

BACKGROUND AND OBJECTIVE OF BEE SME PROGRAMME



Background and Objective of BEE SME Programme

1. Background

1.1 About BEE

The mission of Bureau of Energy Efficiency (BEE) is to develop policy and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act (EC Act), 2001 with the primary objective of reducing energy intensity of the Indian economy. This will be achieved with active participation of all stakeholders, resulting in accelerated and sustained adoption of energy efficiency in all sectors.

The Energy Conservation Act came into force in March 2002. The setting up of Bureau of Energy Efficiency (BEE) provides a legal framework for energy efficiency initiatives in the country. The Act empowers the Central Government and in some instances the State Governments to:

- (i) Notify energy intensive industries, other establishments, and commercial buildings as designated consumers.
- (ii) Establish and prescribe energy consumption norms and standards for designated consumers.
- (iii) Direct designated consumers to -
 - a. Designate or appoint certified energy manager in charge of activities for efficient use of energy and its conservation.
 - b. Get an energy audit conducted by an accredited energy auditor in the specified manner and intervals of time.
- (iv) Furnish information with regard to energy consumed and action taken on the recommendation of the accredited energy auditor to the designated agency.
- (v) Comply with energy consumption norms and standards, and if not so, to prepare and implement schemes for efficient use of energy and its conservation.
- (vi) Prescribe energy conservation building codes for efficient use of energy and its conservation in commercial buildings
- (vii) State Governments to amend the energy conservation building codes to suit regional and local climatic conditions
- (viii) Direct owners or occupiers of commercial buildings to comply with the provisions of energy conservation building codes
- (ix) Direct mandatory display of label on notified equipment and appliances.
- (x) Specify energy consumption standards for notified equipment and appliance.
- (xi) Prohibit manufacture, sale, purchase and import of notified equipment and appliances not conforming to standards.

The Energy Conservation Act, 2001 defines the powers of the State Government to facilitate and enforce efficient use of energy and its conservation. The State Governments have to designate State Designated Agencies in consultation with the Bureau of Energy Efficiency to coordinate, regulate and enforce the provisions of the Act in the State. Thus the State Designated Agencies are the strategic partners for promotion of energy efficiency and its

conservation in the country.

1.2 Organization: BEE is a multi disciplinary body formed under the Energy Conservation Act 2001. www.bee-india.nic.in

1.3 Functions of BEE

Under the provisions of the Energy Conservation Act, 2001, Bureau of Energy Efficiency has been established with effect from 1st March, 2002 by merging into it, the erstwhile Energy Management Centre, being a society registered under the Societies Registration Act, 1860, under the Ministry of Power.

The mission of the Bureau of Energy Efficiency is to assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act, 2001 with the primary objective of reducing energy intensity of the Indian economy. This will be achieved with active participation of all stakeholders, resulting in accelerated and sustained adoption of energy efficiency in all sectors.

BEE co-ordinates with designated consumers, designated agencies and other organization; recognizes, identifies and utilizes the existing resources and infrastructure, in performing the functions assigned to it under the E.C Act, 2001. The Act provides for regulatory and promotional functions. The major functions of BEE include:

- (i) Develop and recommend to the Central Government the norms for processes and energy consumption standards.
- (ii) Develop and recommend to the Central Government minimum energy consumption standards and labeling design for equipment and appliances.
- (iii) Develop and recommend to the Central Government specific energy conservation building codes.
- (iv) Recommend the Central Government for notifying any user or class of users of energy as a designated consumer.
- (v) Take necessary measures to create awareness and disseminate information for efficient use of energy and its conservation.

1.4 Energy Efficiency in Industry

The target growth for industry sector was put at 10% during 10th Plan consistent with an overall GDP growth of 8%. The rate of growth of industry sector as measured in IIP (Index of Industrial Production) was 7.8% during April – December 2005 compared to 8.6% in the corresponding period of 2004-05 (Economic Survey, GoI, 2005-06). Manufacturing sector grew at 8.9% during this period, contributing for the overall growth of the economy. Indian industry sector accounted for nearly 43% of commercial energy consumption during 2003/04 (93 million tones of oil equivalent) with coal and lignite meeting nearly 1/3rd of the consumption requirements. Industry sector also offers maximum potential for energy conservation. The Government of India has also recognized this when a number of energy

intensive industries were included as designated consumers in the Energy Conservation Act, 2001.

Under the provisions of the EC Act, the identified energy intensive industries (Designated Consumers) need to comply with the conduct of regular energy audits and implementation of techno-economically viable recommendations and establishment of energy management systems through appointment of certified Energy Manager, and meeting of specific energy consumption norms once developed.

To bridge the efficiency gaps in the various units within the same sub-sector, there is need to identify general and specific energy saving measures to facilitate the industries in their faster implementation in their respective plants.

However the need for developing information and projects in much more in the SME sector which usually cannot obtain or source the information needed with regard to energy efficiency.

1.5 SME Programme

Large number of Small and Medium Enterprises (SMEs) like foundries, brass, textiles, refractories, brick, ceramics, glass, utensils, rice millst, and khandsari manufacturing units etc, are said to have large potential for energy savings. Many of these units are in clusters located in various states of the countries.

In quantitative terms, there is not much authentic information and data available with respect to their energy consumption and energy saving opportunities. Majority of SMEs are typically run by entrepreneurs who are leanly staffed with trained technical and managerial persons to deploy and capture energy efficiency practice to reduce manufacturing cost and increase competitive edge. Therefore, it will be useful to build their energy efficiency awareness by funding/subsidizing need based studies in large number units in the SMEs and giving energy conservation recommendations including technology up-gradation opportunities. It is envisaged that such interventions supported by diagnostic studies and pilot projects at cluster level focusing on energy/resource efficiency, energy conservation and technology up gradation. This would help in addressing the cluster specific problems and enhancing energy efficiency in SMEs.

BEE will initiate diagnostic studies in 25 clusters to prepare cluster specific energy efficiency manuals covering Specific energy consumption norms, energy efficient process and technologies, best practices, case studies, etc. These studies would provide information on technology status, best operating practices, gaps in skills and knowledge, energy conservation opportunities, energy saving potential, etc for each of the sub-sector in SMEs. The studies/projects will also be aimed to provide a direction for designing sub-sector specific energy conservation programs in the SME sectors.

BEE will also undertake capacity building of local service providers and entrepreneurs/managers of SMEs. The local service providers will be trained in order to be able to provide the local services in the setting of energy efficiency projects in the clusters.

The programme will prepare detailed project reports for about 425 energy efficiency projects in the 29 clusters. These projects will be prepared in such a way that a minimum of 5 technologies are covered and about three sizes (scale) are considered.

2. Purpose and Objective of the BEE SME Programme

The global objective of the project is to improve the energy intensity of the Indian economy by undertaking actions in the SME sector which directly or indirectly produced 60% of the GDP. The immediate objective of the project is to accelerate the adoption of EE technologies and practices in 25 chosen clusters in the SME sector through knowledge sharing, capacity building and development of innovative financing mechanisms.

The proposed programme is described below:

The main project activities are:

1. Energy Use and Technology Analysis
2. Capacity Building,
3. Implementation of EE measures, and
4. Facilitation of Innovative Financing Mechanisms

These are described in detail below.

Activity 1: Energy Use and Technology Analysis

Objective: The objective of the activity is to develop better information base on status of SMEs in the 35 chosen clusters, possibilities for undertaking EE measures, potential of impact, status technology and energy use and identification of possible EE measures that could be undertaken by the SMEs.

Activity 1.1 Situation Analysis in 35 SME clusters.

(Activity 1.1 of the BEE SME programme has been completed by the Bureau. The output of the activity will be made available to the EAs for use in the programme.)

25 SME clusters have been preliminarily chosen for intervention in this project. However, details of all the clusters are not available from the DCMSME Survey of SMEs 2001-02. It is possible that some of these clusters do not have a large number of units or do not have much energy usage. This will lead to interventions that take place in clusters which are not adequately suitable for these activities. Since some effort has already been undertaken to carefully choose the cluster, only 10 more clusters will be added to this for the

situation analysis.

The situation analysis in the 35 clusters will comprise an assessment of the total number of units in the cluster, their complete contact details, capacity, products manufactured, total energy usage by different types of fuels, profit/loss situation for the past three years and comments on preparedness of the management for taking part in this programme. This activity will be partly conducted with the help data from a representative (numbers) of local associations, whose contact details also need to be provided, and also by making a visit once to the SME unit. The situation analysis will also recommend a list of 30% (of the number of units subject to a minimum of 30) units where further activities should be undertaken. These 30% (or 30) units should be representative of the entire cluster in terms of technology used and/or products manufactured.

Output 1.1 The outcome of the activity will be a assessment of total energy usage, preparedness of the cluster to undertake further action and a list of units where further action is recommended along with filled in data collection formats.

Activity 1.2 Energy Use and Technology Audit

Once the situation analysis has been conducted, a smaller group of 35 SME clusters will be identified by the BEE based on the report of Activity 1.1. These SME clusters will be undertaken for the Energy Use and Technology Audit. This activity will consist of a energy use and technology audit to be conducted in the 3 identified cluster in all the units that have been recommended for further action in Activity 1.1. The energy use and technology audit will aim to assess the energy productivity of the unit through a detailed assessment of total energy usage in the unit, an energy audit for the main energy consuming areas, potential for energy savings and recommendation in terms of EE measures that can be undertaken (in terms of EE technology and Best Practices). This activity will also identify the possible source of technology or expertise for the recommended measures. A minimum of 2 local service providers, one each in technology and managerial areas are to be identified per 30 units in the cluster. An important part of the activity will be to identify the current Best Practices prevailing in the cluster and to prepare case studies for each of those, representative of the products, technologies and production capacities in the cluster. The Energy Audit component will be conducted in approximately 30% of the units or 30 units at the minimum in smaller clusters. Since clusters usually comprise similar units this number will be good enough to take into account a representation of all the technologies and scales in the cluster.

Output 1.2 The output of this activity will be cluster manual for each of the SME clusters which will give an overview of the cluster in terms of name and numbers of units, contact details, production capacity, technologies in use, products

manufactures, potential for energy savings, EE measures applicable, sources of these technologies/expertise and case studies on Best Practices / Technological Innovations in the cluster. For choosing the units where activities will be conducted the Executing agency will confirm with the unit whether they have the entrepreneurship memorandum and record the same before going ahead.

Activity 2: Capacity Building

The Capacity Building (Activity 2.1) will be conducted by the Nodal Agency under the guidance of the Project Management Cell. Activity 2.2 will be conducted by the EA under the guidance of the Nodal Agency. The details are however provided here in order to help the bidders ascertain the level of effort required from them to provide knowledge support for the conduct of these activity, in the form of information support, making presentations at the events based on their activities in the cluster and identifying resource persons/entities.

Objective: The objective of this activity is to create capacities among local services providers/technology providers in the SME clusters that would help in the uptake of the EE measures identified in Activity 1.

Activity 2.1 Introductory Local Service providers' Workshop

The local service providers and the technology providers identified during Activity 1 will be registered as experts with the SME programme of the BEE. A 1-day workshop will be organized with these experts and representatives from the industry/associations to share the outcome of Activity 1 with them and will identify issues regarding avenues for implementing EE measures, roadblocks in terms of capacities in the cluster, financing issues and carbon-market related issues. This activity will also involve the concerned SDA(s).

Output 2.1 The output of Activity 2.1 will be a workshop proceeding which cover the entire activities of the workshop along with the outcome of the workshop on issues regarding implementation of EE measures. The activity will also enroll all the attending experts for the BEE SME Programme.

Activity 2.2 Information Dissemination Workshops

A one-day Information dissemination workshop will be conducted in all the clusters with the help of local industry association and enrolled local service providers. The main focus of these workshops will be to share with the cluster the Energy Use and Technology Analysis manual prepared for each of the clusters by the respective EAs. The workshop will discuss the EE measures identified in the cluster manuals and shortlist a minimum of 5 projects for which bankable DPRs will be prepared across maximum three segments of capacities in each cluster. Another important focus of the cluster workshop will be to share the best practices prevailing in the cluster.

The workshop will also discuss managerial issues related to implementing EE

measures. These will have mainly the financing component; how to keep books, what types of financing schemes are presently available and discuss what further can be done in this regard. SDA(s) will also be involved in order to help disseminate information.

Output 2.2 The output of this activity will be a list of 15 projects for each cluster for which bankable DPRs will be prepared.

Activity 3 Implementation of EE Measures

Objective The objective of this activity is to facilitate implementation of EE measures in the identified clusters through development of DPRs.

Activity 3.1 Preparation of DPRs

This activity is meant to prepare bankable DPRs for 15 projects in each cluster (over maximum 3 segments of capacities). This activity will also target identification of the match between the projects and the specific expertise of the LSPs in order to allot the project to the LSPs which they will have to take forward in the clusters. These LSPs will be responsible for reporting to BEE for the progress that they may make with regard to implementation of the projects. A team of LSPs if they wish to can group to take up projects.

Output 3.1 The output of this activity is a bank of 15 DPRs for all the clusters and a match for experts and projects in all 29 clusters. Thus the total number of DPRs will be 425.

Activity 3.2 Capacity Building of LSPs

This activity is meant to enhance the capacity of the enrolled Local Service Providers implement EE measures in the identified SME clusters. This will be based on identification of needs of the experts in line with the DPRs/projects allotted to them. The training will be undertaken at centers of learning to be identified by the EAs during the course of the project.

Output 3.2 The LSPs will be equipped with the necessary capacity to undertake the implementation of the EE projects measures in the identified clusters.

Activity 4: Facilitation of Innovative Financing Mechanism

Objective: The objective of this activity is to encourage uptake of EE measures through facilitation of innovative financing mechanisms without creating market distortion.

Activity 4.1 Facilitation of Financing EE

The Facilitation of Innovative Financing Mechanism (Activity 4.1, 4.2 and 4.3) will be conducted by the Nodal Agency under the guidance of the Project Management Cell. EAs do not have to conduct the activities mentioned under Activity 4.1, 4.2 and 4.3. The details are however provided here in order to help the bidders ascertain the level of effort required from them to provide

knowledge support for the conduct of these activities, in the form of information support, making presentations at the events based on their activities in the cluster and identifying resource persons/entities.

Financing is often projected as one of the major roadblocks for implementing new technology including EE measures. The project will work to facilitate a financing arrangement in the form of risk mitigating measures for EE projects being undertaken by the units in the 29 clusters. Such a scheme could be implemented through CGFTI, SIDBI and the lead banks in various districts. Such a fund is being proposed by the World Bank as a part of multilateral funding for SMEs. The Bureau would work to facilitate the formation of this risk mitigating measure/fund.

Output 4.1 The output of this activity will be an arrangement between the World Bank and with SIDBI/lead banks, which will mitigate risk for EE projects.

Activity 4.2 Capacity Building of banks to evaluate EE projects

A 3-day training programme will be conducted with the officers of the SIDBI and the lead banks in the all clusters where the project is being undertaken. A training manual for the same will also be prepared. The training programme will be conducted at a central location and will be oriented towards enabling the bank officials with requisite information and knowledge on how to evaluate an EE project.

Output 4.2 The outcome of the activity will be enhanced capacities in the lead banks in all clusters where the project is working. The training programme will also come up with a training manual.

Activity 4.3 Concluding LSPs Workshop

A 2-day workshop of the LSPs and representatives from the industry/associations will be called to share with each other the results of implementations that have been undertaken in the cluster. The concluding LSPs' workshop will detail the projects undertaken; savings made and will discuss future needs of the clusters to carve out a suggested roadmap for future BEE programme. SDA(s) will also participate in this workshop.

Output 4.3 This activity will result in an assessment of the impact of the project and a roadmap for future action.