



Schemes for promotion of energy efficiency

Small Industries Development Bank of India (SIDBI)

<https://smallb.sidbi.in>

Needs and benefits of energy efficiency

Micro, Small and Medium Enterprises (MSMEs) are particularly vulnerable due to limited resources and constrained operating margins. Rising energy costs can further lead to higher production and distribution costs for MSMEs, thus eroding long-term competitiveness and profitability. Reduction in energy costs could be beneficial for MSMEs for reducing production costs and distribution costs.

Some favorable benefits of implementing energy efficiency in MSMEs include the following:

- **Improved employee productivity** – Controlling air temperatures for improving air quality and installing high-efficiency lighting can have positive effects on productivity.
- **Health and safety** – Energy efficiency systems in residential, commercial and/or industrial entities can also enable conducive conditions that are not harmful for health and safety of the occupants.
- **Improved product quality** – Large investments in energy efficient equipments can lead to savings in energy costs and costs of long-lasting investments had shorter pay-back time thus ensuring product quality in business units.
- **Environmental impact** – Greenhouse gas (GHG) emissions through energy efficient systems are tested across relevant business standards in India. Accordingly, GHG emissions have been considerably limited.
- **Competitiveness** – The summation of the above mentioned benefits can provide an edge to small and medium-sized enterprises (SMEs) and the ability to compete in the market.

Energy efficiency in SME scheme

SMEs can avail financial scheme provided by SIDBI that can encourage MSME investments in the energy saving equipments. The Bureau of Energy Efficiency (BEE) of Government of India has been engaged in conducting information dissemination workshops regarding energy efficiency opportunities for 28 select SME clusters.

Bachat Lamp Yojana

The "Bachat Lamp Yojana" is a voluntary CFL lighting scheme operated and implemented under the Small-Scale Programme of Activities (SSC-PoA) by BEE in collaboration with Electricity Distribution Company (DISCOMs). The scheme is considered a result of the powers bestowed on BEE under the 'Indian Energy Conservation Act, 2001' of formulating and facilitating the promotion of efficient use of energy and encouraging innovative

financing of energy efficiency projects. Following are few, select features of the scheme:

- The scheme would involve distribution of quality long-life, self-ballasted CFLs through SSC-PoA to residential households in exchange of the Incandescent Lamp (ICL) at ₹ 15. The price of CFLs under the scheme is much lower than the market prices of approximately ₹ 80 to ₹ 130.
- The SSC-PoA implementers are responsible for arranging collection and disposal of CFLs that have either reached their end of life or failed prematurely during project implementation.
- Long-life CFLs meet more than expected requirements of IS 15111 standard that specifies a minimum 6000 hours rated life time.
- The self-ballasted CFLs usually have 2, 4 or 6 small fluorescent tubes mounted in a base attached to ballast and the efficacy ranges from 51 to 56 lm/W, which is four to five times higher than a similar ICL.

Standards & labeling scheme

The scheme aims at providing the consumer an informed choice about energy saving and accordingly cost-saving potential of the marketed household appliances and other equipments. The scheme was launched in May 2006 that covers mandatory and voluntary schemes shown in the following tables for equipments and appliances such as frost-free refrigerator, tubular fluorescent lamps, room air conditioners, direct cool refrigerators, distribution transformers, induction motors, pump sets, ceiling fans, LPG, electric geysers and TV.

Energy conservation building code (Star Ratings program)

BEE has introduced various schemes related to providing 'Star Ratings' to commercial buildings of BPOs, office buildings, schools, healthcare facilities and hotels (Refer to Table 3). Star ratings program will involve rating by computing the performance of energy efficiency in buildings on a scale of one to five with five star labeled buildings being the most energy efficient.

Strengthening institutional capacity of state designated agencies (SDA)

BEE has identified SDA that are responsible for coordination regulation and enforcement of the provisions of the Energy Conservation Act, 2001.

Resource efficient and cleaner production



United Nations Environment Programme (UNEP)

<http://www.unep.fr>

Resource efficient and cleaner production (RECP) continuously applies integrated and preventive strategies to processes, products and services. This increases efficiency and reduces risks to humans and the environment. RECP specifically works to advance

- **Production efficiency** – through optimization of productive use of natural resources (materials, energy, water) at all stages of the production cycle;
- **Environmental management** – through minimization of the adverse impacts of industrial production systems on nature and the environment;
- **Human development** – through minimization of risks to people and communities, and support to their development.

The joint UNEP-UNIDO programme

The Rio Declaration and Agenda 21 that were adopted by the United Nations Conference on Environment and Development (UNCED) held in 1992 called on the international community to support developing countries and economies in transition with capacity building and implementation of preventive environmental approaches. In response to this call, UNEP together with the United Nations Industrial Development Organization (UNIDO) launched the International Project on establishment of National Cleaner Production Centers (NCPCs). This has led to the establishment of NCPCs in more than 40 developing countries and economies in transition to provide core RECP services. The independent evaluation that was carried out in 2008 had shown that these Centers have made significant contribution on demonstrating the benefits of applying Cleaner Production in industries. The evaluation also underlined the need to further strengthen the support provided through a programmatic approach in order to upscale the application of RECP. This led to the development of the Joint UNIDO-UNEP Programme on RECP in Developing and Transition Economies.

RECP objective

The objective of the Joint Programme is to contribute to sustainable industrial development and sustainable consumption and production in the participating developing and transitional economies, through the greater uptake of RECP by businesses, governments, financial institutions and other stakeholders. The Programme provides a strategic and coherent framework for the up-scaling and mainstreaming of RECP activities in national development frameworks and facilitates regional and global cooperation through knowledge management and experience sharing network.

The Programme is structured in four outcome areas, each with dedicated activities and outputs:

- **Effective networking and peer learning** amongst a network of competent, nationally directed initiatives that deliver high quality, value-adding RECP services, responding to the needs of enterprises and other organizations. RECP service delivery capacity is enhanced and expanded through such activities as establishment of NCPC and NCPPs in new countries, intensification of networking and peer learning, and RECP up-scaling through existing NCPCs and NCPPs;
- **Implementation of RECP by businesses and other organizations** with verified resource productivity, environmental, economic and other societal benefits. Key activities and outputs are thematic and multi-country projects in three categories: resource efficiency; waste and emission prevention; and corporate responsibility safe and responsible production;
- **Effective enabling environment for RECP implementation** through government policy and enterprise finance. The principal activities and outputs include the development and trial of flexible frameworks for mainstreaming RECP in government policy and enterprise finance; and
- **Enhancement of national capacities to facilitate and manage the transfer, adaptation and replication of Environmentally Sound Technologies (ESTs) and sustainable product developments.** The main activities and outputs relate to strengthening national innovation systems as a mechanism for bolstering and accelerating sustainable innovations in technologies and products.

Key elements

RECP describes a preventative approach to environmental management. It is neither a legal nor a scientific definition to be dissected, analysed or subjected to theoretical disputes. It is a broad term that encompasses what some countries/institutions call eco-efficiency, waste minimization, pollution prevention, or green productivity.

RECP refers to a mentality of how goods and services are produced with the minimum environmental impact under present technological and economic limits.

RECP does not deny growth, it merely insists that growth be ecologically sustainable. It should not be considered only as environmental strategy, because it also relates to economic considerations.

RECP is a 'win-win' strategy. It protects the environment, the consumer and the worker while improving industrial efficiency, profitability, and competitiveness.