non availabilities of testing facility in Pakistan and due to lack of technical expertise. He further stated that PCSIR has been working in order to establish lab to test the refrigerator and A.C but it will be completed in the end of 2015 and will hopefully be functional in start of 2016. Therefore, till the establishment of labs, we have to seek testing facility from others.
13. ENERCON Officials requested the JST for arrangement of survey data which was conducted in Islamabad, Lahore, and Karachi for identification of additional 3 electrical home appliances, which JST will have to provide them so that they would be able to give their views on selection of 3 additional energy intensive appliances, but JST responded that survey is not yet completed but they will provide other survey reports to ENERCON.

Necessity of Issuance for document regarding ES&L document by MOWP .

14. JST briefed the M.D that in the Policy Matrix, it is explicitly mentioned that Ministry of Water and Power issues document regarding ES&L for additional three electrical home appliances. Similarly, Mr. Ozaki also expressed his views that after the Joint Meeting of three International Donor Agencies (JICA, ADB, WB), they are of the view that ENERCON does not have sufficient power to implement, thus, MoWP should issue for document regarding ES&L document by MOWP before 31st December, 2014 accordingly.

Budget and human resource of new ENERCON.

15. JST required the information regarding Budget and human resource of new ENERCON.
16. On demand of JST, Managing Director assured to provide the necessary details regarding ENERCON's budget, human resources and its capacities and scope of energy labeling section because if the budget and human resource is insufficient with ENERCON, JST would be able to propose adequate. For that, Mr. Asad responded that still they have to give briefing to the M.D, thereafter they will surely be able to give all these details to the JST.

Existing SRO regarding EE&C in Pakistan.

17. Ms. Sasabe eloquently deliberated that JICA is happy to support the Government of Pakistan for development of ES&L, therefore, they are of the view that ES&L should be mandatory rather than voluntary. She further highlighted that JICA, WB, ADB is coming to Pakistan to discuss the future plan of the project. She also wanted to know the situation of SRO. M.D replied that presently there is no SRO regarding energy efficiency in Pakistan. In the budget of 2014-2015, the Government has imposed 32% tax on imported products.

Decision maker.

18. Responding to JST on the functions of MoWP and ENERCON, M.D reviewed that MoWP is final decision making/approving body regarding energy efficiency matters, while, the ENERCON is focal person/executing agency of all energy issues.

Responsibilities of preparation of laboratories.

19. On question of JST, M.D stated that ENERCON is suitable institution for establishment of necessary labs (testing facility) in consultation with the PCSIR, PSQCA under the umbrella of Ministry of Science and Technology. He further stated that they will bring MoST and EDB on board for this project as they are relevant stakeholders.

Heavy taxation.

20. JST discussed the matter of heavy taxation and stated that there should certain regulations clearly stating that if the Fans do not comply with the ES&L, then they should be heavily taxed. Similarly, ban for imported appliances should also be there who do not comply with the ES&L. JST further demanded the ENERCON to take immediate action for mandatory ES&L against appliances which are uses abundantly in Pakistan. M.D responded and stated that there is no standard in Pakistan, therefore, it is not easy to make ES&L mandatory at this stage, however, they will be making them mandatory within approximately 2 years.

MEETING MEMO

Date	15 th November, 2014	Time	03:15 pm to 5:10 pm
Organization	ENERCON; JICA, and Asian Development Bank (ADB) Venue: ENERCON Office		
Department			
Attendances	ENERCON: Mr.Hassan Nasir Jamy, Managing Director/Additional Secretary; Asad Mohmood; Mr.Ali Raza, and Mr.Noman ADB: Ms.Cleo Kawawaki, Principal Energy Specialist (Energy Division-Manila); Mr.Yuki Inoue, Finance Specialist (Energy Division-Manila) JICA: Ms.Sasabe Yoshie, South Asian Division, Tokyo; Mr. Takashima Akihiro, Deputy Director South Asian Division, Tokyo JST: Mr. Kuroki Hideaki; Mr.Wakabashi; Ms. Amber Pervaiz; Mr. Mohammad Ilyas		
Obtained Documents	-NONE-		
Discussed	<p><u>Introduction.</u></p> <p>1. Mr.Hassan Jamy, Managing Director, ENERCON welcomed JICA-JST team and introduced everyone to Mr. Muhammad Younas Dagha, Federal Secretary of Ministry of Water and Power, who happened to be present at ENERCON for a prior meeting on the issues which needed immediate attention. One of those issues was related to the energy efficiency and conservation project. Secretary MoWP welcomed JICA team appreciated the work being carried out by JICA on Energy Efficiency and conservation in Pakistan and extended his full cooperation in this respect.</p> <p>2. In the inception of the formal meeting MD ENERCON welcomed JICA and ADB for working on energy efficiency issue, he welcomed and thanked the representative of ADB, Ms.Cleo Kawawaki for her deliberation.</p> <p><u>Ongoing exercises and programmes by ENERCON.</u></p> <p>3. ADB Representative Ms. Kawawaki, thanked MD for the time and straight away laid down the key issues that needed to be addressed. Firstly, she explained MD about the Policy Loan Credit, which is one of the most important items in the policy matrix "<i>Improving demand side efficiency and strengthening energy conservation</i>". She emphasized that the board members of ADB, JICA and World Bank would like to see more results related to the above component of the policy matrix indicators. So far ADB has not seen any visible projects and nor any progress has been reflected in the matrix. She mentioned that she would be very interested to learn more about the ongoing exercises and programmes, which ENERCON is implementing.</p> <p>4. ADB representative said the second phase of indicative triggers to support energy efficiency is the target which needs to be achieved before the deadline of 31st December 2014, and also to determine how we can go forward from there. She then explained that MoWP/ENERCON needs to reflect the progress, which has been made under the matrix and other actions taken by ENERCON so far; and what has been achieved so that ADB can credit them for that. She mentioned that currently ADB is planning its fiscal measures and if</p>		

they receive documents that reflect progress from ENERCON then ADB can give ENERCON credit for that.

Situation of Enactment of EE&C Act.

5. In response to ADB, MD ENERCON explained that currently Pakistan is going through various challenges especially related to energy. At this moment MoWP is trying to push the bill on energy efficiency and conservation before the end of the year. He informed that the bill has passed its long process and now awaiting with the Secretary of MoWP for signature, after this it will be moved to the cabinet and then National Assembly for approval before its enacted. Besides, the bill MoWP is also working on the policy side for energy efficiency in the country. MD assured that he will try his best to at least get the bill cleared from the cabinet as soon as possible.

Carrot and Stick to Promote Compliance

6. Addressing the next issue ADB asked about the tax incentives, which could be useful for implementing energy policies and bill. On this the representative from ENERCON said that they plan to use the carrot and stick policy i.e. incentives and penalties but that is only possible after the enactment of energy efficiency and conservation Bill.

7. ADB in response welcomed the idea of incentives and expressed their interest and support anytime to ENERCON if they would like to build on the idea further, if ADB and ENERCON can work on those ideas even before the enactment. ENERCON stated that if they get some kind assistance from ADB as incentives for manufactures might be another good option.

Ban of CFL that do not comply with MEPS.

8. ADB representative pointed out that the easy one is to ban the CFLs in the market that do not comply with MEPS. The CFLs currently being imported in the market are of low quality and dangerous. If ENERCON did incentives and penalties then they don't have to be tested, as they will be tested already. In response, MD stated that there are problems related to imports of low quality electrical appliances and said that ENERCON does need quality controls and checks at the border; for that ENERCON needs technical support, training and good human resources to carry out the task, and also at the Provincial level, good human resource and capacity building is required.

Importance of quality control and bans low quality electrical appliances.

9. Further, in response to MD, ADB representative stated that Donors will not be able to resist if ENERCON establishes or has done similar prograemm which promotes quality control and bans low quality electrical appliances that do not comply with MEPS. Such program will make a headline and ADB will be able to provide credit against this activity. This will also make it easy for ENERCON to attract funds.

10. ADB representative stated that focus should be on electrical appliances which consume the maximum energy, "electricity consumption is the main point". For instance agricultural tube-well machines consume maximum electricity. We should select key issues and focus on those.

11. In response to ADB, MD reiterated that the Secretary of MoWP during his meeting earlier same morning emphasized on the importance of energy conservation and instructed ENERCON to develop activities that will have major impact on energy efficiency and its conservation. ENERCON would first like to start the pilot project with its own available resources, which would attract donor funding at the later stage.

Importance of public awareness by electricity bills and messages given through mobile phones

12. ADB representative suggested that one of the easy task or programme could be public awareness through electricity bills; this could be done in similar way as the awareness for gas consumption and conservation is being carried out through gas bills. Simply replicate gas bill awareness/communication strategy for the electricity bills. Because electricity bills goes to every household and the information regarding Labeling could be easily spread through that.

13. MD ENERCON, added to the suggestion an example of text messaging via mobile phones. He gave an example of citizen feedback model which is currently at the pilot stage of implementation by IESCO's. ENERCON is planning to develop communication strategy to send good energy conservation messages via mobile phone service.

Achievements of ENELCON for credit or not

14. ADB representative in response to the above discussion reiterated that it's important to see something soon. She indicated that donor's wrap up meeting is scheduled for the 19th November. During this meeting donors will be looking at what has been done by ENELCON, and what has been achieved as reflected in the policy matrix. ADB, WB and JICA would like to know what additional things ENERCON, has done, so they can issue the credit. BRESL's activities are not enough to issue credit, it has to be more than that. The main objective is the strengthening of the matrix. Therefore, ADB need to see list of ENERCON programs to date. ADB requested an update of the activities and stated that it will be useful to have that soon so that they can be reflected in the 2nd phase of the programme.

Disclosure of Electricity Generation Data for Donor Discussion

15. ADB representative said that now tariffs are so ridiculous that how can we survive for loosing focus on generation. In response, MD stated that the Government has energy on its top priority because donors are after them. The Government has to think out of box on the issue. ADB, adding to the discussion reiterated that energy efficiency and conservation is ADB's most important focus and has it on its top priority list.

16. MD mentioned that the Secretary MoWP has instructed the Ministry to bring authentic figures within two weeks related to the generation of electricity. Once, the figures are produced then we can have joint donors meeting to share the facts and figures.

ENELCON & MOST

17. He further stated that ENERCON should be the focal point, and Ministry of Science and Technology can

assist ENERCON with their testing facilities and technical support.

Failed ADB Project of CFL, US\$20million

18. ADB raised the issue of CFL programme which was a US\$ 20 million support programme in 2010, but unfortunately it is one of the fail programs on energy efficiency because the person who was suppose to be heading that never took it seriously. She pointed out that the responsibility falls on IESCO who were suppose to distribute the CFL's, but unfortunately there are so many CFL's that are still lying in storage and even free distribution has not been carried out properly. So that's why ADB decided to kill the project. In response to the information and frustration expressed by ADB, MD said that he will take the responsibility and ownership of this project and requested Asad from ENERCON to prepare the relevant document. He also added that it's very important to have a good job description for future vacancies so that everyone is responsible and takes ownership.

Further Assistance from ADB & JICA

19. ADB once again asked ENERCON to let them know what they want ADB to do.

20. JICA also informed ENERCON that they will be back in January 2015 and will be interested to learn what specific steps ENERCON is taking to address energy efficiency and also what kind of technical assistance they would require. If they have something clearly stated on the paper, then they can take it back to the HQ for approval and to provide support to ENERCON. Also, emphasized on the importance of awareness program and an urgent need to sensitize Pakistani citizens on the urgency of conserving energy. Pakistan's should have a sense of crises related to energy, the efforts in Pakistan does not have that. It's going to be citizens of the country who can make a difference. Therefore, awareness raising should be seriously looked at, so ENERCON should try to find out how the perception could be changed.

21. Another suggestion was floated to convert the BRESL documents into all local languages i.e. Urdu, Pashto, Sindhi and Punjabi.

Concluding Remarks

21. ADB once again extended their offer to assist and if ENERCON needs anything they can contact the Senior focal point on Energy at ADB Islamabad office. She said if there is traction then ENERCON should try to revive it and prepare something.

MEETING MEMO

Date	November 18 th , 2014	Time	1:45 pm till 3:00 pm
Venue	ENERCON Venue: ENEROCON Building, G-6		
Department			
Attendances	ENERNON: Mr. Asad Mahmood-Manager Technical, Mr. Ali Raza Shah- Deputy Chief Tpt & Incharge Labelling Section JICA: Ms. Sasabe Yoshie, JICA head quarter JICA Study Team (JST): Mr. Kuroki, Mr. Wakabayashi, and Ms. Amber Pervaiz		

Salient Points:

1. Mr. Asad, informed JST/JICA that the Joint meeting of Project Steering Committee meeting will be organized in first or second week of December. The meeting will be Chaired by the Secretary himself, and the important decisions and approval of the urgent issues will be done in the same meeting. All the changes and amendments will be incorporated and adopted after the approval of PSC.
2. Draft revised MEPs for Fans, Draft revised Labeling policy as well as new draft MEPs for Motors and CFL's will be presented in the same meeting for final approval. Instructions for its issuances will be done immediately without taking time. So most likely the expected result of the production of the documents will be by mid-December 2014. Mr.Asad, suggested that JICA/JST should follow-up regularly with MoWP. In response, Ms.Sasabe inquired if ENERCON wants JICA to pressurize the Ministry?. To this Mr.Asad stated that it will be useful to regularly check with Ministry because it makes things move at faster pace and actions are taken much quicker, as recently experienced (appointment of MD).
3. ENERCON will share the revised documents with JST before submitting them to PSC for review and approval. ENEROCON has requested JST to provide comments and any amendments if necessary once JST receives the revised versions of the documents.
4. JST strongly suggested ENERCON that they need to meet PSC twice for revision before the final PSC meeting in December.
5. On the issue related to ENERCON's timeline and future projection and fiscal policies, ENERCON informed that they will discuss that when they have the ground work ready and they come on that stage. We had internal discussion with the Secretary, and his priority is to basically focus on motors, tubewells and fans. ENERCON wants to know what ADB requires and ENERCON will try to match it to ADB's stance.
6. ENERCON, informed that currently they are going towards action stage to pick up one or two sectors for the MoWP to consider as a future plan. At this time sticking to one specific policy might not be a good option.
7. On the question regarding the agenda item related to planning & coordination of the Project ACE,

ENERCON informed that ACE project was being carried out in 2003 but due to lack of resources and budgetary constraints they could not continue. However, they have submitted new proposal to PC1 to the planning commission for support the activities of ACE.

8. Ms.Sasabe, inquired that when can ENERCON share the list of possible incentives with JICA/ADB/WB?, what kind of incentives?, best practices, examples to promote standards, and to create incentive scheme. She further requested ENERCON to learn about MD's stance on incentives. She suggested ENERCON that they can discuss "incentives" with JST if they like and JST can provide them support in this regard.
9. In concluding remarks, Ms.Sasabe, informed ENERCON that JICA plans its next visit to Pakistan in January 2015. JICA would be very interested to learn more what ENERCON has prepared in regards to technical capacity and incentive scheme which could be shared during JICA/JST visit to Pakistan. In this way JICA will have something to take back to Headquarters and will try to arrange for support, if its later, then the whole procedure will be late and we all will not be happy.

Meeting ended with the decision to meet following day, since Enercon needs to prepare necessary documents and also invite other relevant BRESL's team to participate for some of the questions on the agenda.

MEETING MEMO

Date	November 20 th , 2014	Time	12:30 p.m to 3:30 p.m
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERNON: Mr. Asad Mehmood, Technical Manager, Mr. Ali Raza Shah, Incharge Labelling Section and Ms. Fozia Deputy Chief. BRESL: Mr. Jamil Ahmed, Technical Expert and Ms. Tammana Banori, NPC JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Muhammad Ilyas, and Ms. Amber Pervaiz		
Obtained Documents	-NONE-		
Discussed	<p><u>Confirmation of action with regard to letter</u></p> <p>At the outset, Mr. Jamil requested to have copy of letter dated 7th November, 2014 which was earlier sent to Joint Secretary (Dev), MoWP by JST. JST explained that this letter was sent to J.S (Dev) being an interim setup as no M.D was on board at that time for quick action in order to convene meeting of PSC for making necessary amendments.</p> <p><u>Convening meeting of PSC</u></p> <p>BRESL Team informed that they have proposed meeting of PSC to be held on 10th or 11th December, 2014 tentatively for amendments proposed by JST subject to availability of Secretary, MoWP. On request of BRESL Team, JST agreed to send letter dated 7th Nov. 2014 to M.D ENERCON. JST stated that they have mentioned in the letter that necessary words be revised and this task must be accomplished by ENERCON before 31st of December, 2014.</p> <p><u>Mentioning name of MoWP on document</u></p> <p>Mr. Jamil requested JST to inform him that would it be sufficient to mention the name of MoWP in the document instead of Government of Pakistan. After deliberation, JST stated that it would fine if the name of MoWP is mentioned in the document.</p> <p><u>Fan, Motor, CFL</u></p> <p>JST stated that guidelines for Fan, Motor and CFL may be revised and should be submitted to Project Steering Committee (PSC) for its approval. BRESL Team agreed to do so accordingly and stated that they have requested for convening meeting of PSC which will tentatively be held on 10th or 11th Dec. 2014.</p> <p><u>Issuance of MEPS by MoWP</u></p> <p>Ms. Sasabe discussed that in the policy matrix it is explicitly mentioned that MoWP/Government of Pakistan shall issue regulations for MEPS. Similarly JST stated they need some evidence as per requirement of policy matrix and emphasized that name of MoWP should be there on the regulations. Mr. Jamil replied and briefed that there are two different procedures for approval of MEPS. One is internal in ENERCON/BRESL for</p>		

preparation of draft MEPS and submission of it to PSC for its approval. Then there is another external procedure that after approval of PSC, these will be forwarded to PSQCA for approval by Technical Committee and National Standards Committee for their final approval. Thereafter with the approval of PSC, these can be issued by MoWP.

Approval by PSC

On responding to the question of JST, Mr. Jamil stated that ENERCON will submit draft MEPS to BRESL Project thereafter the Secretary, MoWP, by default, accords his approval being the Chairman of PSC, therefore, no need to get separate approval from him. ENERCON/BRESL Team also confirmed that once it is approved by PSC, it automatically means approved by MoWP.

Selection of additional three appliances

JST discussed that JST has selected 3 additional appliances for development of MEPS as mentioned in Progress Report Table No.3.1-5 that include, Color T.V, Tubular Fluorescent Lamps, Refrigerator:

Regarding selection of 3 additional appliances, refrigerator has already been included in the scope of BRESL Project, therefore, microwave oven may kindly be included as an alternate appliance instead of refrigerator. After protracted deliberation, JST accepted the proposal of ENERCON/BRESL and included the microwave oven as alternate appliance.

- i. Color T.V
- ii. Tubular Fluorescent Lamps
- iii. Microwave Oven

Situation of Approval of ES&L

JST requested Mr. Jamil to let the JST know that at which procedure they are working for Fans, Motors, CFL. Mr. Jamil stated that before submitting it to PSQCA, draft MEPS have to be approved by PSC first for onward submission to Technical Committee and National Standards Committee for their final approval. He further stated that once the TC and NSC was approved for the MEPS, it will become Pakistan Standards.

Concerns of International donors to meet deadline

JST emphasized that international donors cannot disburse the loan, if the task of ES&L is not accomplished before 31st December, 2014. Mr. Jamil replied that if the PSC approves the MEPS, then it will only take one week to get it approved from PSQCA as a special case. They can request them to arrange meeting of Technical Committee and National Standards Committee to meet the deadline i.e. 31st Dec.

Contribution of BRESL and ENERCON

Mr. Jamil in collaboration of Mr. Asad stated that hopefully all procedures will be completed/fulfilled and done before the deadline, if the situation remains same and work at the part of BRESL and ENERCON will be done efficiently and as the PSQCA is under the MoST, therefore, the authority can put pressure on PSQCA through MoST for holding meeting earlier.

Evidence, document of the approval and difficulties information to be shared with JST

JST asked that once the document is approved and done, can it be shared with JST. Mr. Jamil assured that minutes of PSQCA's meeting will be shared in which approval is granted. And if ENERCON/BRESL will be in any difficulty they will let the JST know.

Future Plan of objective appliances of ES&L in the BRESL Project

Mr. Jamil stated that in the BRESL Project various electrical home appliances have already been included being a regional project, but in the final document of BRESL phase-II some other appliances can be added. May be compressor type equipment (Not defined the type) will be added.

Upgradation of laboratories

On question of Ms. Sasabe, Mr. Jamil stated that UNDP has been working for upgradation of laboratories with collaboration of USAID. He further stated that CLASP has setup its office in Lahore and recruited some staff and some of recruitment is in process.

Pakistan Standard regarding LED

Responding to JST, Mr. Jamil stated PSQCA has already prepared quality standards for LED not for energy efficiency.

Who does that and Support of JST

JST stated that JST understands that there are several procedures required for preparation of additional three appliances. Therefore, if ENERCON needs any help from JST, they can let the JST know for assistance. Mr. Asad stated that definitely they will need support of JST. He further stated that there is need to increase capacity of ENERCON, increase human resources for carrying out all energy efficiency activities efficiently. He further assured that he will discuss this matter with the M.D, then he will let the JST know if there is any support from JST is required at the moment.

TOR of implementation

JST san stated that this is assumption of JST that manufacture will apply before the ENERCON for grant of labels, therefore, ENERCON needs manpower in order to examine, evaluate the application. Time of granting labels is 40 days as mentioned in Section 7 of EE&C Bill. He further asked the ENERCON to let the JST know regarding idea of manpower and budget. Mr. Asad stated the once ENERCON starts labeling for Fan, they would be able to actually know the timeline and other shortcomings. He stated that ENERCON is going to maintain Account for collecting fees of grant of labels. Guidelines, procedures, fees etc are going to floated in the T.V channels, thereafter, manufacturers will automatically abide by guidelines.

Road map

JST briefly explained the road map regarding the following:

- i. **Legal road map** (Enactment of EE&C Act, establishment of PEECB and restructuring/establishment of ENERCON)
- ii. **Policy** (Amendment in Labeling Policy/Guidelines for Grant & Monitoring of Energy Labels in Pakistan vide document No.ES&L/P-01/2012) and (MEPS for Fans should be prepared with assistance of JST and be approved and issued)
- iii. **Incentive** (Effective incentive programme is an important measure for smooth promotion off EE&C appliances)

Mr. Asad suggested JST to have meeting with Secretary, MoWP or M.D ENERCON tomorrow on 21-11-2014 morning, which has been scheduled to be held at 11:00 a.m with the M.D ENERCON

Awareness Campaign

JST understands that the ENERCON has started awareness campaign to promote ES&L in collaboration of BRESL and WWF. The JST emphasized that it is strongly desirable to enforce awareness campaign in order to accelerate penetration of ES&L application in Pakistan.

Testing Facilities

JST briefly explained the preparation of testing facilities for electrical home appliances and stated that shall be carried out in two steps. And further asked regarding capability of PCSIR for testing and accreditation the laboratory. Mr. Asad replied that PCSIR can only carry out testing and the accreditation will be done by Pakistan National Accreditation Council (PNAC)

Government purchasing programme for ES&L

Ms. Sasabe asked regarding government purchase institution. Mr. Jamil stated that there is a government institution namely PEPRA which procures and regulates the government purchases. He further stated that they have proposed to PEPRA to frame certain rules making mandatory that all government office will purchase energy efficient products. This proposal has been submitted to MoWP, once it is approved by the Cabinet, it will be effective.

JST provided some examples of energy label rebate programme and government purchasing programme for ES&L appliances in the Japan, New Mexico, Indonesia, Korea, China and explained it to the participants of the meeting.

Future support of ENERCON

Mr. Asad assured that whatsoever is under the domain of ENERCON, they will surely continuing to do work under direction of MoWP and with assistance of JST. Outcome of thereof will also be shared with the JST through emails, skype or any other suitable means.

Year Book 2013-2014

Ms. Sasabe requested to know the year book of ENERCON for 2013-14, Mr. Asad will it check, if drafted by MoWP, he will provide.

Change of Secretaries

Mr. Asad seriously expressed his concerns regarding posting of Secretaries. He further stated that 3 to 4 Secretaries have been changed for the last year, which remained an impediment to go forward.

Building Code in Pakistan:

Ms. Sasabe asked that has Pakistan changed its building energy codes? Mr. Asad replied that Pakistan has changed its building energy code. ENERCON did not have any law, therefore, they used the forum of Pakistan Engineering Council for development of energy codes and created a chapter of energy code and included it in building codes of Pakistan. Ms. Sasabe further asked to know if there was/is any support from International Donor regarding building code. Mr. Asad explained that they are expecting that KFW might be come up to start supporting ENERCON on this issue in the next year. He also provided the name of concerned person i.e. Dr. Pervaiz in KFW. On request of Ms. Sasabe, Mr. Asad also showed a document regarding energy efficiency housing improvement of thermal performance of RC Slab in Islamabad for the residential buildings wherein they focused to educate thee people how to construct houses, future planning, etc.

LED Lights

On request of Ms. Sasabe, Mr. Asad informed that in some areas like Abpaara, LED lights have been installed and also in some parks. He further stated that some of government buildings have also installed LED lights. ENERRCON changed replaced the lights with LED with the fund provided by the Government of Pakistan. Ms. Sasabe further raised point that is there any survey for LED lights? Mr. Asad replied and stated that no survey has yet been carried out but it has been seen that so many people are using LED lights. Similarly, K-Electric Power Supply Company in Karachi in collaboration with Chamber of Commerce is educating the people for use of LED lights. Mr. Jamil briefly explained that LED lights and LED TV is being used by the people but it is expensive than the other conventional lights and T.Vs. It is mostly used in offices, buildings, commercials places, housing societies without any awareness campaign. Mr. Asad stated that ENERCON is also going to launch LED lights campaign for that matter there should be concrete policy.

ECF overview

Responding to question of Ms. Sasabe, Mr. Asad briefed her on the energy conservation fund and stated that initially ECF used for leasing companies to procure equipment for delivery to the clients. There were some defaults, but now the board had taken decision that defaulted money should be recovered. New ECF will be utilized through AA or AAA rate banks that directly comes under the control of State Bank of Pakistan.

Procedure about authorization

JST stated that he understands the tentative schedule of PSC meeting which will be held on 10th or 11th

November, 2014 and the action on part of MoWP will hopefully done. If there will be any change of M.D, what will be the position. Mr. Asad stated that if there will be change of M.D, they do not know exactly what will happen, but if the situation remains same, all task will be accomplished positively by 31st December, 2014.

Reiterated selected 3 additional items

JST reiterated the earlier selected 3 additional appliances for confirmation from Mr. Asad, he confirmed that Color Tv. TFL and microwave is fine.

MEETING MEMO

Date	November 20 th , 2014	Time	12:30 p.m to 3:30 p.m
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERNON: Mr. Asad Mehmood, Technical Manager, Mr. Ali Raza Shah, Incharge Labelling Section and Ms. Fozia Deputy Chief. BRESL: Mr. Jamil Ahmed, Technical Expert and Ms. Tammana Banori, NPC JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Muhammad Ilyas, and Ms. Amber Pervaiz		
Obtained Documents	-NONE-		
Discussed	<p>1. <u>Confirmation of action with regard to letter</u></p> <p>At the outset, Mr. Jamil requested to have copy of letter dated 7th November, 2014 which was earlier sent to Joint Secretary (Dev), MOWP by JST. JST explained that this letter was sent to J.S (Dev) being an interim setup as no M.D was on board at that time for quick action in order to convene meeting of PSC for making necessary amendments.</p> <p>(1) <u>Convening meeting of PSC (Project Steering Committee)</u></p> <p>BRESL Team informed that they have proposed meeting of PSC to be held on 10th or 11th December, 2014 tentatively for amendments proposed by JST subject to availability of Secretary, MOWP. On request of BRESL Team, JST agreed to send letter dated 7th Nov. 2014 to M.D ENERCON. JST stated that they have mentioned in the letter that necessary words be revised and this task must be accomplished by ENERCON before 31st of December, 2014.</p> <p>(2) <u>Necessity to revise guidelines for ES&L policy</u></p> <p>JST stated that guidelines for ES&L policy may be revised and should be submitted to Project Steering Committee (PSC) for its approval. BRESL Team agreed to do so accordingly and stated that they have requested for convening meeting of PSC which will tentatively be held on 10th or 11th Dec. 2014.</p> <p>(3) <u>Necessity to revise guidelines for Fans, Motors and CFLs</u></p> <p>JST stated that guidelines for Fans, Motors and CFLs may be revised and should be submitted to Project Steering Committee (PSC) for its approval. BRESL Team agreed to do so accordingly and stated that they have requested for convening meeting of PSC which will tentatively be held on 10th or 11th Dec. 2014.</p> <p>(4) <u>Issuance of ES&L document by MOWP</u></p> <p>Mr. Jamil requested JST to inform him that would it be sufficient to mention the name of MOWP in the document instead of Government of Pakistan. After deliberation, JST stated that it would fine if the name of MOWP is mentioned in the document.</p>		

Ms. Sasabe discussed that in the policy matrix it is explicitly mentioned that MOWP/Government of Pakistan shall issue regulations for MEPS. Similarly JST stated they need some evidence as per requirement of policy matrix and emphasized that name of MOWP should be there on the regulations. Mr. Jamil replied and briefed that there are two different procedures for approval of MEPS. One is internal in ENERCON/BRESL for preparation of draft MEPS and submission of it to PSC for its approval. Then there is another external procedure that after approval of PSC, these will be forwarded to PSQCA for approval by Technical Committee and National Standards Committee for their final approval. Thereafter with the approval of PSC, these can be issued by MOWP.

On responding to the question of JST, Mr. Jamil stated that ENERCON will submit draft MEPS to BRESL Project thereafter the Secretary, MOWP, by default, accords his approval being the Chairman of PSC, therefore, no need to get separate approval from him. ENERCON/BRESL Team also confirmed that once it is approved by PSC, it automatically means approved by MOWP.

On responding to the answer of Mr. Jamil, JST emphasized that international donor requested to submit the evidence of issuance of MOWP, it is better to make the document with signature of representative.

(5) Concerns of International donors to meet deadline

JST emphasized that international donors cannot disburse the loan, if the task of MEPS is not accomplished before 31st December, 2014. Mr. Jamil replied that if the PSC approves the MEPS, then it will only take one week to get it approved from PSQCA as a special case. They can request them to arrange meeting of Technical Committee and National Standards Committee to meet the deadline i.e. 31st Dec. Mr. Jamil in collaboration of Mr. Asad stated that hopefully all procedures will be completed/fulfilled and done before the deadline, if the situation remains same and work at the part of BRESL and ENERCON will be done efficiently and as the PSQCA is under the MOST, therefore, the authority can put pressure on PSQCA through MOST for holding meeting earlier.

(6) Evidence, document of the approval and difficulties information to be shared with JST

JST asked that once the document is approved and done, can it be shared with JST. Mr. Jamil assured that minutes of PSQCA's meeting will be shared in which approval is granted. And if ENERCON/BRESL will be in any difficulty they will let the JST know.

2. Selection of additional three appliances

JST discussed that JST has selected 3 additional appliances for development of MEPS as mentioned in Progress Report Table No.3.1-5 that include, Color T.V, Tubular Fluorescent Lamps, Refrigerator:

Regarding selection of 3 additional appliances, refrigerator has already been included in the scope of BRESL Project, therefore, microwave oven may kindly be included as an alternate appliance instead of refrigerator. After protracted deliberation, JST accepted the proposal of ENERCON/BRESL and included the microwave oven as alternate appliance.

- i. Color T.V
- ii. Tubular Fluorescent Lamps
- iii. Microwave Oven

(1) Situation of approve of ES&L for Fans, Motors and CFLs

JST requested Mr. Jamil to let the JST know that at which procedure they are working for Fans, Motors, CFLs. Mr. Jamil stated that before submitting it to PSQCA, draft MEPS have to be approved by PSC first for onward submission to Technical Committee and National Standards Committee for their final approval. He further stated that once the TC and NSC was approved approves for the MEPS, it will become Pakistan Standards.

(2) Future Plan of BRESEL, Phase-II

Mr. Jamil stated that in the BRESL Project various electrical home appliances have already been included being a regional project, but in the final document of BRESL phase-II some other appliances can be added. May be compressor type equipment (Not defined the type) will be added.

(3) The 3 additional Appliances, Microwave/TV/FTL (Refrigerator cancelled)

Regarding selection of 3 additional appliances, refrigerator has already been included in the scope of BRESL Project, therefore, microwave oven may kindly be included as an alternate appliance instead of refrigerator. After protracted deliberation, JST accepted the proposal of ENERCON/BRESL and included the microwave oven as alternate appliance.

(4) Assistance of JST against ES&L for three additional appliances

JST stated that JST understands that there are several procedures required for preparation of MEPS. Therefore, if ENERCON needs any help from JST, they can let the JST know for assistance. Mr. Asad stated that definitely they will need support of JST. He further stated that there is need to increase capacity of ENERCON, increase human resources for carrying out all energy efficiency activities efficiently. He further assured that he will discuss this matter with the M.D, then he will let the JST know if there is any support from JST in the midterm basis.

JST mentioned for the short term basis assistance to ENERCON to complete the draft and approval/ issuance procedures as follows:

- a) Policy of MEPS and Labeling for draft and approval/issuance
- b) Three BRESEL appliances, i.e. Fan, Motor and CFL, for draft of Guideline and approval/issuance
- c) The additional three JICA appliances, i.e. TFL, Color TV and Microwave oven, for drafting of Guidelines.

This is short term basis assistance will be done via internet, e-mail and telephone.

3. Upgrade of laboratories by USAID

On question of Ms. Sasabe, Mr. Jamil stated that UNDP has been working for upgrade of laboratories with collaboration of USAID. He further stated that CLASP has setup its office in Lahore and recruited some staff and some of recruitment is in process.

4. Human resource of implementation of ES&L

JST suggest that ENERCON shall provide Human resource of implementation of ES&L.

JST stated that this is assumption of JST that after introduction of MEPS & Labeling manufacture will apply to the ENERCON for grant of labels, therefore, ENERCON needs manpower in order to examine, evaluate the application. ENERCON should estimate volume of working time required. He further asked the ENERCON to let the JST know manpower and budget matters of estimation basis. Mr. Asad stated the once ENERCON starts labeling for Fan, they would be able to actually know the timeline and other shortcomings. He stated that ENERCON is going to maintain Account for collecting fees of grant of labels. Guidelines, procedures, fees etc are going to be introduced in the T.V channels, thereafter, manufacturers will take necessary action accordingly by the guidance by ENERCON.

5. Road map

JST briefly explained the road map regarding the following:

(1) Legal road map

Enactment of EE&C Act, establishment of PEECB and restructuring/establishment of ENERCON

(2) Policy

Amendment in Labeling Policy/Guidelines for Grant & Monitoring of Energy Labels in Pakistan vide document No.ES&L/P-01/2012) and (MEPS for Fans should be prepared with assistance of JST and be approved and issued

(3) Incentive

Effective incentive programme is an important measure for smooth promotion off EE&C appliances.

Ms. Sasabe asked regarding government purchase institution. Mr. Jamil stated that there is a government institution namely PEPPRA (Public Procurement Regulatory Authority) which procures and regulates the government purchases. He further stated that they have proposed to PEPPRA to frame certain rules making mandatory that all government office will purchase energy efficient products. This proposal has been submitted to MoWP, once it is approved by the Cabinet, it will be effective.

JST provided some examples of energy label rebate programme and government purchasing programme for ES&L appliances in Japan, New Mexico, Indonesia, Korea, China and explained.

Awareness Campaign Ms. Sasabe asked regarding government purchase institution. Mr. Jamil stated that there is a government institution namely PEPPRA (Public Procurement Regulatory Authority) which procures and regulates the government purchases. He further stated that they have proposed to PEPPRA to frame

certain rules making mandatory that all government office will purchase energy efficient products. This proposal has been submitted to MoWP, once it is approved by the Cabinet, it will be effective.

JST provided some examples of energy label rebate programme and government purchasing programme for ES&L appliances in Japan, New Mexico, Indonesia, Korea, China and explained.

JST understands that the ENERCON has started awareness campaign to promote ES&L in collaboration of BRESL and WWF. The JST emphasized that it is strongly requested to enforce awareness campaign in order to accelerate penetration of ES&L application in Pakistan.

(4) Testing Facilities for Accreditation

JST briefly explained the preparation of testing facilities for electrical home appliances and stated that shall be carried out in two steps. And further asked regarding capability of PCSIR for testing and accreditation the laboratory. Mr. Asad replied that PCSIR can only carry out testing and the accreditation will be done by Pakistan National Accreditation Council (PNAC)

6. Future support of ENERCON

Mr. Asad assured that whatsoever is under the domain of ENERCON, they will surely continuing to do work under direction of MOWP and with assistance of JST. Outcome of thereof will also be shared with the JST through emails, skype or any other suitable means.

7. Activities record of ENERCON (Sharing Year Book 2013-2014)

Ms. Sasabe requested to know the year book of ENERCON for 2013-14, Mr. Asad will check, if drafted by MOWP, he will provide.

8. Building Code in Pakistan:

Ms. Sasabe asked that has Pakistan changed its building energy codes? Mr. Asad replied that Pakistan has changed its building energy code. ENERCON did not have any law, therefore, they used the forum of Pakistan Engineering Council (PEC) for development of energy codes and created a chapter of energy code and included it in building codes of Pakistan. Ms. Sasabe further asked to know if there was/is any support from International Donor regarding building code. Mr. Asad explained that they are expecting that kfw might be come up to start supporting ENERCON on this issue in the next year. He also provided the name of concerned person i.e. Dr. Pervaiz in kfw. On request of Ms. Sasabe, Mr. Asad also showed a document regarding energy efficiency housing improvement of thermal performance of RC Slab in Islamabad for the residential buildings wherein they focused to educate thee people how to construct houses, future planning, etc.

9. Introduction of LED Lights in Pakistan

On request of Ms. Sasabe, Mr. Asad informed that in some areas like Abpaara, LED lights have been installed and also in some parks. He further stated that some of government buildings have also installed LED lights. ENERRCON changed replaced the lights with LED with the fund provided by the Government of Pakistan. Mr. Asad stated that no survey has yet been carried out but it has been seen that so many people

are using LED lights. Similarly, K-Electric Power Supply Company in Karachi in collaboration with Chamber of Commerce is educating the people for use of LED lights. Mr. Jamil briefly explained that LED lights and LED TV is being used by the people but it is expensive than the other conventional lights and T.Vs. It is mostly used in offices, buildings, commercials places, housing societies without any awareness campaign. Mr. Asad stated that ENERCON is also going to launch LED lights campaign for that matter there should be concrete policy.

10. ECF overview

Responding to question of Ms. Sasabe, Mr. Asad briefed her on the energy conservation fund and stated that initially ECF used for leasing companies to procure equipment for delivery to the clients. There were some defaults, but now the board had taken decision that defaulted money should be recovered. New ECF will be utilized through AA or AAA rate banks that directly comes under the control of State Bank of Pakistan.

11. Wrap up of meeting

(1) Procedure about authorization

JST stated that he understands the tentative schedule of PSC meeting which will be held on 10th or 11th November, 2014 and the action on part of MOWP will hopefully done. If there will be any change of M.D, what will be the position. Mr. Asad stated that if there will be change of M.D, they do not know exactly what will happen, but if the situation remains same, all task will be accomplished positively by 31st December, 2014.

(2) The 3 additional appliances by JICA items

JST mentioned the selected 3 additional appliances for confirmation from Mr. Asad, he confirmed that Color Tv, TFL and microwave is fine.

MEETING MEMO

Date	November 21 th , 2014	Time	11:20 A.M to 12:15 P.M
Organization	ENERCON Venue: ENERCON Building, G-5/2, Islamabad.		
Department			
Attendances	ENERCON: Mr. Hassan Nasir Jamy, Managing Director; Mr. Asad Mahmood, Technical Manager; BRESL: Ms. Tamana Banori, NPC; and Mr. Jamil Ahmed, Technical Expert JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki; Mr. Wakabayashi,; Ms. Amber Pervaiz and Mr. Muhammad Ilyas		
Obtained Documents	-NONE-		
Discussed	<p><u>Introduction.</u></p> <ol style="list-style-type: none"> 1. At the opening of the meeting, Managing Director, ENERCON, Mr. Hassan Jamy, thanked JICA and JICA Survey Team for endlessly working to address the issue of energy efficiency and conservation in Pakistan. He informed the participants that the current government is taking keen interest to tackle the energy crises on urgent basis. 2. In response, JST thanked M.D. and his team for their continuous cooperation during the survey. JST informed that these new developments were discussed during yesterday's (20th November) meeting with ENERCON and BRESL's team which lasted over three hours time and today the main purpose of requesting the meeting is to brief him on the outcome of yesterday discussions. <p><u>Re-submission of letter and requested action.</u></p> <ol style="list-style-type: none"> 3. JST informed MD that the letter which was submitted on the 7th November to the MoWP will be resubmitted today addressed to him as MD-ENERCON on the request and suggestion of Mr. Jamil-BRESL. It was informed that the contents are exactly the same and just the name has been changed. 4. JST further reiterated that MEPS for Fans, Motors and CFLs which are under process of finalization by ENERCON and BRESL need to be finalized and issued by end of December 2014 and must be authorized by Governments approval. Also, JST suggested revision of the labeling policy (green booklet), it must be revised and approved by PSC. The MEPS for Fans have already been drafted, but must be revised and issued before the deadline. In response, MD asked BRESL to give timeframe for the revision of MEPS for Motors, Fans and CFLs. In response, Mr. Jamil from BRESL assured to provide the revised documents versions by next week. 5. JST emphasized all documents that are going to be approved by PSC regarding ES&L shall be issued by MOWP. In response, MD reiterated that the mentioned documents will be accordingly issued by MOWP. 		

Tentative timeline.

6. JST inquired about the final date of PSC meeting which has been tentatively set for 11th December 2014. In response, ENERCON informed that the meeting date will be confirmed next week and most likely PSC meeting will be held on 11th December.
7. JST stressed that the completion of MEPS for Fans, Motors and CFLs must be issued before deadline and JST is there to assist whenever required.

Additional Three appliances.

8. JST confirmed that JICA/JST has decided to select microwave ovens; TFLs and Television as final **additional** three appliances.

Current situation of enactment of EE&C Act.

9. Ms.Sasabe, inquired about the status of the energy bill and expressed concerns about the delays especially due to the upcoming protests on 30th November which will have an impact over the list of priorities in the upcoming Parliament Session. In response, MD informed that at this moment they are not certain about the definite date of the next session of the Parliament. However, he will try to get the Bill cleared through the Cabinet and will make an effort through the Cabinet Division also to put the ES&L bill on fast track process, so that it can be adopted by end December or perhaps January 2015.
10. Ms.Sasabe also reiterated the importance of producing MEPS but also the question of implementation. She said that at this moment she can't commit but perhaps JICA might be able to send resources for the implementation phase as well.

Future course of plan of ENERCON.

11. Ms. Sasabe, further inquired about the timeline of ENERCON and its future course of action, when will that be shared with JICA/JST. In response, MD also expressed his sense of urgency to lay down the timeline for ENERCON's activities for future, as energy is on the highest priority for the Government of Pakistan. MD instructed his officer to prepare the timeline and to share it by the first week of December (in two weeks time).

List of Activities of ENERCON.

12. Ms.Sasabe also requested for the list of activities of ENERCON during the fiscal year of 2013-2014. In response, MD assured that the list of ENERCON activities will be provided by next Friday.

Sharing of copy of minutes of the PSC meeting.

13. In concluding remarks, Ms. Sasabe thanked MD for passionately and actively participating in the

activities. Mr. Jamy (MD) thanked once again and reiterated the importance of Bill and its enactment, and hoping that it will be adopted in December or January next year. Upon, the request by JST, Mr.Jamy committed to provide the copy of evidence/minutes of the PSC meeting to JST which will be shared by ENERCON officially.

MEETING MEMO

Date	November 21 st , 2014	Time	2:30 p.m to 4:00 p.m
Organization	Pakistan Engineering Council Venue: Pakistan Engineering Council, G-5/2, Islamabad		
Department			
Attendances	PEC: Eng. Khadim Hussain Bhatti-Secretary/Registrar and Engr. Dr. Ashfaq Ahmed Sheikh-Additional Registrar. JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki, Mr. Wakabayashi, Mr. Muhammad Ilyas, and Ms. Amber Pervaiz		
Obtained Documents	-NONE-		

Discussed

Introduction and preliminary discussion.

At the outset, Secretary/Registrar Mr. Bhatti welcomed the JICA Study Team at PEC building for meeting regarding building code in Pakistan. Mr. Bhatti briefly introduced the PEC and its functions to the participants. He stated that one of major function of PEC is to develop standards and recently they have already prepared procurement standards.

Energy Efficiency and Conservation in Pakistan

Ms. Sasabe introduced the members that JICA is promoting energy efficiency and conservation in Pakistan collectively with collaboration of ADB and World Bank. Presently they have been working with the ENERCON for development of standards of electrical home appliances.

Building Code of Pakistan

Mr. Ashfaq informed that PEC has launched the Building Codes in Pakistan through an SRO. Now they are at the implementation phase, but due to financial constraints, they are facing certain problems for ensuring its implementation. He further discussed the phases of the Project:

Phase-1: of energy provision for Industrial sector.

Phase-2: of energy provision for domestic consumers up to 25 KW.

He also discussed the following points:

- a Building Code of Pakistan Seismic Provisions-2007 (For periodic updating)
- b Building Code of Pakistan Energy Provision-2011 (Implementation Plan)
- c Pakistan Electric and Telecom Safety code (First draft finalized)
- d National Fire Safety Code (Under development process)

He further elaborated that PEC may further support the implementation of energy code by getting the Engineering Universities on board for the following:

- a. For upgradation of their testing facilities/laboratories;
- b. For developing and adopting the BEC requirements in the respective disciplines curriculum;

c. Starting of short courses with reference to BEC at Engineering Universities.

He also deliberated that in order to produce certified Energy Managers, training modules will be developed addressing all levels of education. For this purpose, the Committee would be constituted comprising of PEC, UET-Peshawar, NED, UET, ENERCON and PCATP.

Responding to the question of Ms. Sasabe, Mr. Ashfaq informed that on issuance of SRO by PEC, now all organizations have started work on it by changing their bye-laws for saving energy from 15% to 20%.

Testing facilities of PSQCA

Ms. Sasabe asked to know about the testing facilities of PSQCA. Mr. Ashfaq informed that PSQCA does not have as such testing facilities but they are working for development of standards i.e. Pakistan standards for so many appliances.

Energy Audit of PEC Building

On request of Ms. Sasabe, Mr. Ashfaq informed that they have had energy audit of the Pakistan Engineering Council Building in the year 2010.

Autonomy of PEC

Mr. Ashfaq informed that as the PEC was established under the Parliament Act in the year 1976 for regulating engineering professions, therefore, being a regulator, the Government of Pakistan allows them to carry out work independently. Hence, they have issued SRO regarding Energy Code in Pakistan which is to be adopted by all the public sector organizations, private sector organizations. He further emphasized that checks and balances on the building code is the responsibility of Building Authorities (CDA for Islamabad, RDA for Rawalpindi and LDA for Lahore for instance).

Chapter of Energy Code in Building Code of Pakistan:

Mr. Ashfaq briefed the participants that as they have building code prepared by PEC, therefore, instead of creating separate document of energy code, they created a chapter for energy code in the Building Code of Pakistan which have been prepared in collaboration of ENERCON. Now they are at the phase of implementation. He further stated that they review the energy code after one year and thereafter they will review periodically three years in order to measure the advantages and disadvantages. He informed that Building Code in Pakistan is not on voluntary basis rather these are mandatory, but few provisions are voluntary. Building Codes are to be applied to:

- a New Buildings
- b Retrofitting Buildings.

While giving example of building codes, he invited the attention on some commercial places like Serena Hotel, Marriot Hotel, Telecommunication Building etc. that have adopted the codes in true letter and spirit.

Support of JICA to PEC

Ms. Sasabe stated that she cannot make commitment at this stage, but JICA can send expert to provide technical assistance to PEC and if the energy code are implemented, next year JICA will work in order to enforce implementation of energy code hopefully.

Penalty for not obeying the building codes in Pakistan

JST requested to let him know the penalty for not complying with the building codes in Pakistan because these codes are mandatory for all. Mr. Ashfaq mentioned that they are planning to implement. Obviously, it will take some time. As soon as they finalize the implementation mechanisms, necessary penalties will be enforced. He stated that PEC has power of civil court and they can summon any one for violation of provisions of Building Code of Pakistan.

MEETING MEMO

Date	February 10, 2014 - Tuesday	Time	3:15 pm to 4:30 pm
Organization	KfW – German Development Bank Venue: KfW Office, F-7/4, Islamabad		
Department			
Attendances	KfW: Dr. Parvaiz Naim, Senior Sector Coordinator JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki; Mr. Fukushima; Ms. Amber Pervaiz and Mr. Muhammad Ilyas		
Obtained Documents	-NONE-		

Salient Points:

1. At the beginning of the meeting Ms. Sasabe briefed Dr. Parvaiz about the Energy Efficiency and Conservation project. She explained how JICA, ADB and World Bank is working together to promote Minimum Energy Standards (MEPS) in Pakistan and ENERCON is the implementing partner.
2. She also shared the final Energy and Conservation report with the representative of KfW and informed him that now JICA is looking at the next phase of the project, which will involve financing incentives for energy efficiency and conservation. For instance low interest rate scheme for people who would buy MEPS and Labeling products.
3. Further, she requested the representative of KfW to share the experiences for providing financial incentives, or other scheme/projects supporting the energy sector.
4. In response, the Dr. Parvaiz informed that KfW would like to support such programs and they have been following energy sector reforms carefully and observing the huge amount of money going into the energy sector. Regarding policy reform, the representative expressed his disappointment on the energy policy reform for lack of improvement.
5. He further explained that KfW is mostly involved in large scale energy generating projects for instance hydropower projects in Pakistan; improving the infrastructure of the building; integrating solar PV's and solar water heater systems etc.
6. He gave some examples of initiatives like energy audits carried out by ADB & ENERCON. Also, UNHABITAT is trying to improve the roof insulations etc.
7. Another concern which he expressed was about the budgeting cycle of the Government of Pakistan in which they are allotted certain amount of budget for paying the utility bills, which always falls short for the due payments. But unfortunately the amount allotted for the payments is not sufficient enough, therefore most of the government departments are defaulters, and the accumulated arrears almost amount more than 2.5 billion rupees.

8. Pakistan Building code for Energy Efficiency has been approved but unfortunately it is copy/paste from the US Energy Efficiency Building code. Whereas the building code in Pakistan which is actually used is a metric system. However, this still could be a good start for building energy codes and for actually implementing it.
9. The representative from KfW informed that they have commissioned a study of SME's (small and medium term enterprises) for those industries that are involved in construction material business. They hired US consulting firm to carry out the survey in March 2014. He pointed out that there are 3 companies that are involved in producing insulation material for buildings and 2 companies that are making double pane windows. The cost of production is very high and the market is yet not ready for such high cost equipment.
10. KfW representative further informed that GIZ is working in different industries, and air-conditioners is something which they have not touched yet. There are lot of AC's in the market consuming 5.6 kilowatt, and most of them are 500 BTU. However, there are some inverter technology in the market but not of a high standard or good quality.
11. The mirco-financing scheme which is currently available has been set upto Rs.500,000/- loan which should not exceed more than that. There is potential in such schemes, lot of people are doing this privately but such schemes are not being carried out at a large scale. He underlined the problem of capital cost which makes the difference.
12. Micro-financing credit guarantee system. There are different credit system for commercial banks which can be explored further. Also, suggested to meet State Bank who is very much interested in Green Financing.
13. The representative from KfW informed that they are creating a facility known as "Pakistan Microfinance Investment Company". It will be a collaborative venture of KfW, Pakistan Poverty Alleviation Fund (PPAF) and DFID. This investment company will partner and give guarantee to the commercial banks. It will be an incentive for the Banks to provide soft loans to the vendors, and these vendors can further provide financing installment schemes or loans to consumers. In this way consumers will be able to take loans for promoting energy efficiency. The Investment company will be registered as an independent entity by March 2015. It will act as a guarantor to the commercial banks to provide loans further for promoting energy efficiency. This initiative will be a good incentive for the retailers to provide support, creating facilities and services for renewable energy.
14. He highlighted that KfW, PPAF and DFID will be share, holders of the company and it will be registered independently. The representative from KfW expressed great interest to have JICA on board in such initiative, especially to fill in any other missing components for the implementation of the project.

15. A similar program is being implemented by KfW in Bangladesh, which acts as an apex body for providing concessional loans to small businesses and industries for promoting renewable energy and energy efficiency products.
16. Dr. Parvaiz mentioned that KfW is in close discussions with the State Bank of Pakistan based in Karachi. He noted that the State Bank of Pakistan is very much interested in “Green Financing” and this must be something which JICA can further explore.
17. Ms.Sasabe, mentioned that ENERCON has Energy Conservation Fund which can be used. In response the representative from KfW informed that the fund exists amounting \$3 billion but nothing has happened so far. The fund is sitting in the banks but never been used. On positive note the money is growing and is now double the amount. He emphasized that its not the matter of gathering the funds but how to operationalize it.
18. On the matter of operationalizing he stated that the lack of leadership at ENERCON is one of the reason for the lack of project implementation and of sustaining the existing projects. ENERCON is a good organization but unfortunately it has not been able to carry out its mandate as designed. ENERCON has great projects for instance solar water heaters; tuning of engines; energy building codes etc. but unfortunately there has been not much progress.
19. He generally shared ideas of possible co-financing or perhaps parallel financing from JICA; or some kind of technical cooperation, or whatever JICA feels they can do as a partner.
20. The representatives of KfW suggested to review labeling system for commercial and residential building codes which could be done first. *For instance:* i)- Improvement of existing energy codes, & ii) Commercial building codes.
21. As an example he mentioned the Planning Commission project of net metering which even after 4 years they have not been able to implement. Perhaps, net metering could be something which government should be able to do it and JICA can provide assistance in this area.
22. He emphasized that JICA should look at the success stories from KPK (Khyber Pakhtunkhwa Province, one of Province of Pakistan) on treasury bills, and also on medium sized hydro development projects in KPK. He praised the KPK government for efficiency and more success stories for implementing projects as compare to other provinces and highly recommended for implementing energy efficiency projects in KPK as they will be more effective in implementing them.
23. In the end, KfW representative highly suggested that besides banks also to meet with the following organizations for carrying out the next phase of JICA’s energy efficiency project and to identify the gaps where JICA can contribute. Following are the organizations recommended by KfW:
 - a. Association of Builders and Developers of Pakistan (ABAD) Karachi;

b. Energy Council of Pakistan (ECP); and

c. Pakistan's Public Work Department (PWD);

23. In concluding remarks, Ms. Sasabe thanked Dr. Parvaiz Naim for taking time out for the meeting and briefing the JICA team on the financing initiatives and projects being carried out by KfW and their experience in Pakistan. In response, Dr. Parvaiz thanked the JICA team for the interest in learning more about the activities being carried out by KfW and extended his full cooperation in the future when needed.

MEETING MEMO

Date	February 11 th , 2015	Time	09:00 a.m to 12:00 noon
Organization	ENERCON Venue: ENERCON Building, G-5, Islamabad.		
Department			
Attendances	ENERCON: Mr. Asad Mahmood, Manager Technical-ECF, Mr. Noman Rafiq- ECF, Company Secretary BRESL: Ms. Tamana Banori, NPC UNDP: Mr. Usman Manzoo, Programme Analyst World Bank: Ms. Victoria Minoian, Energy Extractive Marketing and outreach consultant JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki, Mr. Fukushima, Mr. Ilyas, and Ms. Amber		
Obtained Documents	-NONE-		
Discussed			
<p><u>Suggestion of outreach to ENERCON by World Bank expert</u></p> <p>Ms. Victoria Minoian Energy Extractive Marketing and Outreach Consultant of the World Bank gave presentation regarding outreach and communication on energy efficiency and energy conservation (conceptual framework) and emphasized on disseminating campaigns through mass media, to educate the people by providing training and promotional material to the school going children, teachers, manufacturers, consumers and internet users to buy and use the energy efficient home appliances. She also stressed and proposed ENERCON to adopt step by step approach in order to establish promote MEPS and Energy Labels in an easy to understand language. At the end, the stress was given to have synergy among departments to promote same Energy Label for more effective outreach campaign.</p> <p><u>Discussion regarding Draft Final Report</u></p> <p>Five copies of Draft Final Report were submitted to the ENERCON during the meeting held on 10-02-2015 in the ENERCON Building.</p> <p>JST requested that ENERCON as well BRESL to share their opinion by <u>end of February</u>, and any suggestions to improve it.</p> <p>ENERCON asked to change the para regarding Energy Conservation Act in the Bill and to provide data of household survey done in an easy to understand language along with softcopy of the data so it could be uploaded on ENERCON website along with JICA presentation.</p> <p><u>Request of support for making appointment with relevant organization</u></p> <p>JST requested the support of ENERCON to make appointment for meeting with USAID and the State Bank of Pakistan, but ENERCON team replied that it would be difficult to arrange a meeting in short span of time and it would be better if JICA can interact with them directly with USAID as USAID team is actively working on Energy Projects. Similarly, they informed that State Bank of Pakistan's Head Office is in Karachi and even though if a request is sent for meeting with JICA team on short notice it would be difficult</p>			

that the relevant officials can come quickly . ENERCON team also informed that they were interacting with the SBP previously. Mr. Noman explained that a GIZ expert visited Pakistan and indicated certain barriers in Pakistan regarding energy efficiency and conservation. Further stated that ECF is also working to engage local consultants for EE financing

Making appointment of meeting with M.D.

In order to report the result of current survey and share recognition regarding pending legislation that ENERCON should do from now, JST requested to have meeting with M.D ENERCON which will be held on Friday at 16:00 o'clock in the ENERCON building.

Energy Conservation Fund (ECF)

It was explained by Mr.Asad that ECF has allocated 10 million Pak Rupees as per recent ECF BOD meeting decision for different EE promotional activities and it will somehow cover the MEPS information dissemination as well.. ENERCON Team further stated that they have to seek assistance from other stakeholders as well i.e. State Bank of Pakistan, Commercial Banks, Ministry of Water and Power and ENERCON for playing their role in promoting EE financing in context of MEPS. **Evidence of issuance of MEPS and Labeling documents by MoWP**

ENERCON team informed that once the Secretary, MoWP approves the adoption of MEPS then it would be notified as per the Ministry's procedure JST stated that it is the request of international donors to know the status issuance/adoption of MEPS by MoWP, it was informed that after Secretary MoWP approval with signatures MD ENERCON will inform and convey the decision.

Reason of license renewal

ENERCON team stated that in the voluntary phase, if suppose any fan manufacturer changes some design parameters having impact on the service values ¥ they have to apply for grant of Energy Labels again incase going from 2 star to 3 star in that case they have to get license renewed within voluntary period. Only to nurture a culture of Energy Labels printing on products, license renewal system is appropriate till the enactment of bill and making these standards mandatory. Renewal process is only involved due to absence of legislator and giving a bit relaxation to manufacturers

Hiring of consultants by UNDP

Mr. Usman from UNDP informed that ENERCON, BRESL and Ministry of Water and Power have agreed to support UNDP in order to hire technical expert. The experts/consultants would be hired to promote and enhance scope of ES &L. Usman shared the TOR with JICA and ENERCON for review and requested them to provide necessary input. As soon as it is finalized, UNDP will advertise positions. This process of receiving applications/proposals from the candidate will be completed within 15 days starting after the date of advertisement.

Mr. Noman proposed that two persons are essential to accomplish this assignment. One is coordinator and other is technical expert/consultant.

Roadmap for implementation of labeling scheme

JST intended to know about the loan amount and roadmap for implementation of labeling scheme. ENERCON team informed that implementation and dissemination of MEPS will be implemented by ENERCON. Mr. Noman stated that for the time being disseminating workshops for the MEPS is not possible due to lack of resources, once the project is properly established and started, there will be component of awareness as well through ECF.

Uploading of Roadmap on website of ENERCON.

Roadmap on website of ENERCON has been uploaded while ENERCON is waiting to get Household Survey Report Soft copy with executive summary for placing it on ENERCON website.

Confirmation of situation of Enactment of EE&C bill 204.

Mr. Asad explained that the Bill was first time approved by all provincial Chief Ministers (CCI: Council of Common Interest) as well as by the Prime Minister. Thereafter bill was sent to Ministry of Law and Justice for vetting. The same was forwarded to the Cabinet for discussion and approval which was returned back by the Cabinet with remarks to get fresh approval from Ministry of Law and Justice. The needful was done and the bill was forwarded to the Cabinet for its approval but Cabinet meeting did not take place. Finally, Bill was directly forwarded to the Prime Minister on 13th January, 2015 for his approval under section 16 (2) of the Rules of Business, 1973. The file was sent back to MoWP by Additional Secretary PM Office on 29th January, 2015 with remarks to get suggestions of other Ministries (Planning and Development, Petroleum etc) and then get it vetted from Ministry of Law and send it to P.M for his final approval by justifying why its importance fir urgent approval. He further highlighted that the suggestions of other Ministries have already been taken but it was somehow not noticed in detailed by the official who dealt with the file in PM Office. The Ministry's clarification response against queries raised has been prepared to be sent to PM Office once again. Mr. Fukushima asked about the Presidential Ordinance over which it was told that if the Parliament is in session then Presidential Ordinance could not be sent however if the PEEC Bill file is returned back from PM Office then ordinance case could be considered.

Procedure of Presidential Ordinance

ENERCON Team explained procedures of issuance of Presidential Ordinance (hereinafter called P.O.) and stated that P.O can only be issued, if the Parliament is not in session. This has to be discussed with the Managing Director in upcoming meeting on Friday because preference has been to move it through Cabinet and not going for P.O.

Energy efficiency and labeling disseminating programe

It was informed that ENERCON has larger plan for disseminating energy efficiency best practices in different sectors in Pakistan In the absence of act and legal cover granting energy label could pose difficulty for ENERCON if some manufacturer is found not complying with the MEPS even after getting approval for energy labels, so in this scenario if only energy efficient appliances are advertised through media

people will start asking about their availability in the market and then there would be no answer to it. It was further told that there has been certain awareness workshops conducted under BRESL and through electronic & print media as well so they received numerous calls from the public in order to know from where to buy ENERCON energy labeled product but BRESL had no answer for them.

Hiring of consultants by UNDP

As the UNDP is going to advertise the position of expert/consultant for this project, thus, ENERCON will review the TOR of consultant and send it to UNDP for its finalization.

Enforcement Mechanism/penalization

ENERCON cannot enforce, they can only aware, facilitate and develop such projects till the establishment of PEECB and in the existing scenario they are not able to enforce or to punish people for not adopting energy efficient products.

Ministry of Climate Change Role in EE&C

On question of JST, ENERCON Team informed that Ministry of Climate Change does not have budget for ES&L because they are not assigned with such task.

Process to move mandatory basis.

Once they take confidence of manufacturers and the enactment of legal framework is done, the voluntary MEPS will be converted into mandatory after consulting the all stakeholders. Further described that after enactment of energy efficiency and conservation bill, there will be PEECB that will formulate rules and regulations. The PEECB can also establish Technical Sub-Committee which will approve rules and regulations and can also suggest that there should be mandatory compliance from onward.

Additional Three MEPS

JST prepared and shared draft of additional three MEPS of TFLs, Microwave Ovens & TVs with Mr. Asad to have it circulated through ENERCON with other stakeholders for comments. It was told that JICA survey shall close by end of March, 2015. Mr. Asad told that if the bill gets approved then through PEEC Board the MEPS for additional three items could be considered for grant of energy labels or ENERCON will make sure that the MEPS be added in the next PIF going to be developed for GEF..

JST presented reference for TVs, TFLs and Microwave ovens. Testing protocols of IEC and JIS are suggested to be adopted in new MEPS further Mr. Fukushima told that for TVs they have used star rating according to India and for Microwave & TFLs they have focused on JIS and top runner program.

ENERCON can share it to PSQCA or other relevant organization, and if they have any question from technical aspect, they can ask it to JST until 20 February 2015.

Policy action from 3rd Tranche to 5th Tranche and discussion of needed JICA assistance

ENERCON proposed to look and focus on implementation process based on PEEC bill which is

very much important rather than documentation of the project.

Energy efficiency building code

ENERCON informed that regarding energy conservation building codes, there needs to be a compliance book and they are engaging consulting firms to work on the compliance of hand book and imparting trainings. Without EE Act and proper training of provincial/federal development authorities involved in approving designs & giving construction permits Building Code could not be enforced. Ministry of Housing, PEC and ENERCON jointly have to play their role in enhancing knowhow of concerned departments/officials.

MEETING MEMO

Date	February 11, 2014 - Wednesday	Time	3:00 pm to 4:30 p.m
Organization	Muslim Commercial Bank, MCB Venue: MCB Corporate office, Blue Area, Islamabad		
Department			
Attendances	MCB: Ms.Natasha Ahmed, Business Head for Corporate; Mr.Nasir Gheba, Vice President/Unit Head (Wholesale Banking North) JST: Mr. Kuroki; Mr. Fukushima; Ms. Amber Pervaiz and Mr. Muhammad Ilyas		
Obtained Documents	Brochures promoting credit card financing payment options		

Salient Points:

1. JICA team was welcomed by Mr.Gheba, Vice President of the Corporate Section. He thanked JICA team choosing MCB for discussing financial aspects of MCB and about its loan programs. He informed that MCB ranks number 1 in terms of profits and number 4 in its financial status in Pakistan. In response, Mr.Kuroki thanked MCB for taking time out for the meeting and shared the program agenda/ questionnaire with the MCB Representatives.
2. Mr. Kuroki, gave brief background to he MCB Representatives about the Energy Efficiency and Conservation project, he also shared the power point presentation for the future plan of ENERCON for phasing out of appliances that do not comply with the MEPS for Fan, Motors, CFL's and AC's.
3. After briefing the representatives, Mr.Kuroki brought the attention of the representatives to the questionnaire and inquired if the Bank has any experience of working with international developing partners?. In response, Ms.Natasha informed JST, that MCB has been working on renewable energy projects with the Pakistan Government who provides guarantees but so far not with the developing partners.
4. Ms. Natasha informed that MCB has installed its first solar power plant of 50 Megawatts in Sind, this project has been implemented in collaboration with Fauji Energy and has been very successful.
5. To the question regarding receiving guarantee by the Government? MCB informed yes, they do receive guarantees from the Government of Pakistan, and without guarantees on bigger projects it will be very difficult for the banks to invest in large-scale projects and risk huge amount of money.
6. MCB has approximately between 12,000 to 13000 branches all over Pakistan. They also have branches in Malaysia and other countries. The branch information can be easily collected from the branch locator option on the MCB website.
7. Ms. Natasha informed that MCB is leading 9 Banks for one of the project, which is working, on the carpeting of national highway M2.

8. The information on the financial status can be easily downloaded from the MCB.
9. Being the head of Corporate Banking section Ms.Natasha suggested that it would be a great idea if JICA's team can meet their Retail Section head, who is her counterpart. She further explained that it's the retail department who looks at the smaller project where as the corporate deals with large scale projects as renewable energy plants, construction of national highways etc.
10. Ms. Amber explained to the representatives of MCB about the Energy Conservation Fund (ECF) under the MoWP, and inquired if they received any communication or have seen the draft agreement shared in March 2014 with the MCB headquarters?. The representatives were not aware of any such draft agreement and nothing was shared with them before.
11. During the course of discussion Ms.Natasha informed that the bank does provide credit card facilities to the consumers which provides them options to purchase certain items mostly home appliances over the period of 6 months on zero interest rates on their credit cards. She shared some brochures with the JST, these brochures provides the information on available electronic appliances with applicable interest rates. However, there is no such facility or mechanism which provides financial incentives to the manufactures or the vendors to provide financing options to the consumers. She inquired that they will be more than happy to provide some sort of financing options if they have guarantors. On this once again she suggested to meet her colleague in the Retail section who will be able to elaborate on the subject more.
12. In the end, Ms.Natasha and Mr.Nasir thanked JICA for taking keen interest for exploring the MCB bank loan programs. She will be more than happy to arrange a meeting with the Retail section head in Islamabad but perhaps it might be more useful to meet their Retail Section based in Lahore as a head office or even at their Karachi office who will be able to provide much more details on the questions as shared. She also suggested that it will be useful to meet the head of State Bank of Pakistan based in Karachi regarding green financing.

MEETING MEMO

Date	February 12 th , 2015	Time	11:00 a.m to 12:00 noon
Organization	Public Procurement Regulatory Authority (PPRA) Venue: FBC Building, G-5/2, Islamabad.		
Department			
Attendances	PPRA: Nazrat Bashir, M.D and Mr. Alam Zeb Khan, Director General. JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki, Mr. Fukushima, Mr. Ilyas, and Ms. Amber Pervaiz		
Obtained Documents	Pakistan Procurement Code 3 rd Edition		

Discussed

Presentation of summary of current project of JICA Study Team

At the outset, Ms. Sasabe explained that JICA has been working on energy efficiency and conservation in Pakistan in collaboration of World Bank, Asian Development Bank in order to assist the ENERCON and MoWP for development of MEPS of the electrical home appliances. This project is specifically energy sector reforming loan which will be disbursed after fulfilling the necessary conditionalities by the MoWP/ENERCON (Government of Pakistan). JST is to set some policy on the Pakistani Government, once policy is set, international donors will disburse the loan money. At this stage, JST is planning how to implement MEPS in Pakistan.

Roadmap to establish MEPS in Pakistan

Roadmap prepared by ENERCON with support of JICA was shown and explained to M.D. JST also described the summary of energy standards (MEPS) such standards will be introduced in order to reduce energy consumption and to promote efficiency. It was further discussed that MEPS for four electrical home appliances (Fans, CFLs, Motors and A.Cs) were developed. Now they are working to develop standards of Ballasts, Fluorescent Lamps and microwave oven. It was also discussed that ENERCON will try to set incentive countermeasures with the assistance of JICA.

Introduction of governmental purchasing programme in Pakistan.

JST explained that governmental purchasing programme for ES&L is being run in Japan, Korea and China. Some other countries of EU and Unites States of America have also adopted the government purchasing programme for ES&L.

Discussion on governmental purchasing procurement procedures in Pakistan

M.D informed that public procurement is done under Act 2002 which established the Public Procurement Regulatory Authority and subsequently some rules were framed in the year 2004. Copy of rules was shared with JICA. She further stated that PPRA rules are compliant with the International Best Practices. Basic emphasis is on open competition to increase fair and transparent competition. Provinces have their own regulatory authorities and they have their own set of rules. Federal Government Departments follow PPRA Rules, 2004 for governmental purchasing. She informed if the government procurement is established for

ES&L, then ENERCON will also have to follow the prevalent PPRA rules 2004 as well.

Director General, PPRA stated that there are certain thresholds in public procurement that if the public procurement exceeds 100,000 rupees that procurement would be advertised in the national newspaper for competition. He further invited the attention on PPRA Rules, 2004, rule-5 where there is a provision for international and intergovernmental relationships. If the World Bank gives loan to Government of Pakistan so these public procurement rules are not yet be applicable and the WB guidelines will be applicable. They also say procurement guidelines will be applicable.

Federal Government Procurement and Provincial Government Procurement

M.D informed that Federal Government has not any interference because Provinces are independent/autonomous unit. But federal government can discuss with provinces, if the provinces agreed, then they can move forward for governmental purchasing for ES&L.

Development of standards

Ms. Sasabe stated that we developed standards in collaboration of PSQCA and ENERCON but these standards are still on voluntary basis, once these become mandatory after enactment of bill for the manufacturers to produce energy compliant products according to set standards. Meanwhile, JICA is trying to find a way to promote standards.

M.D discussed that rules were developed in 2004, now the year 2015, many changes come in to green procurement this is one of the idea which PPRA brings into rules and then federal government has power to approve such rules then it will become effective.

Manufacturers complying with standards.

JST informed that according to a survey which was conducted in the year 2010, only 10% manufacturers of the Fan are compliant with MEPS, there must be all manufacturers complaint with the standards.

MEPS voluntary to Mandatory

Ms. Sasabe further informed that the timeline of voluntary MEPS is three years, yet it is not final because energy efficiency bill is not acted but ENERCON is endeavoring to do so. She further informed that at this stage they are encouraging the consumers to follow standards and other industry are also the government can show. If we look at fan, it may be limited but if the government purchases is on the other side is concerned, there would be good share that encourages

Procurement of Fan for government.

Director General informed that if we divide private and government purchases for ES&LL, the government is the biggest purchaser in other equipment and in case of Fan the government share is not still that much big as the private sector because it is the biggest purchaser. He further said that if JICA introduced 6 standards in Pakistan, the government purchasing may not have that much impact.

Amendment of existing PPRA rules for green procurement

On the question of JICA, M.D informed that they have approved certain amendments in existing rules and took these rules to Board of Directors and then they have to share it with the other stakeholders and now they are examining them within PPRA and they have also received some suggestions. She further stated that PPRA can also include the green procurement. She apprised that rules amendment tenure is 5-6 months minimum for its finalization.

Data regarding budget of government for purchasing electrical appliances

They said as they are not so much concerned with government budget because there are more 3000 government agencies which are using government budget, thus, Director General suggested to approach the Federal Board of Revenue (FBR) for getting such information because they are the tax collector and they know better about the production of industry and consumption by the government.

New Concepts of open contracting standards

M.D discussed that yesterday they had conference wherein various countries brought out concept of open contracting standards they have developed international codes for each products.

USAID contribution to preparing rules of PPRA.

She informed that USAID consultant prepared rules and they added in that rules and shared with other stakeholders and recently they are in receipt of suggestions from the stakeholders in order to revise rules. Mr. Asad Maken was the USAID consultant and presently he is working in DFID Project in Serena Business Complex.

Usability of government procuring.

She discussed that government purchasing/procurement is very much useful. Before the year 2002, Act came into being and the government procurement was started. If government procurement for ES&L is established it will also be useful for the consumers as well as for the manufacturers.

MEETING MEMO

Date	12 th February, 2015	Time	4:30 p.m to 5:45 p.m
Organization	Pakistan Engineering Council Venue: Pakistan Engineering Council, G-5/2, Islamabad		
Department			
Attendances	PEC: Engr. Dr. Ashfaq Ahmed Sheikh-Additional Registrar. JICA: Ms. Sasabe Yoshie JST: Mr. Kuroki, Mr. Fukushima, Mr. Ilyas, and Ms. Amber		
Obtained Documents	-NONE-		

Discussed

Presentation of summary of current project of JICA Study Team

At the outset, Ms. Sasabe explained that JICA has been working on energy efficiency and conservation in Pakistan in collaboration of World Bank, Asian Development Bank in order to assist the ENERCON and MoWP for development of MEPS of the electrical home appliances. This project is specifically energy sector reforming loan which will be disbursed after fulfilling the necessary conditionalities by the MoWP/ENERCON (Government of Pakistan). JST is to set some policy on the Pakistani Government; once policy is set, international donors will disburse the loan money. At this stage, JST is planning how to implement MEPS in Pakistan.

Implementation of Building code of Pakistan (Energy Provision)

Dr. Ashfaq informed that PEC has launched the Building Codes of Pakistan (Energy Provision) (hereinafter called BEC) through an SRO. PEC may support the implementation of BEC by getting the Engineering Universities upgraded their testing facilities/laboratories; starting of short courses with reference to BEC at engineering universities. Now they are at the implementation phase, but due to financial constraints, they are facing certain problems for ensuring its implementation. He further discussed that if the implementation phase of BEC is completed then there will be 2nd phase for development BEC for the low hand users upto 25KW, but financial problems come in front.

Hiring of consultant for implementation of BEC

Dr. Ashfaq stated that ENERCON is hiring consultants from Market for Working Hand Group for

implementation of BEC. PEC is further with some support for capacity building, and trainings etc. PEC has its Task Force which shall be working for defining mechanisms for implementation of BEC.

Upgradation of existing labs of Universities

Dr. Ashfaq suggested that they can take models of Universities from all over the Pakistan one from each Province and one from Federal Capital for assessment of what they have upgraded their laboratories.

Development of hand book

Dr. Ashfaq informed that ENERCON is developing Hand Book which will tell us how are taking care for implementation of BEC. Further stated that there should be planning and monitoring cell in every building development authority to adhere such codes. Until, there is establishment of certain penalties for not adopting BEC, it will be difficult to implement. This responsibility principally lies with the building development authority and PEC issues only statutory order.

Working on universities;

- a. For upgradation of their testing facilities/laboratories;
- b. For developing and adopting the BEC requirements in the respective disciplines curriculum;
- c. For Starting of short courses with reference to BEC at Engineering Universities.

Testing facilities of PSQCA

Ms. Sasabe asked to know about the testing facilities of PSQCA. Dr. Ashfaq informed that PSQCA does not have as such testing facilities regarding BEC but they are working for development of standards i.e. Pakistan standards for so many appliances.

Procedure of BEC in urban and rural areas

Dr. Ashfaq informed that in Pakistan the administrative units are comprised of Provinces, Districts, towns and several municipalities. Officials at district/ tehsil levels are better equipped and trained to approve layout plan and BEC in the urban areas which are majorly based on industry like Faisalabad, Lahore, Karachi etc. Similarly, people who are living in rural areas (villages) or in

municipalities need capacity building, trainings and infrastructure so that they would be familiar with BEC.

Support of JICA to improve building codes (Energy provision)

Ms. Sasabe stated that she cannot make commitment at this stage, but JICA can send expert to provide technical assistance to PEC if the BEC are implemented.

Legislation at government level

Dr. Ashfaq informed that necessary legislation at the government of Pakistan level is also required to implement BEC linking with incentives and penalties and to establish planning and monitoring cell in building developing authorities to ensure actual implementation.

Awareness campaigns

Dr. Ashfaq also informed that yet they are going to finalize the Hand Book of BEC. Hand Book of BEC will be finalized in July, 2015, thereafter awareness campaigns will be started in order to educate the people as well as the builders to adopt such energy codes in true letter and spirit.

Training program for BEC

Dr. Ashfaq stated that there are certain relevant organizations which can actively participate to make this successful. Further stated that training of trainers program shall be launched jointly by PEC, Ministry of Housing and Works and Ministry of Water and Power (ENERCON) which is proposed to be held at UETs. They can jointly achieve implementation mechanism for BEC.

Establishment of Construction Bank

Dr. Ashfaq proposed/suggested that Construction Bank should be established by the Government of Pakistan for building constructions as well as BEC in Pakistan.

Utilization of ECF for the project regarding BEC

Ms. Sasabe asked him regarding feasibility to utilize of ECF for the project regarding BEC, PEC informed that ECF cannot be utilized because it is very much limited and it is utilized for other purposes.

Safety codes in Pakistan

Development of electric safety code has been completed besides wide circulation of Building Code

with seismic provisions. PEC have launched various trainings, workshops, programmes for educating the developers, engineers and masons.