

Appliances Standardization & Labeling



SAARC Workshop “Techniques on Energy Conservation and Efficiency in Buildings”

Dambulla, Sri Lanka | 26 – 28 August 2019

S&L = Energy Efficiency Standards and Labels

Standards:

are **published documents** that **set out specifications and testing procedures** to ensure that products are safe, reliable and consistently perform the way they are described. Standards also **set out specifications** to ensure products meet certain energy performance levels.

Energy Efficiency Standards:

are regulations that **prescribe** the **energy performance** of manufactured products, often prohibiting the sale of products less energy-efficient than the minimum standard.

Minimum Energy Performance Standards:

MEPS specify the **minimum** level of energy performance that appliances, lighting and electrical equipment (products) must meet or exceed before they can be offered for sale or used for commercial purposes.

Energy Labels

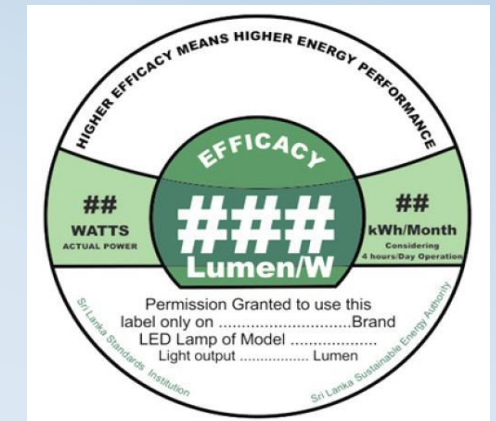
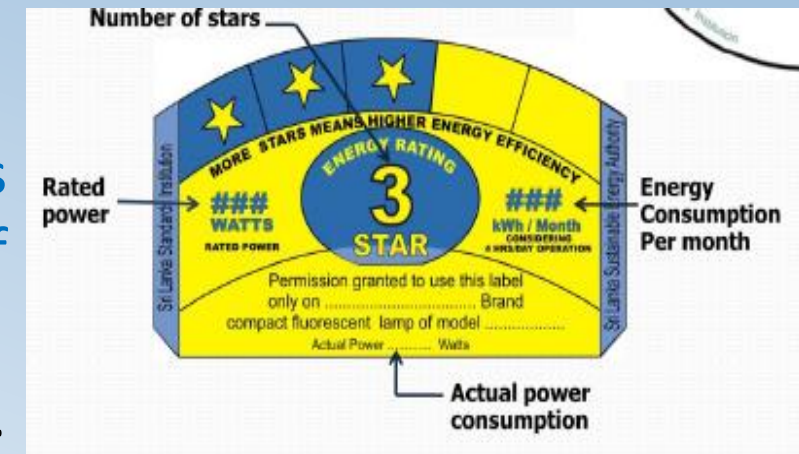
Informative labels that are attached to manufactured products and describe a product's energy performance in the form of energy use, efficiency, or energy cost.

- Creates consumer awareness to buy more efficient appliances.
- Encourages manufacturers to improve standards of products and use efficiency for sales campaign.

Two main types:

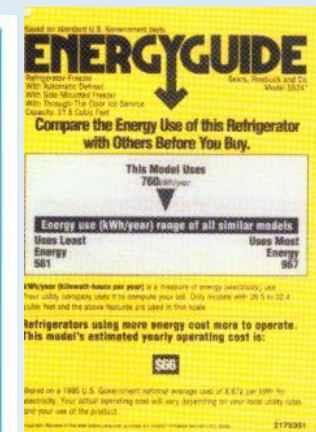
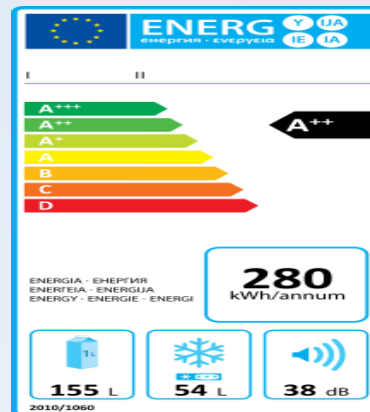
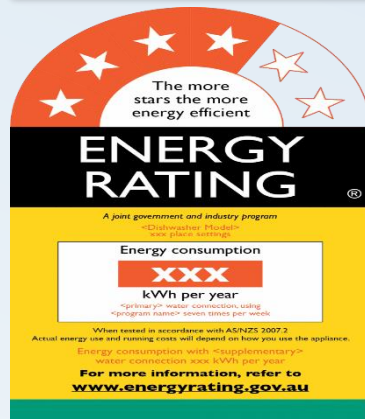
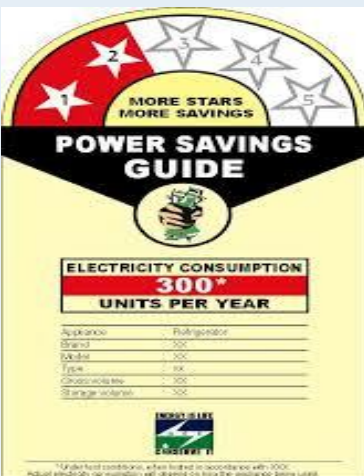
Endorsement Labels and Comparative Labels

(e.g. in Australia / New Zealand, EU, China, India)



Endorsement Labels

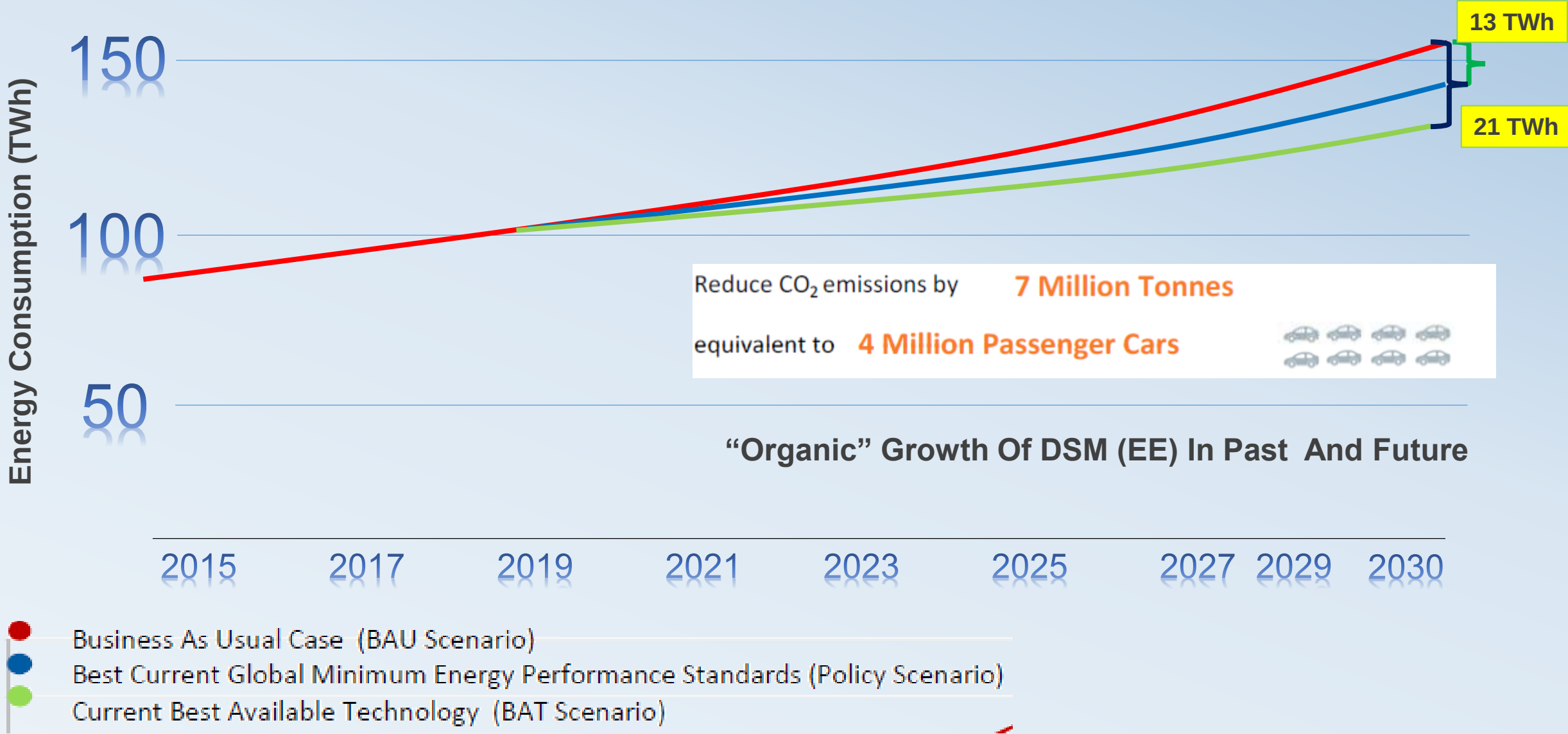
Comparative Labels



Implementation in other Countries

Sr. No.	Country	Standards Body/ Organization	Implementing Agency
1	China	CNIS (China National Institute of Standards)	Centre for Quality Mark and Certification
2	Thailand	TISI (Thailand Industrial Standards Institute)	Energy Generating Authority of Thailand
3	India	BIS (Bureau of Indian Standards)	BEE (Bureau of Energy Efficiency)
4	Vietnam	VSQI (Vietnam Standards & Quality Institute),Ministry of Science &Technology (MOST)	Ministry of Industry & Trade (MOIT)
5	Indonesia	National Standards Agency (BSN)	Ministry of Energy & Mineral Resources
6	Pakistan	Pakistan Standards & Quality Control Authority (PSQCA)	NEECA M/o Energy (Power Division)
7	Sri Lanka	Sri Lanka Standards Institution	Sri Lanka Sustainable Energy Authority

(BAU,POLICY,SCENARIO,BAT SCENARIO - U4E) (TWh)



Country Energy Saving Assessments



Sri Lanka



Energy efficiency benefits from lighting, residential refrigerators, room air conditioners, power and distribution transformers and industrial electric motors with the implementation of globally benchmarked minimum energy performance standards.

ANNUAL SAVINGS IN 2030



Reduce electricity use

→ by over **2 TWh**

→ **9.4%** of future national electricity use



Save electricity worth **470 Million USD**

equivalent to **4 Power Plants [100MW]**



Reduce CO₂ emissions by **960 Thousand Tonnes**

equivalent to **530 Thousand Passenger Cars**



SHARE OF EACH TYPE PRODUCT TO THE COUNTRY'S TOTAL SAVINGS IN 2030



13%

Lighting



27%

Residential Refrigerators



10%

Room Air Conditioners



29%

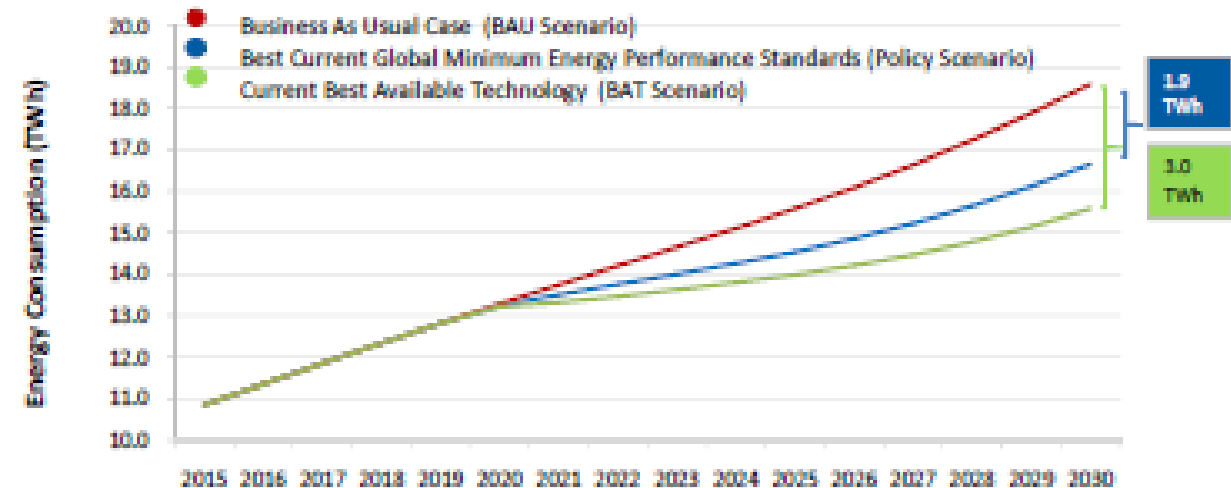
Transformer



21%

Industrial Electric Motor

EVEN GREATER SAVINGS POSSIBLE WITH BEST AVAILABLE TECHNOLOGY



Tec
committee
(SLSEA)

Sectoral
committee
(SLSI)

SLS
Standard

Review
committee
(SLSEA)

Council of
SLSI

Regulation
(SLSEA)

LEED Certified Buildings				
S.No	Country	Certificates	Awards	Case Studies
1	Afghanistan	N/A	N/A	0
2	Bangladesh	112	N/A	0
3	Bhutan	N/A	N/A	0
4	India	994	6	16
5	Maldives	N/A	N/A	0
6	Nepal	1	N/A	0
7	Pakistan	24	2	0
8	Sri Lanka	51	N/A	0

Efficiency Improvement A Least Cost Mitigation Option

Electricity	New Energy Cost
	3 -30 cents per unit
	Efficiency Improvement Cost
	1-3 cents per unit

Labels Overcome Market Barriers

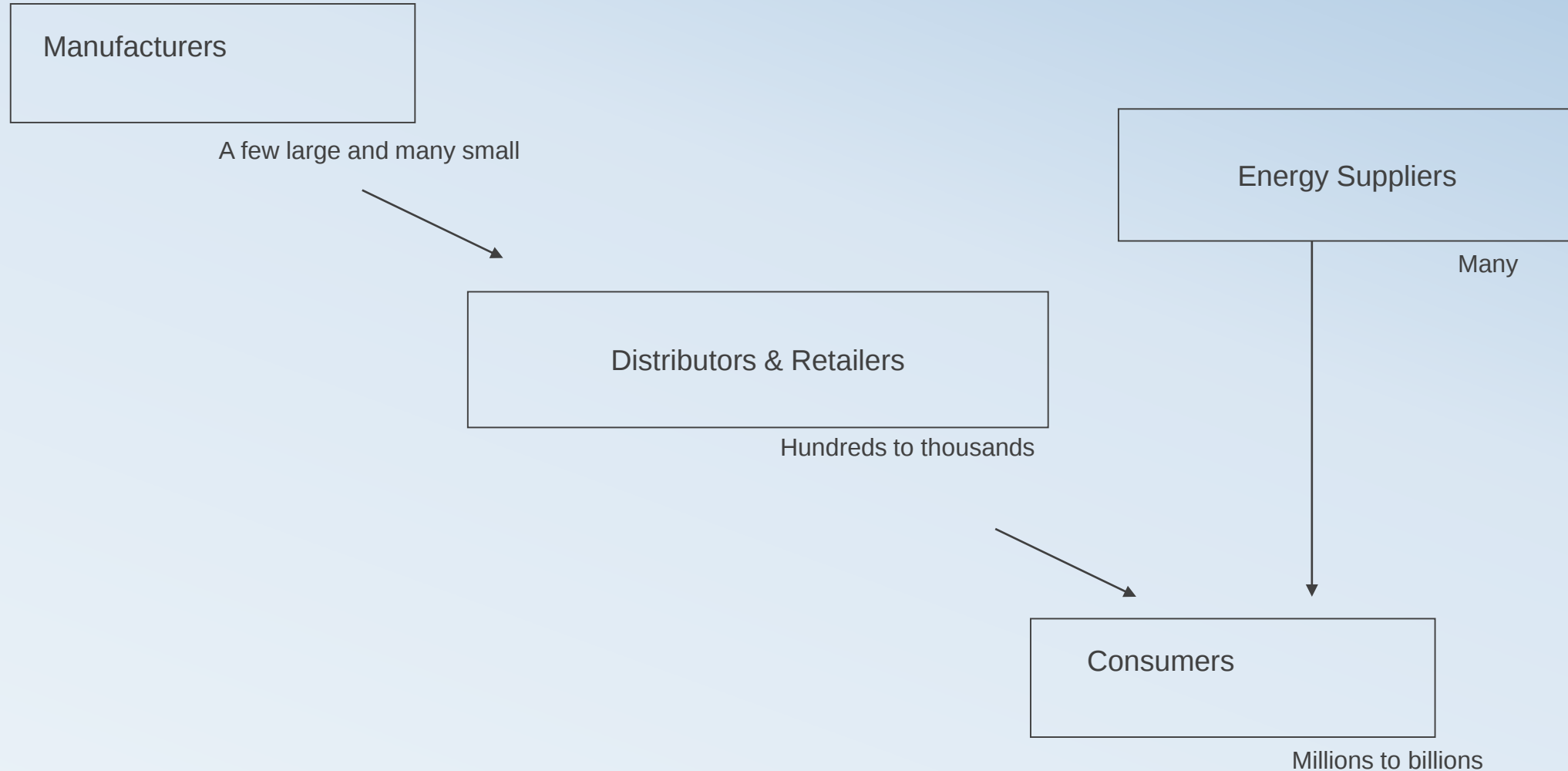
How people choose without energy labels

	<u>Model A</u>	<u>Model B</u>
Purchase Price	\$81	\$137

An informed choice with an energy label

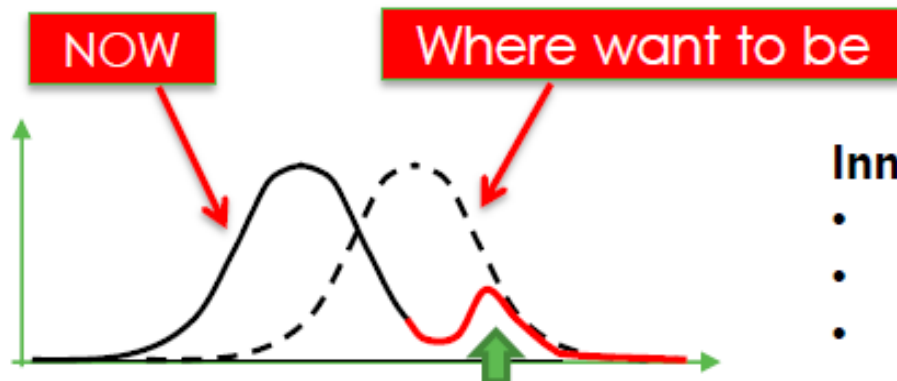
	<u>Model A</u>	<u>Model B</u>
Purchase Price	\$81	\$137
Energy Cost	<u>\$1064</u>	<u>\$561</u>
Total Price	\$1145	\$698

Standards Focus Upstream in the Product Distribution Chain; Labels Focus Downstream



Market Transformation: Impact of Different Policies

Leading Edge:
establishing new
technologies in the
market



Innovation

- R&D*
- Demonstration
- Technology transfer
- Endorsement labels

Reduce barriers

- Access to information / finance
- Endorsement labels
- Comparative labels

Remove worst

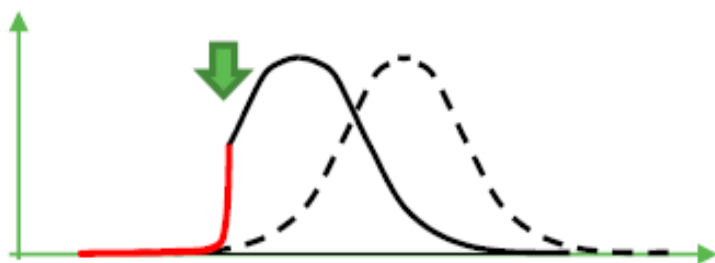
- Minimum Performance standards

Market
mechanisms
increase
incentives for
higher energy
efficiency
across the
whole
distribution

Mid Market:
spreading good
practice



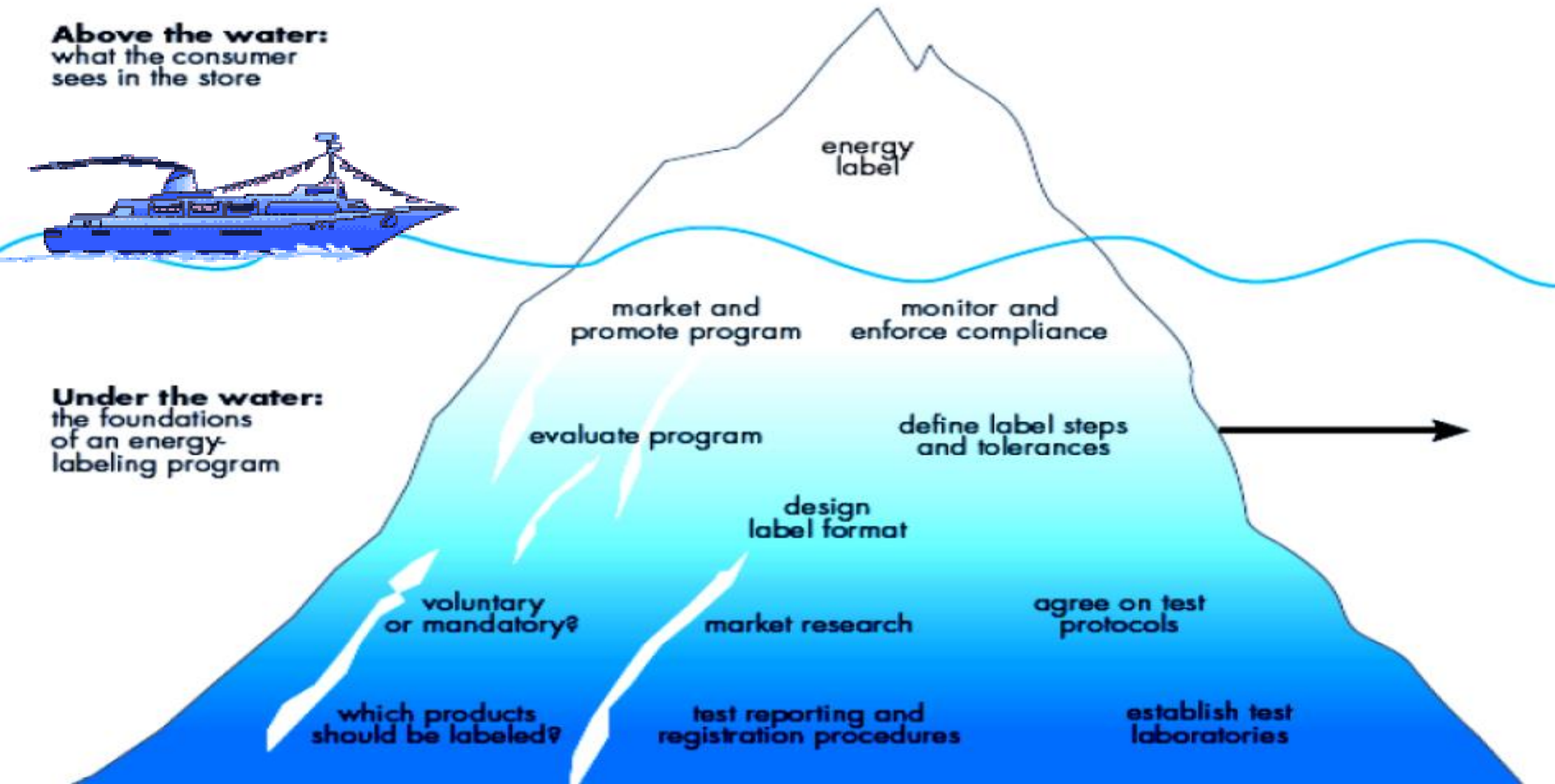
Laggards:
discouraging
bad practice



Data Types and Sources

Data Type	Main Data Sources
Customer and retailer knowledge, awareness and understanding	Surveys of customers and retailers
Availability of Products	Sales data from manufacturers, trade associations or government (customs)
	Web crawling and surveys of manufacturers and retailers
	Mandatory registration database
Prices for Efficient Products	Web crawling of websites of retailers and manufacturers
	Surveys of customers, retailers and manufacturers
Market Sales	Sales data from manufacturers, trade associations or government (customs)
	Purchased from third party (e.g. GfK)
Energy Use	Manufacturer data
	Independent laboratory data
	Metered end-use data
	Mandatory registration database

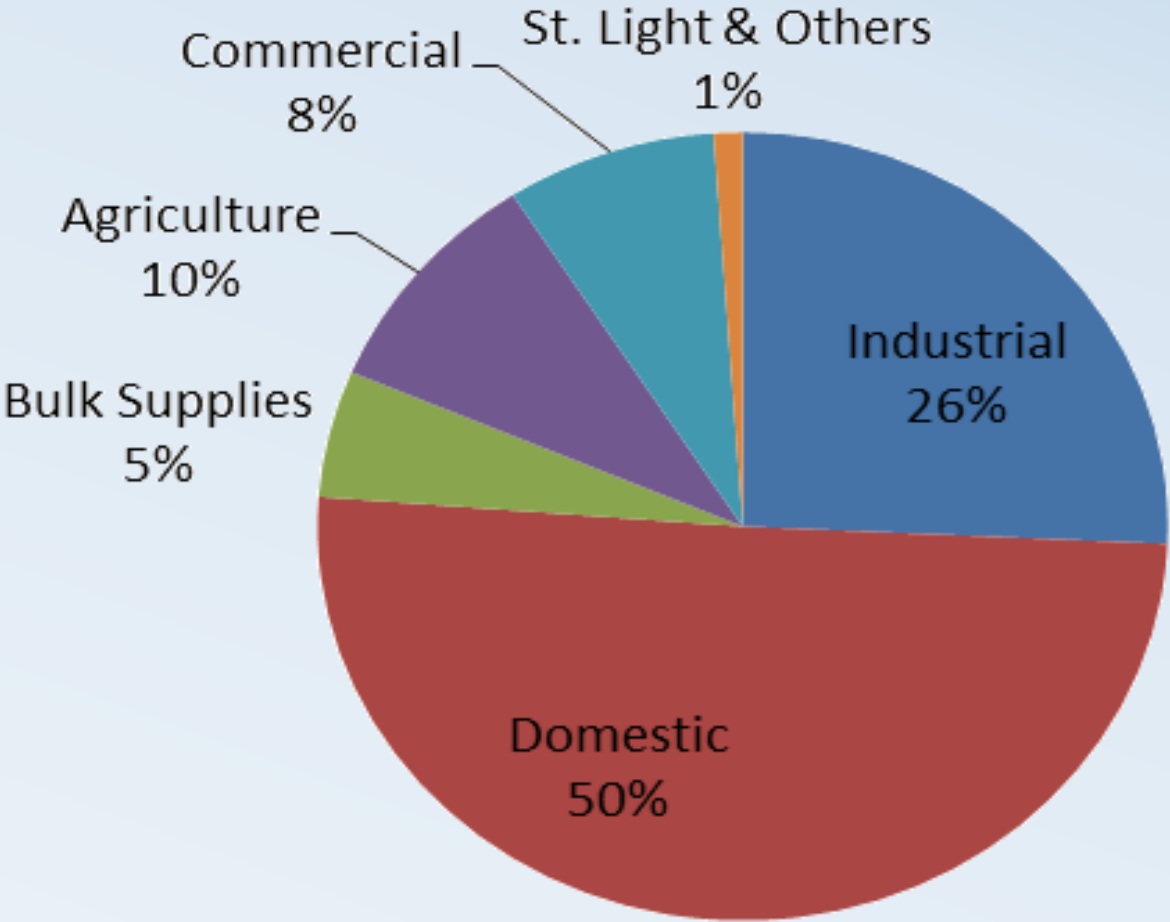
Foundations of Energy Labeling Program



**What SAARC
member Countries
like India, Pakistan
have Done in ES & L
and what should be
the way forward?**

Electricity Consumption by Sector (2017-18)

Total: 106,927 GWh



ELECTRICITY PAKISTAN 2017-18	
Installed Capacity	33,554 MW
Generation	131,275 GWh
Import	556 GWh
Consumption	106,927 GWh

Status of Energy S&L in Pakistan

MEPS launched:

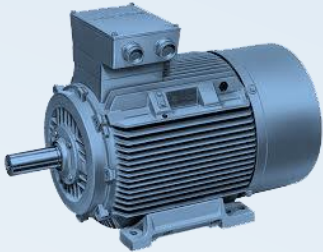
- CFLs



- Fans
(Under Voluntary Implementation)



- Motors
(To be Revised)



MEPS to be launched:

- LEDs



- Air conditioners



Refrigerator



Monitoring and Inspection in Process for Fans

Why Fans are preferred?



- Availability of Accredited Lab (PCSIR).
- MEPS for fans – Adopted and Notified by PSQCA.
- Fan manufacturers interested in voluntary adoption of MEPS and projection in electronic and press media.
- Labeling scheme already introduced.
- Approx. 8-9 Million Fans* penetrate the local market annually, out of which 50% are ceiling fans. JICA analysis and ADB Report show that fans consume the most amount of electricity in Pakistan.
- There is an average saving potential of 40-60 Watts per ceiling fan. Assuming 4.5 Million ceiling fans, if manufactured as per 3 Star rating, could suppress power demand upto **180-270 MW per annum.**

* Final Report on Institution – Building and Promotion of Energy Saving, JICA-March 2015

SECURITY STICKER FOR LABELLED PRODUCTS

1. Multi Security Features

- Green shift to brown when viewing angle is changed
- This is machine readable which makes a beep
- A green dot is visible under laser light

3. Scratchable Foil with Unique Code

- Stretchable foil with unique code
- Scratch here
- Send code to 9460
- Valid code will be verified instantly



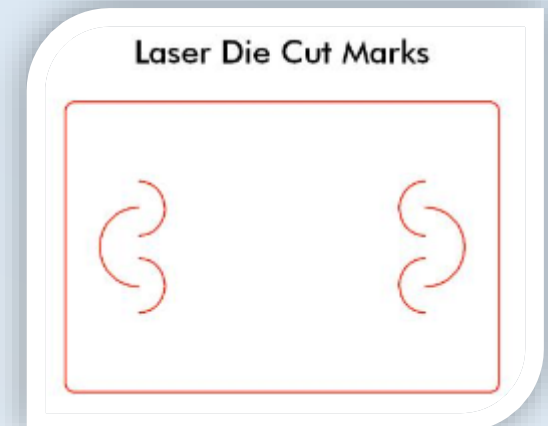
2. UV Invisible Yellow

- NEECA will appear in yellow when viewed under UV light
- Scratchable foil with unique code

4. QR code is used to activate NEECA website

5. 3M proprietary clear to cyan (C2C) film on strip

- This film is the worlds safest security feature and only available with 3M (USA)
- strip is clear when viewed head straight but shifts to blue when viewed at large angle or tilted.



REGISTERED
General Headquarters
Engineering in Chief's Branch
Directorate of Planning & Works
No.2001/M.Enggr/DP&W/E-3

13 June 2018

To: [Redacted]

ad,

Subj: Enlistment/Registration of Manufacturers/Suppliers for MES

Reference: Your letter No. ME/786/18/072 dated 01-06-2018.

1. To proceed further with the case forward following documents/informations, please:-

- a. Location of factory and Registration certificate of firm with Securities & Exchange Commission of Pakistan company registration office Islamabad under company act 1984.
- b. Detailed line plan/drawing of complete factory.
- c. Covered area and equipment details of various facilities, as per **Appendix – I attached.**
- d. Product range, its country of origin and cost of each item along with brochures.
- e. Minimum five technical specifications/performance parameters - its accounting units and values (accepted variables) as per format attached as **Appendix – II.**
- f. Cost of the product as format attached as **Appendix – III**
- g. Overall summarized details of the firm and product as per **Appendix- IV attached.**
- h. Test reports obtained from accredited laboratory/authority against specifications/standards (National/International)/PSQCA licence.
- j. **Trade Mark/Brand Registered with authority concerned.**
- k. **Energy saving certificate/sticker issued by "NEECA" for fans, motors and etc.**
- l. [Redacted]
products in Pakistan.
- m. Back-up facilities/arrangements in various cities in terms of distributors.
- n. R & D / Laboratory facilities available with details of staff employed.

- Designated Agency Technical Advisory to Departments, Media Campaign & Awareness Sessions
- NEECAs Promotional Campaign, Academia Engagement Program
- Punjab Energy Department Solarization Program
- Promotion by Other Professional Bodies

Administration

» Change Password

Reports

» Summary Report

» Detail Report

» Date Wise Summary Report

DETAIL REPORT

From : 2016-07-01 0:00:00
To : 2018-09-13 23:59:59

S.No.	Date	Mobile No	Message	Response Message	Telco	Status	SMSType	Roll id
1	9/12/2018 10:34:34 PM	923076766294	FF621033574	Thank you for using Pakistan Energy Labeled Product. For tips on energy efficiency visit www.neeca.gov.pk	Mobilink	VALID	10	FF028
2	9/12/2018 10:15:13 PM	923326803502	FA332444070	Thank you for using Pakistan Energy Labeled Product. For tips on energy efficiency visit www.neeca.gov.pk	UFone	VALID	10	FA073
3	9/12/2018 11:54:00 AM	923408936312	Fa567525065	Thank you for using Pakistan Energy Labeled Product. For tips on energy efficiency visit www.neeca.gov.pk	Telenor	VALID	10	FA019

International Departments Working on ES&L

- JICA (AC FANs, Refrigerator , Air Conditioners)
- UN Environment/U4E (LEDs)
- IFC (DC Fans, Initial Support through CLASP as IFC consultant in procurement program)
- WB Support to PEECA for Retrofitting Program
- KfW Program for Greening of Public Buildings and Other Retrofit Programmes
- GIZ Program for Sustainable Municipalities

What can be brought by CEL with QR Code

1

QR information code can bear massive product and service information, improve the transparency, openness and availability of product quality information, improve the consumption experience, enrich the consumption service contents, and better guide green and superior consumption.

2

makes it possible to obtain the comprehensive product information in real time with smartphone only, which significantly improves the convenience and timeliness of supervision, enriches the type of law enforcement, and provides important guarantee for combating false labels and improving product quality.

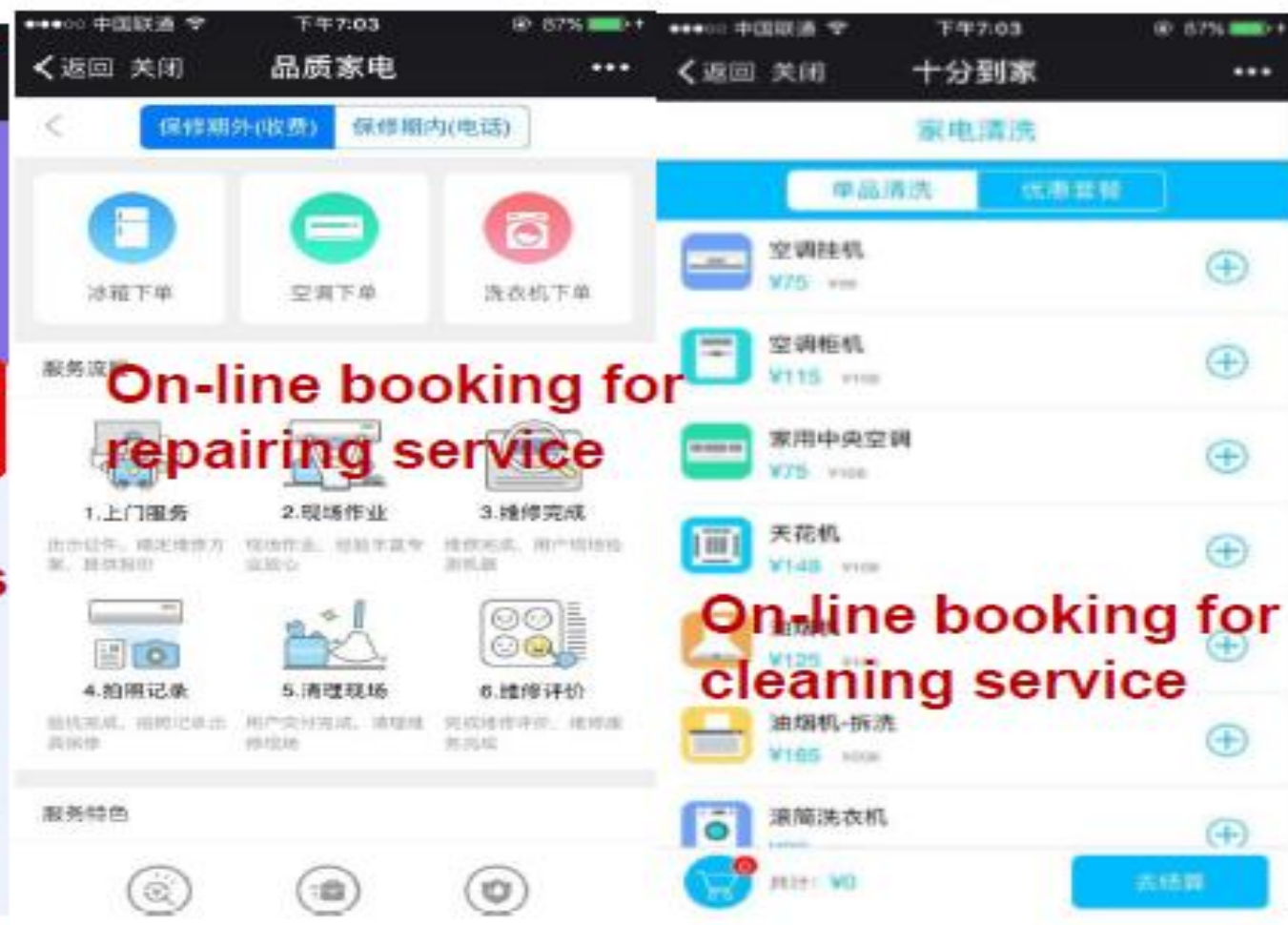
3

Integrate the full-chain superior resources for “choose, use, repair and replace” of manufacturers and the industry, serve for the enterprise operation, enhance the interaction between manufacturers and consumers, help manufacturers to promote excellent energy-saving products and consumers to obtain value-added services other than energy efficiency, and promote the healthy development of the industry.



Pages of QR Label Information Platform

Life cycle services



The Challenge



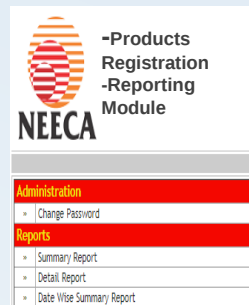
Interventions in Pipeline/Initiated



- Mandatory Energy Standards & Labeling Regime for AC, Refrigerators, LEDS
- Regimes for Motors, Pumps , Electric Water Geysers, Washing Machines
- Gas Appliances Standardization



Establishment of Appliance Testing Labs, Training of Lab Professionals, Retailers Training, Monitoring and Inspection strategy , Revision of Electricity Act and Role of Electricity Inspectors



Products Registration Portal and MIS, Exports & Harmonization

Energy
Labeling
Regime

THANK YOU