



Standards & labelling

Review of the Programme Implementation in India

Introduction

During the past decade, there has been great concern worldwide in improving energy conservation and energy efficiency, both in the industrial and residential sectors. This is a particular concern in Asian developing countries where the demand for home appliances is growing rapidly. Compared with industrialized countries, energy efficiency of some home appliances is still quite low, thus the projected residential electricity demand is expected to increase continuously.

As part of demand side management and improving energy end-use efficiency, introduction of energy standards as well as energy labelling programmes for electrical appliances play an increasingly important role in national energy efficiency promotion strategies. The purposes of energy labelling programmes are multifaceted. The primary purpose of an energy labelling programme is to provide information and improve consumer awareness of energy efficiency. At the national level, the main objectives are energy conservation and reduction of emissions, including CO₂ emissions. For appliance manufacturers and suppliers, labelling programmes may increase business opportunities. For consumers, labelling programmes are expected to provide additional product information and result in better product choices and higher consumer satisfaction.

Implementation process

In India, Energy Conservation Act 2001 provides mandates to Bureau of Energy Efficiency (BEE) to conduct product testing, establish minimum

energy efficiency standards and launch voluntary or mandatory energy labelling programmes.

This initiative was started by BEE in the year 2003, immediately after the passage of EC bill. In the initial period, discussions were held with many stake holders to finalise the process of implementation of S&L programme. These discussions were subsequently converted in to 'BEE regulation for EE label'.

IEEMA was involved with BEE since the beginning in various discussions in the process of deciding criterion to select the products for S&L programme. The basic criterion, based on which the products were chosen for the S & L programme are:

- Product is commonly used
- High energy intensity at national level
- Contribution to peak demand
- High potential for savings

Based on this criterion, the first list of products was finalised to include:

1	Refrigerators	2	Air Conditioners
3	Water heaters	4	Electric Motors
5	Agriculture Pumps	6	Dist. Transformers
7	Light Sources	8	Industrial Fans and Blowers
9	Air Compressors	10	Domestic Fans

The Process of implementing S&L which was discussed then and subsequently finalised in the form of (draft) regulation. Key points of these draft regulations are briefly described as under:

- a. BEE setup Advisory Committee comprising of four to seven members from all segments such as policy makers, manufacturers, users, etc.
- b. Advisory Committee appoints 'Steering Committee' and 'Technical Committee for every product selected for S&L Programme. These committees will include members from user, manufacturers, associations, BIS, technical consultants etc.
- c. Task of Technical Committee - Recommends on Standard, EE norms, Rating parameters, Testing Protocols, Sampling, Check Testing and Challenge testing procedures etc.
- d. Task of Steering Committee - Implementation of S&L programme and subsequent monitoring
- e. Both the committees to be re-constituted every three years.
- f. Standards and Norms to be reviewed every three years.
- g. Revenue from Label fee to be utilised for EE promotion

Present status on S&L programme

Status presented below is based on records available on BEE and other related websites which may not be up to date.

Refrigerators

S&L programme is launched in the market for 'Frost Free' and 'Direct cool' refrigerators. The products are available with BEE labels. BEE is also doing promotion of labelled products. There are more than twelve companies who have registered their different models for labelling. LG is the leading brand with over 100 models registered for labelling. Most of the leading brands have 3 and 4 star products with very few select models in star 5 categories. However, only one company has all % Star products. Very few products are 2 Star and not a single model following the category of 1 star.

While BEE is promoting labelled products through Print and Electronic media, the individual companies are not paying enough attention on promotion of higher efficiency products. It may be due to the fact they have all star products and therefore do not want to push the efficiency tag. All products have buyers in the diverse Indian consumer market.

Air-conditioners

Status is similar to refrigerators. S&L Programme is launched for windows and split ACs. There are around twenty different companies who have registered their products for labelling. Again, all leading brands have window ACs in 1 star to 4 star categories, where as Split Acs in 2 star to 4 Star categories. Only two international brands have split ACs in 5 star categories.

For these products BEE is promoting label. However, manufacturers are not promoting Energy Efficiency tag for the reasons explained above.

Tubular Fluorescent Lamps

The status is similar to above two products. There are sixteen manufacturers who have registered for 40 W/ 36 W tubular fittings.

40 Watts products of all the companies are 3 Star where as 36 Watts products are either 3 star or 5 star. OSRAM, PHILIPS, WIPRO, CROMPTON and SAMSUNG have 36 W tubes with 5 Star label.

Distribution Transformers

After lot of deliberations and discussions, Voluntary labelling programme has been launched about 6/8 months ago. Only few manufacturers have registered for labelling. 100 KVA from Vijai Electricals has 5 star label where as rest of the products from other manufacturers are three stars. Some utilities have started asking for labelled Product. As such many more manufacturers will apply for label in next few months. We understand that Star Three level will be declared as minimum efficiency performance (MEP) standard to improve the overall efficiency level of distribution network.

Electric Motors

Labelling programme has been announced for motors up to 15 KW. It is a voluntary programme which was announced a few months back. Only two levels of efficiencies have been included as EFF1 and EFF2. These efficiency values are as per IS 12615. Motors meeting these efficiency levels will be classified as energy efficient motors. It is proposed that after few years, EFF2 levels may be declared as Minimum Efficiency Performance level and may be made mandatory for all. The market push either through regulatory or through fiscal incentives is desired by manufacturers to boost the demand for high efficiency motors.

Agriculture Pump

Technical committee has given the recommendations for EE norms for labelling Centrifugal Pumps and Submersible Pumps up to 7.5 HP. BEE is yet to decide on implementation Plan. We believe this is the most important product for S&L programme as there is a large gap between actual product efficiency available in the market and best efficiency which could be achieved through better design, material and manufacturing practices. As such the saving potential with improved efficiency is very high. Probably a strong political will is necessary to implement the recommendations of the technical committee.

We have recently read in the newspaper that S&L programme for Domestic Ceiling Fans has been announced by BEE. It is possible that BEE is in the process of discussions with group of manufacturers for some more domestic / industrial products for introducing S&L programme. However we are not aware of the latest developments on them.

Issues and Concerns

Comparing our programme with other developing nations from Asia, many more domestic products can be included in the S&L programme. However, there are some serious concerns which must be addressed by BEE immediately for improving effectiveness of the programme. We would not like to elaborate on these issues /concerns as we know that the officials involved are fully aware of these issues. It may be noted that today BEE officials are overburdened with the lots of initiatives and activities and we would therefore urge all associations and NGOs working in the area of Energy Conservation to come forward and provide full support to BEE in their endeavour to promote Energy Conservation at every level.

Few concerns are listed below:

- a. Process of establishing norms, standards is taking too long time.
- b. Periodic Review of standards is the key for success. BEE may have think of introducing the review process.
- c. Global Benchmarking of efficiency levels is essential to know potential for improvements
- d. Speed of Programme Implementation is also matter of major concern.
- e. Strategies for market push are not clear.
- f. Host of other consumer products need immediate attention including agriculture pumps.

Evaluation of Process and Impact of the Programme

It may be worthwhile to study and analyse various parameters which affect the impact and success of S& L programmes for various products.

Regular evaluation of programme will help in optimising programme design, programme implementation and shall also provide firm evidence of programme scales, impacts and future potential.

Evaluation and analysis will enable optimisation of:

- Energy test procedures - e.g. to ensure they are representative of real use
- Efficiency thresholds - to maximise beneficial impact in terms of savings and cost/benefits
- Efficiency metrics - avoidance of market distortions
- Label design (core appearance) and impact
- Design of industrial support initiatives (esp. during transition phase)

Evaluation of process is essential to ensure the implementation is working as planned. It enables corrective measures to be taken and resources to be optimized.

Evaluation of impacts is essential to be able to quantify the costs and benefits of the programme. It is vital to be able to justify the programme for funding support.

We suggest that following areas may be considered by BEE in the evaluation of Process.

1. Conduct surveys to determine the coverage of the label.
2. Independent check-testing to ensure declared energy performance is accurate.
3. Ensure energy testing is reproducible.
4. Check the efficiency of registration and compliance procedures to be sure they are working smoothly.
5. Evaluate promotional efforts.
6. Survey consumer, retailer, manufacturer and policy maker reactions to the labelling programme and its implementation.

Evaluation of Impacts can be done through following initiatives:

1. Conduct detailed monitoring of product markets to create time-series of product market share and (ideally) sales as a function of efficiency, price, type, energy and other technical characteristics.
2. Monitor the evolution of efficiency distributions in response to policy measures (labels and MEPS).
3. Monitor and evaluate industrial / retail sector performance in relation to the label.
4. Use the above with emission factor and energy price data to determine national/regional energy, environmental and economic impacts.

Conclusion

Worldwide, it is accepted fact that DSM provides the most economical route for energy saving. However, to enable all consumers to take appropriate decision while procuring equipment / Appliances - "Standards & labelling" programme is the key initiative in 'Energy Conservation' activity domain. We have made a beginning by introducing this programme for few products. Many more products can be included for which BEE will have to quickly review its process of establishing standards, periodic reviews etc. NGOs, associations who are keen on working in the areas of Energy Conservation must support BEE for effective implementation of such programmes. Regular evaluation of process and evaluation of impact of such programmes are also essential to optimise programme design and maximise the benefits.

IEEMA Research Group