

# BEE LINE

NEWSLETTER



## STRATEGY PLAN TOWARDS DEVELOPING AN ENERGY EFFICIENT NATION 2017-31

## SWACHHTA PLEDGE TAKEN BY OFFICIALS OF BEE

## 5TH SMART CITIES INDIA 2019 EXPO





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MESSAGE  
FROM  
DIRECTOR  
GENERAL  
BEE



India is embarking on an ambitious path. The Government's mission is to provide electricity to all - to reach areas where electricity is unavailable, and to raise the level of energy availability. With limited resources at our disposal, efficient use of primary energy resources is absolutely necessary.

The Bureau of Energy Efficiency (BEE), under the Ministry of Power, has been spearheading the promotion of energy efficiency through various initiatives. Programs such as Standards & Labelling for consumer appliances, and Demand Side Management (DSM) program for Agriculture and Municipality sectors are helping conserve the country's energy landscape.

Under the guidance of the Ministry of Power, BEE has carried out a study for the efficient use of air-conditioners. We have recommended that the default setting in air-conditioning equipment should be 24 degrees Celsius. This summer, an awareness campaign in this regard has been launched targeting manufacturers, retailers and consumers. It is expected that the campaign will result in substantial energy savings and also reduce greenhouse gas emission.

Another initiative has been the publication of the 'Roadmap Of Sustainable and Holistic Approach to National Energy Efficiency (ROSHANEE)' document. This document captures all energy conservation and energy efficiency activities in areas such as appliances, industries, Demand Side Management (DSM) programs under Agriculture and Municipalities, etc.

These initiatives aim towards optimizing energy and reducing carbon emission for sustainable development are showcased in the newsletter. We hope they will encourage stakeholders to take the next step from awareness to implementation of energy efficiency.

**Abhay Bakre**  
Director General, BEE

## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Training & Awareness Program under Agricultural Demand Side Management (AgDSM) Program

A training & awareness program was held at Kawardha KVK, Chhattisgarh (CREDA) on March 28, 2019 under Agricultural Demand Side Management (AgDSM) program. The objective was to educate farmers about the benefits of using the BEE Star-Labeled Energy Efficient pumpsets in agriculture.



### Two-day National Workshop Involving States/UTs to Review Physical and Financial Progress of State Designated Agencies



A two-day National Workshop involving States/UTs to review physical and financial progress of State Designated Agencies (SDAs) was organized from April 4 to April 5, 2019 at Bhubaneswar, Odisha. The workshop was attended by representatives of 28 SDAs along with various other stakeholders.

The Director General, BEE, Commissioner-cum-Secretary (Energy)- Odisha and Secretary, BEE released two

important documents – Frequently Asked Questions (FAQs) by SDAs on various schemes of BEE and Operational Guidelines for implementation of SDA strengthening scheme.

A consultation session on UNlocking NATIONAL Energy Efficiency potential (UNNATEE) was also convened during this workshop. The main purpose of holding this session was to explore possibilities of assigning states with the targets for energy savings.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Contract Signed Between Bureau of Energy Efficiency and Federation of Indian Chambers of Commerce & Industry (FICCI)



Bureau of Energy Efficiency and Federation of Indian Chambers of Commerce & Industry (FICCI) signed a contract for the implementation of various Energy Efficiency activities under "Capacity Building of Distribution Companies (DISCOMs)" programme in the East Zone. The programme will facilitate in reducing the peak electricity demand, creation of Demand Side Management (DSM) cell, notifying the DSM regulation and implementing DSM and energy efficiency activities in the eastern states.

### Interactive Consultation with Accredited Energy Auditors (AEAs)

Similar to the first interaction with Accredited Energy Auditors (AEAs) held on February, 21 2019 at the Bureau of Energy Efficiency, the second such interaction was held on March 26, 2019 at the PCRA Auditorium, New Delhi under the chairmanship of Shri Abhay Bakre, Director General, BEE. The main areas of focus were strengthening of cadre for Accredited Energy Auditors (AEAs), capacity building requirement for AEAs and suggestions for amendment to Energy Conservation Act or any other clause.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

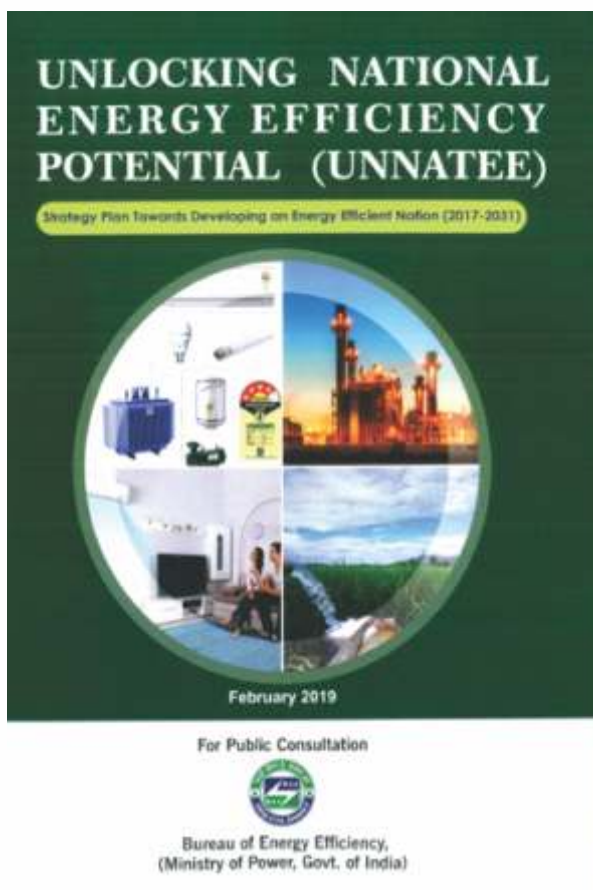
### National Level Stakeholder Consultation on “Findings of UNNATEE (UNlocking NATIONAL Energy Efficiency potential)”



A series of National level Stakeholder Consultation on “Findings of the UNNATEE (UNlocking NATIONAL Energy Efficiency potential) – Strategy Plan towards developing an Energy Efficient Nation 2017-31” were held at Pune on April 5, 2019, and at Thiruvananthapuram on April 10, 2019.

The stakeholder consultation at New Delhi was chaired by Shri Rajpal, Economic Adviser, Ministry of Power, Government of India and Shri Abhay Bakre, DG-BEE. Dignitaries from DISCOMs, SDAs, Electricity Regulatory Commissions, PCRA, NITI Aayog, Ministry of Statistics and Programme Implementation, Coal Controller and think-tanks including Council on Energy, Environment and Water, Alliance for an Energy Efficient Economy, World Resources Institute participated in the consultation and gave their valuable feedback.

The strategy document (UNNATEE) establishes energy efficiency targets upto 2031 based on moderate and ambitious scenarios, that are estimated to be 87 Mtoe and 129 Mtoe, respectively. The report also highlights sectoral and cross-sectoral strategies that would support the achievement of energy efficiency targets.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### BEE-IGEN Strategic Meet held at Bengaluru

The BEE-IGEN Strategic Meet was held at Bengaluru on 2<sup>nd</sup> and 3<sup>rd</sup> May, 2019 to review the previous year operational plan and to finalize 2019 operational plan.



### Memorandum of Agreement Signed between BEE & M/s Planet E-com Solutions Pvt. Ltd.

Bureau of Energy Efficiency has signed Memorandum of Agreement (MoA) with M/s Planet E-com Solutions Pvt. Ltd. for “Design, Development and Maintenance of Interactive Web Portal for State Designated Agencies (SDAs)”. This web portal will help BEE monitor the physical and financial status of SDAs under various energy efficiency initiatives in a smooth and more effective manner.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Workshop on 'R&D and Innovation in Cooling and Refrigeration'

Shri Abhay Bakre, Director General, Bureau of Energy Efficiency spoke about the importance of energy efficiency in Smart Space Cooling in Buildings and Appliances, and the need to develop a robust Research & Development ecosystem, during the workshop on 'R&D and Innovation in Cooling and Refrigeration'.



### Shri A.K Bhalla, Secretary, MoP, Government of India, Visited the Newly Constructed Office

Shri A.K Bhalla, Secretary, Ministry of Power, Government of India, visited the newly constructed office of Bureau of Energy Efficiency for 30 additional workstations at West Block – II, R.K. Puram, Sector 1, New Delhi.





## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### **ROSHANEE (Roadmap Of Sustainable and Holistic Approach to National Energy Efficiency) Book Launched**

Energy is one of the key indicators that reflects the growth of a nation and its efficient use is important for a sustainable living. ROSHANEE (Roadmap of Sustainable and Holistic Approach to National Energy Efficiency), a booklet on Revised National Mission for Enhanced Energy Efficiency was launched by Shri A. K. Bhalla, Secretary Ministry of Power, Government of India, Shri Raj Pal, Economic Adviser, Ministry of Power, Shri Abhay Bakre, Director General, BEE, Shri Pankaj Kumar, Secretary, BEE and other officials, which aims to provide an efficient approach towards energy consumption.



# HIGHLIGHTS OF THE QUARTER (April'19-June'19)

## Newly designed BEE website, new portal for NECA & BEE intranet portal launched

A new portal for National Energy Conservation Awards (NECA), BEE Intranet portal, and newly designed BEE's website were launched on May 14, 2019 by Shri A.K Bhalla, Secretary, Ministry of Power, Government of India.

**BUREAU OF ENERGY EFFICIENCY**  
Government of India, Ministry of Power

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**STATE DESIGNATED AGENCIES (SDA)**  
Providing financial assistance to states to promote energy efficiency

**MAKING STATES, CITIES & VILLAGES ENERGY EFFICIENT**

**DEMAND SIDE MANAGEMENT (DSM)**  
Reducing peak electricity demand in urban local bodies & agriculture

**Events**

- Empanelment of Laboratories for Check Testing under Standards & Labelling Programme - Round II  
24 Jul 2019
- Empanelment of Laboratories for Check Testing under Standards & Labelling Programme - Round II  
24 Jul 2019

**Flagship Programmes**

- ECBC** Energy Conservation Building Code
- Star Label** Standards and Labeling
- PAT** Energy Efficiency in Large Industry
- SME** Energy Efficiency in Small & Medium Industry
- SDA** Energy Efficiency in States
- DSM** Energy Efficiency Through Demand Side Management

**What's New**

- Online application for certificates issued to Enabled for Qualified Candidates upto 14th NCE for Renewing their Certificate - Click online services to Apply Online
- Winner Announcement of Slogan Competition for Space Cooling Through Optimum Temperature Settings of Air Conditioners
- Winner Announcement of Logo Competition for Space Cooling Through Optimum Temperature Settings of Air Conditioners
- Issue of Final Certificate Enabled for Qualified 19th NCE Candidates from 21.05.2019 (Click Downloads under aioncc.org)

GOVERNMENT OF INDIA  
MINISTRY OF POWER

National Energy Conservation Award (NECA) 2019

BUREAU OF ENERGY EFFICIENCY  
Government of India, Ministry of Power

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**APPLY FOR NECA 2019**

## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Swachhta Pakhwara Observed at BEE from May 16-31, 2019

Bureau of Energy Efficiency observed Swachhta Pakhwada from May 16-31, 2019. The Pakhwada started on 16<sup>th</sup> May with the employees taking pledge to voluntarily work towards keeping their surroundings clean and encourage others to keep the country clean and green. Several activities like essay and slogan writing, general cleanliness drive within and around the office premises etc took place during the two-week pakhwada.

All employees showed great enthusiasm as they took pledge to serve Mother India by keeping the country neat and clean and devote 100 hours every year to voluntarily work towards spreading cleanliness and propagate the message of Swachh Bharat Mission.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Training cum Interactive Session on M&V of Petroleum Refineries under PAT Scheme

A training cum Interactive session on Monitoring and Verification of Petroleum Refineries under Perform, Achieve, & Trade (PAT) Scheme was conducted by the Bureau of Energy Efficiency on May 17, 2019 in Auditorium, OADB Bhawan, Noida. More than 70 officials from Refineries and representatives of the EmAEA firms attended the training session.



### Pledge Taking Ceremony Held to Observe Anti-Terrorism Day

Observing the Anti Terrorism Day, officials of the Bureau of Energy Efficiency took a pledge to oppose all form of terrorism and violence, and to promote peace, harmony and understanding among all human beings.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Workshop to Appraise Stakeholders About the Key Features of Labelling Program and Compliance Tool

The Bureau of Energy Efficiency launched the Residential Building Labelling program on February 26, 2019 and has started an awareness campaign to appraise stakeholders about the key features of the labelling program and compliance tool for implementation. The first of these awareness workshops happened in Delhi on May 15, 2019 in association with GIZ under the Indo-German Energy (IGEN) programme while the second of these awareness workshops happened in Mumbai on May 17, 2019.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### BEE Participated in the 5<sup>th</sup> Smart Cities India Expo 2019

The Bureau of Energy Efficiency participated at the 5<sup>th</sup> Smart Cities India 2019 Expo. It aimed to spread awareness about the latest trends that are shaping India into a progressive and smart nation. BEE is mandated to implement Energy Efficiency upgrades in the building sector which has significant potential in the existing residential and commercial buildings. There is a potential of 30-40% energy conservation in the existing commercial buildings and smart construction of new buildings can also help in reducing the greenhouse gas emission by 50%.



The building sector accounts for 18% of global emissions today, and it has great potential to deliver a significant cut in emissions at a very less cost.

India is one of the fastest growing economies in the world and two-thirds of the total building stock that will exist by 2030 are yet to be built. The building sector possesses great potential for energy conservation. During the 5<sup>th</sup> Smart Cities India 2019 Expo, visitors were apprised about the efficient technologies for a smart city and how it will help meet the energy demand in the future.

## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### HEAD-Training Programme for Empanelled Accredited Energy Auditing (EmAEA) Firms



A training programme for Empanelled Accredited Energy Auditing (EmAEA) Firms was organised for performance assessment of DISCOMs under PAT Cycle - 2. This will help EmAEA firms to effectively discharge their duties while assessing performance of DISCOMs under PAT Cycle - 2.

### Workshop-Cum-Exhibition on EE Building Material at Punjab Energy Development Agency

A workshop-cum-exhibition on Energy Efficient Building Material at Punjab Energy Development Agency conducted on May 31, 2019. The forum aims to create awareness about ECBC, exchange experiences, discuss ideas/challenges and seeking solutions with stakeholders, vendors, architects and engineers.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Training Programme for Railways and EmAEA Firms on M&V of Performance Assessment under PAT Cycle-II



A training programme for Designated Consumers of Railways and Empaneled Accredited Energy Auditing Firms on Monitoring & Verification of Performance Assessment under PAT Cycle-II was organized at Delhi on June 18, 2019.

The program was inaugurated by Smt. Manju Gupta, Additional Member (Electrical) Railway Board, which facilitated successful carrying out of Monitoring & Verification of the Railways under PAT scheme.

### International Yoga Day



A sustainable future is the key to peace, harmony and serenity. BEE celebrated International Yoga Day on June 21, 2019. On this occasion, Yoga Instructor Shri Gagandeep from “Morarji Desai National Yoga Institute”, visited the office of BEE to give lessons on basic yoga poses that everyone can practice at home or in workplace. Shri Abhay Bakre, Director General and other officials participated in the training session with great enthusiasm and fervor.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Training Workshop for Capacity Building of ESCOs and Energy Professionals



The Bureau of Energy Efficiency organized a two-day training workshop for capacity building of ESCOs and Energy Professionals on Energy Efficiency Financing with the support of SDA-Odisha and International Finance Corporation in Bhubaneswar, Odisha on 20<sup>th</sup> -21<sup>st</sup> June, 2019. Around 50 participants from ESCOs, industries and energy professionals attended the workshop and learned about energy efficiency financing, various initiatives of BEE for the development of ESCO market in India, and eventually to promote Energy Efficiency amongst different sectors.

### 5-day Residential Training of Trainers on Demand Side Management Organized at Gangtok, Sikkim



A 5-day Residential Training of Trainers programme on Demand Side Management (DSM) and Energy Efficiency (EE) for 30 officials of Energy & Power Department-Government of Sikkim was organized by BEE in association with SDA-Sikkim from 24<sup>th</sup> –28<sup>th</sup> June, 2019 at Gangtok, Sikkim.

The programme was inaugurated by Mr. N. R. Bhattarai, Hon'ble Chairperson, Sikkim State Electricity Regulatory Commission (SSERC). The objective of this program was to build capacity building of DISCOMs officials for carrying out DSM and Energy Efficiency activities in their jurisdiction and also to impart training to the circle level officials.

## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Residential Training of Trainers under 'Capacity Building of DISCOMs' Programme Organized at Andaman & Nicobar Islands



Under the 'Capacity Building of DISCOMs' programme on Demand Side Management and Energy Efficiency (DSM & EE), a five-day Residential Training of Trainers programme was organized for officials of Electricity Department, UT of Andaman & Nicobar Islands by BEE in association with SDA-Andaman & Nicobar Islands from June 25-29, 2019 at Port Blair, Andaman & Nicobar Islands. The programme was inaugurated by Ajay Kumar Gupta, IAS, Secretary Power, Andaman and Nicobar Administration. The objective of this program was to build capacity of DISCOMs officials for carrying out DSM and Energy Efficiency activities in their jurisdiction and to impart training to the circle level officials.

## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Series of Workshops Conducted in Association With GIZ & SDC for Energy Efficiency in Residential Buildings

The BEE has conducted a series of workshops for Energy Efficiency in Residential Buildings along with GIZ & SDC. In this regard, the third workshop was conducted in Lucknow from June 27-28, 2019 to disseminate Econiwas Samhita & Building Energy Efficiency Labelling among various stakeholders. The first day was attended by about 120 participants covering Architect Associations, Developers, PWDs, Town & Country Planning Department, LDA, Ministry of Energy of Uttar Pradesh & Govt. officials from 5 other states. The programme was inaugurated by Sh. Sushil Kumar Patel, Director, UPNEDA.



### Stakeholders Workshop Organised for Developing New Financing Mechanisms to Promote Energy Efficiency in India

BEE, through KPMG and CII, organized a stakeholders workshop on June 28, 2019 in Delhi for developing new financing mechanisms to promote Energy Efficiency in India.

More than 50 stakeholders from Banks, NBFCs, DISCOMs, industries, SMEs/ESCOs, etc. participated in this workshop and showed huge enthusiasm for the new financing mechanisms.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Regional Meets Organized to Interact with the Officials from SERCs/JERCs, SDAs & DISCOMs Under “Capacity Building of DISCOMs” Programme



Regional meets were organized by BEE to interact with the officials from SERCs/JERCs, SDAs & DISCOMs to encourage them for taking up DSM activities in their jurisdictions and to apprise them about their roles & responsibilities under “Capacity Building of DISCOMs” programme. Subsequently, the first regional meet was organized on June 28, 2019 at Bengaluru, Karnataka in association with Karnataka Renewable Energy Development Ltd (KREDL). About 50 officials from SERCs/JERCs, SDAs and DISCOMs were present in the regional meet, and Chief General Manager, TSNPDCL, Managing Director, KREDL.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### Building Energy Efficiency Workshop Organised in Association with GIZ at Lucknow



Building Energy Efficiency workshop was organised in association with GIZ at Lucknow on June 28, 2019. It was attended by more than 125 participants.

The gathering was addressed by Shri Brajesh Pathak, Hon'ble Minister of Additional Sources of Energy, Government of UP and Shri Alok Kumar, Principal Secretary (Energy), Government of UP. The Hon'ble Minister emphasised the need of 'Awareness Campaign' for common man on Government initiatives on Building Energy Efficiency particularly regarding the labelling scheme.



## HIGHLIGHTS OF THE QUARTER (April'19-June'19)

### WEBINAR- An Interactive Session on Monitoring & VERIFICATION UNDER PAT CYCLE-II

A series of webinars were held from June 14 to July 04, 2019 on Monitoring and Verification (M&V) under PAT Cycle- II, which covered general guidelines for the M&V process. The webinar provided an opportunity for the DCs, EmAEA firms and SDAs to clear their doubts related to the M&V process. Designated Energy Managers (EM) of the DCs, who already had a clear understanding of the PAT scheme, participated in the webinar. A panel consisting of Dr. Ashok Kumar, Director, BEE, Shri Sunil Khandare, Director, BEE, Shri A.K.Asthana, Sr. Technical Expert, IGEN, Smt. Rita Acharya, PAT Coordinator, IGEN, Shri Piyush Sharma, Technical Expert, IGEN, along with all sector experts were available to take questions.

Subsequently, sector specific webinars on proforma and normalization was also held for the Thermal Power Plants, Aluminium, Cement, Pulp and Paper, Fertilizer, Chlor Alkali, Iron and Steel, Textile, Refineries, Railways, DISCOMs sectors.





## AC @ 24: A NEW MANTRA FOR ENERGY EFFICIENCY

Do You Know that our household electrical appliances are the major source contributing towards the depletion of energy resource and climate change? We can't live without them, but with a little restraint and proper use, we can minimize its ill-effects. Pervasive use of air-conditioners has contributed most to this problem.

The increasing humidity in the atmosphere has prompted an increasing use of air-conditioners. However from the environmental point of view, this is not deemed to be good. According to a BEE study, the total connected load in India due to air conditioning will touch 200 GW by 2030 and is likely to increase further. Today, only six per cent of the households in the country use air-conditioners, but this usage is growing rapidly. That means a higher emission of carbon dioxide and release of refrigerants into the atmosphere is leading towards climate change. A larger middle-class population with greater purchasing power, rising summer temperatures and a more consumerist lifestyle are the contributing factors.

Using our air-conditioner judiciously will sustain the life in the planet for a longer period. Increasing the temperature setting on our air-conditioner by 1 degree results in 6% less

utilization of energy. So, setting our AC at 24 degrees will save you 24% energy. That's approximately Rs.6,240 savings every year on your electricity bills. If every household and business establishments follow this policy, India can save up to 2,300 crore units of electricity annually. So, increasing the temperature of our air-conditioner even by 1°C will benefit us with good health and help us save energy.

Maintaining the air-conditioner at 24°C has health benefits, too. The normal human body temperature is approximately 36-37°C, but we prefer to set our air conditioners at 18-21°C. This is not only uncomfortable, but also unhealthy. And it compels people to wear warm clothing or to use blankets. That's actually wasting energy! Countries like Japan have made it mandatory for air-conditioners to be set at 28° C in all establishments.

We also need to improve the energy efficiency of our household appliances. Choose an energy-efficient air-conditioner with a higher star rating to save electricity, environment and money. This will also help the country to fulfil commitments it has made in Paris. Energy saving is a national cause and each citizen should make an effort to make India an energy-efficient economy and society. Also, energy saving will bring substantial benefits to each one of us.



## NATIONAL ACTION PLAN ON CLIMATE CHANGE

Climate change is one of the burning issues of our times. Emissions of CO<sub>2</sub> and other greenhouse gases into the atmosphere as a result of burning carbon-based fuels for industrial and transportation needs are heating up the planet. As per the reports of the Intergovernmental Panel on Climate

Change (IPCC), human activities have already warmed the planet by over about 1°C since the pre-industrial era. If CO<sub>2</sub> emissions are not curbed, the world could be heading towards a situation where the very sustainability of human existence on earth may be threatened. Already, changed weather patterns, unpredictable rainfall, etc. clearly demonstrate the impact





climate change is having on the planet. Committed towards reducing its emissions, India has been participating in the Conference of Parties (COP) under the United Nations Framework Convention on Climate Change (UNFCCC). The twenty-first session of the COP that took place in 2015 at Paris reached a landmark agreement called the “Paris Agreement” to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The aim of the Paris Agreement is to strengthen the global response to the threat of climate change by keeping the global temperature rise well below 2°C above pre-industrial levels and to pursue

efforts to limit the temperature increase even further to 1.5°C. Climate change is one of the greatest challenges to the economic development in India. India needs to maintain a high growth rate for increasing the living standards of the vast majority of people, while at the same time, reducing their vulnerability to adverse impacts of climate change. Recognizing the need to combat the effects of climate change, the Government of India launched the National Action Plan on Climate Change (NAPCC) way back in 2008.

The NAPCC seeks to achieve national growth objectives through a qualitative change in the direction that enhances ecological sustainability, leading to further reduction in emissions of greenhouse gases. The action plan is to devise efficient and cost-effective strategies to reduce end-use demand, deploy appropriate technologies for both adaptation to and mitigation of the adverse effects of emissions of greenhouse gases and engineer new and innovative forms of market, regulatory, and voluntary mechanisms to promote sustainable development. The NAPCC has outlined eight national missions that represent multi-pronged, long-term, and integrated strategies for achieving key goals in the context of climate change:

1. National Solar Mission
2. National Mission for Enhanced Energy Efficiency
3. National Mission on Sustainable Habitat
4. National Water Mission
5. National Mission for Sustaining the Himalayan Ecosystem
6. National Mission for Green India
7. National Mission for Sustainable Agriculture
8. National Mission for Strategic Knowledge of Climate Change

The Bureau of Energy Efficiency under Ministry of Power, Government of India, is implementing the National Mission for Enhanced Energy Efficiency (NMEEE) under the NAPCC . The Mission recommends mandating reduction in specific energy consumption of large energy intensive industries, with a market mechanism for trading energy-savings certificates. It also includes fiscal incentives for financing of

public-private partnerships to reduce energy consumption through demand-side management programs in the municipal, buildings and agricultural sectors.


NMEEE has been successful in pushing many energy-intensive sectors to enhance energy efficiency. The Mission contributed to more than 37 million tonnes of CO<sub>2</sub> mitigation in 2017-18. The mission also contributed significantly towards development and capacity building of energy professionals, ESCOs and financial institutions. The Mission has also helped in the market transformation for efficient lighting through the introduction of CFLs, and subsequently LEDs. It is worthy to note that as per India's 2<sup>nd</sup> Biennial Update Report, 2018, emission intensity reduction of 21% between 2005 and 2014 has already been achieved by the country.

In addition to the actions under the mission, programmes to address energy conservation and efficiency in sectors such

as appliances, buildings and transport are also being implemented by the bureau.

Recently, the Bureau has enhanced the scope of NMEEE by developing a broader version of the mission. The revised mission or the Roadmap of Sustainable and Holistic Approach to National Energy Efficiency (ROSHANEE) is an extensive version of the mission and includes all the current and potential areas of energy efficiency in all the sectors of the economy. ROSHANEE includes all the activities of the past that have contributed significantly to CO<sub>2</sub> mitigation as well as new activities in the fields that are unexplored or partially explored. It brings together seemingly disparate national initiatives such as Zero Effect, Zero Defect, Smart Cities, India Cooling Action Plan, etc. The activities proposed in the revised programme is estimated to lead to avoiding emission of 557 million tonnes of CO<sub>2</sub> by 2030.





## STANDARDS AND LABELLING PROGRAMME (S&L) - TAKING ENERGY EFFICIENCY TO CONSUMERS

A household by itself may not consume much energy. But all the households in the country taken together consume a significant percentage of energy generated in the country. Conserving energy among households is therefore a major thrust area for BEE. The Standards and Labelling Programme is one such initiative that aims to reduce energy demand of residential households & commercial establishments by giving consumers an informed choice about the energy and cost saving potential of the energy efficient star labeled appliances. The programme lays down minimum energy performance norms for appliances and equipment, rating the energy performance on a scale of 1 to 5, 5 star being the most energy efficient one.

The BEE star rating programme is mandatory for 10 appliances which includes room air-conditioners, refrigerators, fluorescent tubular lamps, colour TVs, electric water heaters, distribution transformers, LED bulbs to display star labels. The display of BEE Labels is voluntary for remaining 13 appliances and equipment such as washing machines, microwave ovens, ceiling fans, LPG stoves, computers, agriculture pumpsets, DG sets and office equipment.

To promote the concept, BEE has effectively engaged with consumers through a well-planned awareness campaign through print, digital and electronic media. Consumers are now aware about the benefits of using star-labeled products. Additionally, BEE is also educating retailers of equipments and appliances in various parts of the country about the benefits & purpose of star ratings appliances & equipments through a series of awareness workshops under its National Retailers Training Programme.

Star labelling is a very cost-effective policy tool for improving energy efficiency and lowering associated operational energy costs of appliances or equipments. The Standards & Labelling Programme has led to an avoided generation capacity addition of 22,990 MW in the last five years.

BEE is developing the S&L programme in a collaborative manner with a consensus-driven approach of all the stakeholders. The technical committees constituted for this purpose analyzes the energy performances of indigenous and international market scenarios of existing appliances for establishing and raising performance standards. More appliances like deep-freezers, compressors, solar water heaters and solar photo voltaic are proposed to be covered under the scheme shortly.

The BEE ensures a structured testing and quality assurance mechanism for the programme and to prohibit the sale of compromised quality products in India. For this purpose, the BEE has already empaneled 14 testing laboratories to independently test the star-labeled appliances on an annual basis. Another 25 testing laboratories with the support of Central Power Research Institute (CPRI) are also planned. The BEE has initiated a process to establish a LED bulb reference testing lab at National Physical Laboratory (NPL), Delhi.

The BEE is also working on implementing a QR code system which will help customers in identifying and validating the authenticity of label particulars on appliances and equipment directly from BEE's database using phones.

# ANOTHER WAY OF CONSERVING ENERGY - DEMAND SIDE MANAGEMENT

A major intervention to achieve reduction in energy demands is Demand Side Management (DSM). DSM interventions have helped utilities not only to reduce peak electricity demands but also defer high investments in generation, transmission and distribution networks while ensuring continuous development. DSM has gained unprecedented importance and has become an integral part of almost all the central and state missions to promote energy efficiency.

The Bureau of Energy Efficiency (BEE) has been in the forefront of demand side management programmes and has launched DSM schemes in the areas of Agriculture and Municipal. Additionally, BEE has been strengthening its efforts in these areas to realize the existing energy saving potential and facilitate the removal of perceived roadblocks.





# AGRICULTURE DEMAND SIDE MANAGEMENT (AgDSM)

In the agriculture sector, pump sets consumes a considerable percentage of energy. It is estimated that there are about 21 million pump sets, and 2.5 -5 lakh new pump sets are being added every year. Unfortunately, most of these pump sets are not energy efficient. Low electricity tariffs applicable to agricultural consumers give farmers no incentive to upgrade to more energy-efficient but costlier pump sets. As a result, the annual subsidy burden on the state governments has grown to more than Rs. 65,000 crores per annum and it continues to increase.

Studies have shown that it is possible to achieve 30-40% energy savings in the agriculture sector by adopting Energy Efficient Star Labelled pumpsets. The BEE's Agriculture Demand Side Management (AgDSM) Programme aims to reduce the energy intensity of the agriculture sector through efficiency upgradation of agricultural pump sets and adoption of best practices.

The BEE aims at achieving sustainable energy efficiency in this sector through a regulatory mechanism apart from working for the capacity building of all stakeholders through demonstration of projects in rural area.

In more than 15 states, it is now mandatory to use star-labeled energy efficient pump sets for new agriculture connections. Many states are also providing incentives to farmers for adoption of star-labeled Energy Efficient Pump Sets (EEPS).

The BEE, in association with various DISCOMs, has implemented four pilot AgDSM projects in Maharashtra, Karnataka and Andhra Pradesh to replace existing inefficient pump sets by star-labeled EEPS. These projects have reflected energy savings of around 25-40%. Various models are being used to implement these projects in other states.

An MoU has been signed between the BEE and the Indian Council of Agricultural Research (ICAR) to create awareness for energy efficient pump sets and operational practices with the objective to increase adoption of energy and resource-efficient approaches in agricultural practices. Particularly, the emphasis is on using agriculture pump sets in ways that can improve efficiency of fuel. The aim is to reduce the cost of cultivation so as to increase farmer's income in harmony with the Government strategies of "Per drop, more crop" and "Doubling Farmers' income".



## MUNICIPAL DEMAND SIDE MANAGEMENT (MuDSM)

Roughly 30% of India's population lives in urban areas. Continuous migration from rural areas is putting an additional burden on the urban local bodies. Municipalities and other urban local bodies consume electricity for various utility services like street lighting, water pumping, sewage treatment, and in various public buildings. The growing demand for public utilities due to rising population and improved standards of living has increased the energy demand for services provided by the urban local bodies.

The energy consumption of the municipality sector is characterized by frequent changes and rising peaks in power load curves in the morning hours due to water pumping and in the evening hours for street lighting. Inefficient use of electricity, due to limited diffusion of energy efficiency technology and demand side management initiatives, have considerably increased the energy spent by the municipalities. The BEE's Municipal Demand Side Management (MuDSM) programme can improve the overall energy efficiency of urban local bodies, thus, leading to substantial savings in the electricity consumption and cost.






#Raiseitby**1degree**

**Every 1 Degree increase in AC Setting,  
Saves 6% Electricity**



**If all of us do it, it will mean:**

-  Yearly 500 crore units of electricity saving
-  ₹ 2500 crore saving for the country annually
-  40 lakh tonnes CO<sub>2</sub> emissions avoided
-  Better and healthier planet

**CHOOSE TO BE COMFORTABLE** Maintain AC temperature at 24-26°C for good health and comfort



MAKING OUR PLANET  
HEALTHIER

# BUY EFFICIENT BE EFFICIENT

**MORE STARS  
MORE SAVINGS**

**POWER SAVINGS  
GUIDE**

**ENERGY EFFICIENCY  
ISEER - 5.2\***

Appliance/Type	: RAC/XXX
Brand	: XXX
Model/Year	: XXX
Cooling Capacity (100%)	: XXX
Cooling Capacity (50%)	: XXX
Electricity Consumption	: XXX (Units per Year)
Compressor Type	: Single/Two/Multi Stage/Variable Speed
Heat Pump	: Yes/No

**ENERGY IS LIFE  
BEE  
CONSERVE IT**

\*Under test conditions, when tested in accordance with ISO 16358 & based on 1600 operating hours per annum.  
Actual electricity consumption will depend on how the appliance being used.

Star label rates the energy performance of appliances on a scale of 1 to 5, with 5 star being the most energy efficient appliance.

## ENERGY IS LIFE, CONSERVE IT



**BUREAU OF ENERGY EFFICIENCY (BEE)**

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