

Energy Efficiency

The primary energy demand in India has grown from about 450 million tons of oil equivalent (toe) in 2000 to about 770 million toe in 2012. This is expected to increase to about 1250 (estimated by International Energy Agency) to 1500 (estimated in the Integrated Energy Policy Report) million toe in 2030. This increase is driven by a number of factors, the most important of which are increasing incomes and economic growth which lead to greater demand for energy services such as lighting, cooking, space cooling, mobility, industrial production, office automation, etc. This growth is also reflective of the current very low level of energy supply in India: the average annual energy supply in India in 2011 was only 0.6 toe per capita; whereas the global average was 1.88 toe per capita. It may also be noted that no country in the world has been able to achieve a Human Development Index of 0.9 or more without an annual energy supply of at least 4 toe per capita. Consequently, there is a large latent demand for energy services that needs to be fulfilled in order for people to have reasonable incomes and a decent quality of life.

Government of India has undertaken a two pronged approach to cater to the energy demand of its citizens while ensuring minimum growth in CO₂ emissions, so that the global emissions do not lead to an irreversible damage to the earth system. On one hand, in the generation side, the Government is promoting greater use of renewable in the energy mix mainly through solar and wind and at the same time shifting towards supercritical technologies for coal based power plants. On the other side, efforts are being made to efficiently use the energy in the demand side through various innovative policy measures under the overall ambit of Energy Conservation Act 2001.

The Energy Conservation Act (EC Act) was enacted in 2001 with the goal of reducing energy intensity of Indian economy. Bureau of Energy Efficiency (BEE) was set up as the statutory body on 1st March 2002 at the central level to facilitate the implementation of the EC Act. The Act provides regulatory mandate for: standards & labeling of equipment and appliances; energy conservation building codes for commercial buildings; and energy consumption norms for energy intensive industries. In addition, the Act enjoins the Central Govt. and the Bureau to take steps to facilitate and promote energy efficiency in all sectors of the economy. The Act also directs states to designate agencies for the implementation of the Act and promotion of energy efficiency in the state. The EC Act was amended in 2010 and the main amendments of the Act are given below

- The Central Government may issue the energy savings certificate to the designated consumer whose energy consumption is less than the prescribed norms and standards in accordance with the procedure as may be prescribed
- The designated consumer whose energy consumption is more than the prescribed norms and standards shall be entitled to purchase the energy savings certificate to comply with the prescribed norms and standards
- The Central Government may, in consultation with the Bureau, prescribe the value of per metric ton of oil equivalent of energy consumed

- Commercial buildings which are having a connected load of 100 kW or contract demand of 120 kVA and above come under the purview of ECBC under EC Act.

Ministry of Power, through Bureau of Energy Efficiency (BEE), has initiated a number of energy efficiency initiatives in the areas of household lighting, commercial buildings, standards and labeling of appliances, demand side management in agriculture/municipalities, SME's and large industries including the initiation of the process for development of energy consumption norms for industrial sub sectors, capacity building of SDA's etc. The target of energy savings against these schemes during the XI plan period was kept 10,000 MW of avoided generation capacity. These initiatives have resulted in an avoided capacity generation of 10836 MW during the XI plan period.

SCHEMES TO PROMOTE ENERGY CONSERVATION AND ENERGY EFFICIENCY

(i) Standards and Labeling

The Bureau initiated the Standards and Labeling programme for equipment and appliances in 2006 to provide the consumer an informed choice about the energy saving and thereby the cost saving potential of the relevant marketed product. The scheme is invoked for 19 equipment/appliances, i.e. Room Air Conditioners, Fluorescent Tube Lights, Frost Free Refrigerators, Distribution Transformers, Induction Motors, Direct Cool Refrigerator, electric storage type geyser, Ceiling fans, Color TVs, Agricultural pump sets, LPG stoves, Washing machine, Laptops, ballast, floor standing ACs, office automation products, Diesel Generating sets & Diesel operating pumpsets of which the first 4 products have been notified under mandatory labeling from 7th January, 2010. The other appliances are presently under voluntary labeling phase. The energy efficiency labeling programs under BEE are intended to reduce the energy consumption of appliance without diminishing the services it provides to consumers. Further, the standards and label for refrigerators and air-conditioners have been periodically made more stringent. As a result, the least-efficient products are removed from the market and more efficient products are introduced. The Corporate Average Fuel Consumption Standards (CAFC) for passenger cars has been notified on 30th January, 2014. The most recent additions to the list of labeled products are Diesel Pumpsets & Diesel Generating Set.

During the XII plan, Standards and Labelling programme will target at least 3 more new equipments / appliances including up-gradation of energy performance standards for equipments/ appliances covered during XI Plan.

(ii) Energy Conservation Building Codes (ECBC)

The Energy Conservation Building Code (ECBC) was developed by Govt. of India for new commercial buildings on 27th May 2007. ECBC sets minimum energy standards for new commercial buildings having a connected load of 100kW or contract demand of 120 KVA and above. While the Central Government has powers under the EC Act 2001, the state governments have the flexibility to modify the code to suit local or regional needs and notify them. Currently eight States and Union Territories (Rajasthan, Odisha, UT of Puducherry, Uttarakhand, Punjab, Karnataka, Andhra Pradesh & Telangana) notified and adopted the code for their states. In order to promote a market pull for energy efficient buildings, Bureau of

Energy Efficiency developed a voluntary Star Rating Programme for buildings which is based on the actual performance of a building, in terms of energy usage in the building over its area expressed in kWh/sq. m/year. Currently, Voluntary Star Labelling programme for 4 categories of buildings (day use office buildings/BPOs/Shopping malls/Hospitals) has been developed and put in public domain.

(iii) Demand Side Management (DSM) Scheme

(a) Agriculture DSM

In order to tap the energy saving potential, Agriculture Demand Side Management (AgDSM) program was initiated in XI plan by Bureau of Energy Efficiency with an objective to induce energy efficiency in agriculture sector by creating market based framework for implementation of few pilot projects and create awareness among end users & other stakeholders for adoption of energy efficient pumpsets (EEPS). Major milestone achievements of the scheme during XI plan were:

- 11 Detailed Project Reports (DPRs) have been prepared in 8 states for 11 DISCOMs covering 20,750 pumpsets connected on 87 feeders. Average 40% (96 MU) energy saving potential assessed.
- One pilot project in Solapur, Maharashtra is being implemented and reflects savings of 6.1 MU by efficiency up gradation of 2209 pumpsets. Monitoring & Verification methodology have been prepared and is under implementation for realizing energy savings in Solapur pilot project.
- Punjab & Haryana mandated the use of BEE star rated pumpsets for every new agricultural connection in the state. 67843 and 1599 pumps have been reported installed under the regulation in the state of Haryana and Punjab respectively.

During the XII plan, realizing the vast energy saving potential in the sector, BEE intends to continue the programme with an objective to build up the process of acceleration of sustainable energy efficiency in the plan through following interventions:

- Regulatory mechanism to mandate the use of BEE star labeled pump sets for new connections
- Facilitate implementation of DPRs and setting up monitoring & verification protocol
- Technical assistance and capacity development of all stakeholders

(b) Municipal DSM

Identifying the immense energy saving potential in municipal sector, BEE initiated Municipal Demand Side Management (MuDSM) during XI plan. The basic objective of the project was to improve the overall energy efficiency of the ULBs, which could lead to substantial savings in the electricity consumption, thereby resulting in cost reduction/savings for the ULBs. The major achievements in the XI plan period are as follows.

- Situational survey was conducted in 175 ULBs across the country.

- In 134 ULBs, Bankable DPRs were prepared after taking up Investment Grade Energy Audit (IGEA). The overall potential saving of 120 MW is estimated as part of avoided generation capacity through energy efficiency projects in 134 ULBs.
- MuDSM web portal was developed under the programme. The portal consists of DPRs and knowledge materials developed under the programme.

Implementation of the project at the ground level is highly necessary which will create a market transformation among technology provider, implementing partners, financial institutions etc. In view of these facts, it is proposed that implementation of demo projects in 15 ULBs will be undertaken on pilot basis during XII plan. In addition, technical support will be provided to the ULBs by appointing technical experts to selected ULBs.

(c) Capacity Building of DISCOMS

The objective of the programme is capacity building of DISCOMs for carrying out load management programme, energy conservation programme, development of DSM action plan and implementation of DSM activities in their respective areas. This programme would help the DISCOMs for reducing peak electricity demand so that they can delay building further capacity.

(d) Energy Efficiency in Small and Medium Enterprises (SMEs) sector

To encourage the energy efficient technologies and operational practices in SME sectors in India, BEE has initiated the energy efficiency interventions in selected 25 SMEs clusters during the XI plan. A study was conducted to assess energy use and technology gap at unit level, development of the cluster specific energy efficiency manuals, preparation of Detailed Project Reports (DPRs) on energy efficient technologies and capacity building and knowledge enhancement of man-force involved in SMEs. During the XII plan, implementations of 100 technology demonstration projects in 5 SME sectors are envisaged to facilitate large scale replication.

(iv) Strengthening Institutional Capacity of States

(a) Strengthening of State Designated Agency (SDAs)

As has been mentioned earlier, the implementation and enforcement of the provisions of the Energy Conservation Act in the states is to be carried out by SDAs. As on date, the SDAs have been set up in 32 states by designating one of the existing organizations as required under section 15 (d) of the Energy Conservation Act 2001. These agencies differ from State to State with the Renewable Energy Development Agency (44%), Electrical Inspectorate (25%), Distribution Companies (12%), Power Departments (16%) and others (3%). In order to kick start the energy conservation activities at the state level with an emphasis on building institutional capacities of the SDAs, Ministry of Power had approved the scheme of Providing financial assistance to the State Designated Agencies for strengthening their institutional capacities and capabilities during the XI plan. The major achievements were:

- Internet platform was developed by 26 SDAs.

- 47 demonstration projects implemented in street lighting and water pumping stations.
- LED Village Campaign implemented by 28 States.
- Investment grade energy audit completed in 491 Govt. buildings.

During the XII plan, thrust will be on establishment of the enforcement machinery at the State level.

(b) Contribution to State Energy Conservation Fund (SECF) Scheme

The State Energy Conservation Fund (SECF) is an instrument to overcome the major barriers for implementation of energy efficiency projects. The contribution under State Energy Conservation Fund (SECF) was made to those State Govt. / UT Administration who have created their SECF and finalized the rules and regulations to operationalise the same. The scheme was for contribution to all the State/UTs with a maximum ceiling of Rs. 4.00 crores for any State/UT provided in two instalments of Rs. 2.00 crores each. The second instalment of contribution to SECF was released only after the states have provided a matching contribution to the BEE's first instalment. The terms and conditions for release of financial assistance under Contribution to SECF remains the same during the 12th plan, only with exemption for North Eastern States. The matching contribution by State Government for North Eastern States is relaxed to Rs 25 lakhs instead of Rs 2.0 crores. Till date, an amount of Rs 82 crores has been disbursed to 26 states. Out of these, 15 states have provided matching contribution.

(v) School Education Program -

Considering the need to make the next generation more aware regarding efficient use of energy resources, it is necessary to introduce children during their school education. In this regard, promotion of energy efficiency in schools is being promoted through the establishment of Energy Clubs. Bureau of Energy Efficiency is implementing the Students Capacity Building Programme under Energy Conservation awareness scheme for XII five year plan and intends to prepare the text/material on Energy Efficiency and Conservation for its proposed incorporation in the existing science syllabi and science text books of NCERT for classes 6th to 10th. The following main activities are under progress:

- Review the existing science syllabi and science text books of NCERT for classes 6th to 10th and assess the need of level of information on energy efficiency and conservation propose to be included.
- Develop separate and exclusive draft text module (English and Hindi version) for energy efficiency and conservation to be included in science syllabi and science text books of NCERT for classes 6th to 10th
- Development of training module (English and Hindi version) and conducting training of teaching staff

Through this project recommendations will also be made to the National Council of Education, Research and Training (NCERT) to update the science text books of classes VII to IX to include relevant chapters on Energy Efficiency in the school syllabus.

(vi) Human Resource Development (HRD) -

The potential for improvement of energy efficiency of processes and equipment through awareness creation is vast. A sound policy for creation, retention and up gradation of skills of Human Resources is very crucial for penetration of energy efficient technologies and practices in various sectors. The component under HRD comprises of theory cum practice oriented training programme and providing Energy Audit Instrument Support.

(vii) National Mission for Enhanced Energy Efficiency (NMEEE)

The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight missions under the National Action Plan on Climate Change (NAPCC). NMEEE aims to strengthen the market for energy efficiency by creating conducive regulatory and policy regime and has envisaged fostering innovative and sustainable business models to the energy efficiency sector.

The Cabinet in its meeting held on 24/06/2010 had approved the NMEEE document, and funding for two years of the 11th Plan period (2010-12) with an outlay of Rs.235.50 crore. An amount of Rs. 15.00 crore was earmarked in the approved outlay of Rs. 235.50 crore towards augmentation of Bureau of Energy Efficiency (BEE)'s corpus to meet the additional establishment expenditure during 11th Plan. Continuation of NMEEE for the 12th Plan was approved by Cabinet on 6th August, 2014 with a total outlay of Rs. 775 crore .

The Mission seeks to upscale the efforts to unlock the market for energy efficiency which is estimated to be around Rs. 74,000 crore and help achieve total avoided capacity addition of 19,598 MW, fuel savings of around 23 million tonnes per year and green house gas emissions reductions of 98.55 million tonnes per year at its full implementation stage.

The activities during the 11th Plan period created the institutional and regulatory infrastructure. The implementation framework of NMEEE was prepared after extensive stakeholders consultation with relevant Ministries of Government of India, Central Electricity Regulatory Commission (CERC), State Governments, Industry associations such as Federation of Indian Chambers of Commerce & Industry (FICCI), Confederation of Indian Industry (CII), etc., independent experts from academia such as IITs, research organizations, public and private financial institutions, NGOs etc. The NMEEE spelt out four initiatives to enhance energy efficiency in energy intensive industries which are as follows:

- **Perform Achieve and Trade Scheme (PAT)**, a market based mechanism to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.
- **Market Transformation for Energy Efficiency (MTEE)**, for accelerating the shift to energy efficient appliances in designated sectors through innovative measures to make the products more affordable.
- **Energy Efficiency Financing Platform (EEFP)**, for creation of mechanisms that would help finance demand side management programmes in all sectors by capturing future energy savings.

- **Framework for Energy Efficient Economic Development (FEEED)**, for development of fiscal instruments to promote energy efficiency.

1. Perform, Achieve and Trade (PAT): On 30th March, 2012 energy saving targets for 478 designated consumers belonging to 8 sectors were notified and on 4th June, 2012 the PAT was formally launched. Consultations are conducted regularly post notification at state and sector level to communicate and inform designated consumers about the PAT implementation process, and to seek their views and experiences.

In the first cycle of PAT (ending in year 2014-15), 478 industrial units in 8 sectors (Aluminum, Cement, Chlor- Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power, Textile) have been mandated to reduce their specific energy consumption (SEC) i.e. energy used per unit of production. The target reduction for each industrial unit is based on their current levels of energy efficiency, so that energy efficient units will have low target of percentage reduction, as compared to less energy efficient units which will have higher targets. Overall, the SEC reduction targets aim to secure 4.05% reduction in energy consumption in these industries totaling an energy saving of 6.686 million tonne of oil equivalent.

Units which are able to achieve SEC level that are lower than their targets can receive energy savings certificates (ESCerts) for their excess savings. The ESCerts could be traded on the Power Exchanges and bought by other units under PAT who can use them to meet their compliance requirements. Units that are unable to meet the targets either through their own actions or through purchase of ESCerts are liable to financial penalty under the Energy Conservation Act. This will be followed by 2nd and subsequent cycles with more number of industrial sectors and units participating with more stringent energy conservation norms and standards.

Large scale consultations with stakeholders of all the 8 sectors at national, regional, state and cluster level was carried out since 2011 onwards. Sectoral technical committees were constituted for each sector with members represented by nominees of respective ministries, sectoral research organizations, industry associations etc. for of establishing the baseline and developing target setting methodology. Baseline energy audit of units under identified sectors has been undertaken.

Bureau of Energy Efficiency (BEE) has prepared Sector Specific Form-1 (annual energy return form) along with Sector specific Normalization Factors to streamline the monitoring and verification (M&V) process. The sector/ sub-sector specific Normalization Factors were developed to neutralize the effects on specific energy consumption (SEC) in the assessment year as well as baseline year so that undue advantages or disadvantages could not be imposed on any DCs while assessing the targets. For development of such factors, Committees/Sub-committees were formed for each sector/sub-sector with representation from DCs as well. Several rounds of meetings were held to identify and develop normalization factors.

BEE has put in place a process of accreditation of Energy Auditors who will be engaged to execute the M&V process of DCs to assess their performances. Preliminary work on the deepening of PAT towards identification of new DCs to be included in the PAT Cycle II has already been started. Development of ESCerts trading infrastructure is in process in collaboration with Central Electricity Regulatory Commission (CERC).

A cadre of professionally qualified energy managers and auditors with expertise in policy analysis, project management, financing and implementation of energy efficiency projects is being developed through certification programme. BEE has been designing training modules and regularly conducting a National level examination for certified energy managers and energy auditors. Till date, 15 National Certification examinations for Energy Managers and Energy Auditors have successfully been conducted. India now has 12228 Certified Energy Managers, out of which 8536 are additionally qualified as Certified Energy Auditors till date. This is further supplemented by the accreditation of energy auditors through recommendations of "Accreditation Advisory Committee". Accredited energy auditors would undertake mandatory energy audits in energy intensive industry as mandated in EC Act. As on date, there are 150 accredited energy auditors.

2. Market Transformation for Energy Efficiency (MTEE): Under MTEE, two programmes have been developed i.e. Bachat Lamp Yojana (BLY) and Super Efficient Equipment Programme (SEEP).

2.1 Bachat Lamp Yojana (BLY): It is a public-private partnership program comprising of BEE, Distribution Companies (DISCOMs) and private investors to accelerate market transformation in energy efficient lighting. Under this program, over 29 million incandescent bulbs have been replaced by CFLs under this programme.

In the next phase of BLY, BEE will promote use of LED lights using the institutional structure of BLY Programme. BEE provides support to Rural Electrification Corporation (REC) for framing technical specification and monitoring and verification of the energy savings from the LED bulbs distributed under RGWVY scheme to BPL households. BEE will also undertake outreach activities to promote large scale adoption of LEDs.

2.2 Super Efficient Equipment Programme (SEEP): The other component under MTEE is a new programme called Super-Efficient Equipment Programme (SEEP). SEEP is a program designed to bring accelerated market transformation for super efficient appliances by providing financial stimulus innovatively at critical point/s of intervention. Under this program, ceiling fan has been identified as the first appliance to be adopted. SEEP for ceiling fans aims to leapfrog to an efficiency level which will be about 50% more efficient than market average by providing a time bound incentive to fan manufacturers to manufacture super efficient (SE) fans and sell the same at a discounted price. The goal is to support the introduction and deployment of super efficient 35W ceiling fans, as against the current average ceiling fan sold in Indian market with about 70W rating.

For the XII Plan, BEE has proposed SEEP for Ceiling Fans given the rationale that appliances like ceiling fans which has an average life of over 15 years are being deployed in the economy in huge volumes (of the tune of 30-35 million annually). To avoid inefficiency getting locked in economy for its life, this program aims to stimulate technological upgradation and their accelerated introduction by manufacturers through an incentive mechanism which would motivate manufactures to manufacture such super efficient fans and sell at competitive price in a highly price sensitive fans market.

Consultation with main stakeholders of the program such as fan manufactures technology providers, R&D institutions, academia and civil society organizations have been completed.

Main technical specifications have been finalized. Assessment of testing capacity and development of testing protocols has been completed. Procurement of agency for monitoring and verification is under process.

3. Energy Efficiency Financing Platform (EEFP): Under this programme, MoUs have been signed with financial institutions to work together for the development of energy efficiency market and for the identification of issues related to this market development.

MoUs with M/s, PTC India Ltd, M/s. SIDBI, HSBC Bank, Tata Capital and IFCI Ltd have been signed by BEE to promote financing for energy efficiency projects. BEE has developed training modules in collaboration with HSBC and also conducted few training programs for financial institutions on energy efficiency project financing.

4. Framework for Energy Efficient Economic Development (FEEED): Under this initiative two funds have been created viz. Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE) and Venture Capital Fund for Energy Efficiency (VCFEE).

A. Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE)

Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE) is risk sharing mechanism to provide commercial banks with a partial coverage of risk involved in extending loans for energy efficiency projects. The amount paid out will be equal to the agreed-upon percentage of the outstanding principal and will not cover the interest or other fees owed to the bank. The Guarantee will not exceed Rs 3 crores per project or 50% of loan amount, whichever is less. Initially the support was provided to only government building and municipalities, however, in the twelfth plan it has been extended to cover SMEs and industries too. Rules for operationalization of Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE) were approved in April 2012, subsequent to which Supervisory Committee for PRGFEE has been constituted.

B. Venture Capital Fund for Energy Efficiency (VCFEE)

The Venture Capital Fund for Energy Efficiency (VCFEE) is a fund to provide equity capital for energy efficiency projects. A single investment by the fund shall not exceed INR 2 Crores. The Fund shall provide last mile equity support to specific energy efficiency projects, limited to a maximum of 15% of total equity required, through Special Purpose Vehicle (SPV) or INR 2 Crores, whichever is less. The support under VCFEE is limited to Government buildings and municipalities.

Rules for operationalization of Venture Capital Fund for Energy Efficiency (VCFEE) were approved in April 2012, subsequent to which Board of Trustees has been constituted for VCFEE Trust.

C. National Energy Conservation Award and Painting Competition

The National Energy Conservation Awards are presented to industry and other establishments and prizes to the winners of the annual Painting Competition on Energy Conservation for school children every year by the Ministry of Power with the objective of promoting energy conservation among all sectors of economy.

National Energy Conservation Awards

The annual energy conservation awards recognize innovation and achievements in energy conservation by the industries, buildings, zonal railways, state designated agencies; manufacturers of BEE star labeled appliances, electricity distribution companies, municipalities and raise awareness that energy conservation plays a big part in India's response to reducing global warming through energy savings. The awards are also recognition of their demonstrated commitment to energy conservation and efficiency. The scheme has motivated industry and other establishment to adopt energy efficiency measures.

39 sub-sectors of Industry, thermal power stations, office buildings, BPO buildings, hotels, hospitals, shopping malls, zonal railways, railway workshops, railway stations, municipalities, State Designated Agencies and manufacturers of BEE Star labeled appliances/equipment and electricity distribution companies are included in the Awards. In total there are 56 Sub-sectors from the above main sectors. The responses among the industrial and commercial units have become very encouraging as is evident from the increasing participation level (from 123 in 1999 to 1010 in 2014).

Encouraging response from Indian industry and other establishments in the national Energy Conservation Award scheme (1999-2014)

Electrical energy savings in terms of equivalent avoided capacity (mw) per year by the participating units through implementation of energy saving projects

Salient achievements of EC Award 2014:

- Participating units invested Rs. 9091 Crores in energy conservation measures, and achieved monetary savings of Rs. 4817 Crore.
- Participating units also saved electrical energy of 5197 Million kWh, which is equivalent to the energy generated from a 751 MW thermal power station.
- 22% increase in participation w.r.t. 2013
- All 41 Ordnance factories of India participated
- This year also saw excellent participation from Building Sector- 149 Office buildings, 9 BPOs, 32 Hotels, and 46 Hospitals
- 41 First prize, 37 second prize and 44 units were selected for certificate of merit.

Hon'ble Minister of State (Independent Charge) for Power, Coal and New and Renewable Energy, Shri Piyush Goyal presented the awards to winners on 14th Dec, 2014 at Vigyan Bhawan.

Painting Competition on Energy Conservation for School Children

The habit of conservation is best introduced and inculcated at the school age. It has been seen that the Children are the best agents of change and in this case we need to equip them with the information and knowledge on energy conservation and create interest among them on this important subject.

In this regard, Ministry of Power has taken an initiative and has been organizing Painting competition on Energy Conservation for students since the year 2005. The competition is held in three stages, namely, School, State and National Level since 2005. In order to strengthen the campaign, higher classes of 7th, 8th and 9th standards are also being included from this year onward in addition to existing classes of 4th, 5th and 6th Standards. Students of 4th, 5th & 6th standard students under Category 'A' and for 7th, 8th & 9th standard students under Category 'B' are eligible to participate in the competition.

The National Painting Competition on Energy Conservation 2014 was a resounding success. Across the country, about 60.17 lakhs students from all over the country have participated. This participation was about 33% higher than that in the previous year, which is being organized all over the country in association with Bureau of Energy Efficiency and 11 CPSUs under Ministry of Power. 29 States/ UTs have surpassed student's participation figures of year 2013.

The paintings drawn by children reflected their interest in the energy conservation activities and their concern about energy crises and climate change, and have effectively conveyed inspiring ideas in their impressive paintings. The vibrant designs, the confident depiction of the topic and remarkable composition seen in these paintings reflects clear understanding of the subject themes in the minds of these young children.

(The Minister of State (Independent Charge) for Power, Coal and New and Renewable Energy, Shri Piyush Goyal presenting the National Painting Competition Prize, at the National Energy Conservation Day function, in New Delhi on December 14, 2014.)

Interaction with Students

As part of the Government's efforts for promoting energy conservation, Shri Piyush Goyal, Minister of State (I/C) for Power, Coal and New & Renewable Energy interacted with school children across the country through video conferencing. Hon'ble Minister also launched a web portal called "Energy Savers" (www.energysavers.co.in) at the National Energy Conservation Day function on 14th December 2014. The portal provides tools to help children assess and improve energy usage in their schools and at their homes. The Hon'ble Minister hoped that

they could then also influence their neighbors and friends so that a cascade of impact is set up. This “catch-them-young” strategy to influence the energy consuming behavior of the children would make them the ambassadors of Energy Conservation.

School children from 18 cities namely Bhubaneswar, Hyderabad, Shimla, Patna, Itanagar, Jalandhar, Lucknow, Pune, Bhopal, Raipur, Thiruvanthapuram, Bangalore, Agartala, Gandhinagar, Puducherry, Port Blair, Kavaratti and Haridwar participated in the interactive session.

Implementation of Energy Efficiency Projects

- The implementation of energy efficiency projects is impeded by the lack of a successful implementing agency that can be a leader for new business models required for energy efficiency projects. In order to develop a viable ESCO industry, Ministry of Power has set up Energy Efficiency Services Limited (EESL), a Joint Venture of NTPC Limited, PFC, REC and POWERGRID to facilitate implementation of energy efficiency projects. EESL will work as ESCO, as Consultancy Organization for CDM, Energy Efficiency, etc.; as a Resource Centre for capacity building of SDAs, Utilities, financial institutions, etc. Major ongoing projects undertaken by M/s EESL:
- Energy Efficiency in Street Lighting:
- Energy Efficiency improvement projects in street lighting are being carried out by M/s EESL in 9 states replacing old in-efficient street lights with energy efficient LED based street lights on ESCO business model.
- Energy Efficiency in Water Pumping:
- Projects are being undertaken in 5 States and 8 States for energy efficiency improvement of water pumps in Agriculture and Municipal sector respectively.
- Promotion of Energy Efficient LED Bulbs:
- DELP proposes to overcome this first cost barrier to promote LEDs by using the basic architecture and best practices of BLY. DELP is designed to monetize the energy consumption reduction in the households sector and attract investments therein. It also evolves a robust business model that secures commercial investment. The scheme has already launched in UT Puducherry and is under consideration for other States.