Issue 7 | April 2020 - June 2020

BEE LINE

NEWSLETTER

Release of report on “Impact of energy efficiency measures” by Hon'ble Minister of State (I/C) for Power and NRE, Shri R K Singh

Observance of Swachhta Pakhwada

BEE Observed Anti-Terrorism Day Pledge Taking Ceremony

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KEY POINTS

Abhay Bakre
Director General, BEE

MESSAGE

India has been witnessing a significant rise in the demand for energy across all the sectors with a rapid increase in access, affordability, and urbanization. The primary energy demand in India has grown substantially in recent times which is expected to further increase to about 1250 – 1500 MTOE by 2030. We at the Bureau of Energy Efficiency are committed to developing effective techniques for energy efficiency in the country.

To identify the actual energy consumption, BEE conducts an annual study every year, comparing the actual energy consumption in a particular year with estimated energy consumption had the current energy efficiency measures were not undertaken i.e. counterfactual. The major programmes identified under the study this year include Perform, Achieve and Trade Scheme, Standards & Labeling programme, UJALA programme, Municipal Demand Side Management programme, etc.

Going forward, with the current pandemic situation around the world, we need to continue ensuring the energy efficiency for our nation whilst keeping ourselves safe from the Coronavirus. We need to leverage the benefits of energy efficiency post COVID – which includes opportunities for job creation.

BEE has taken various steps to reduce the energy intensity of the economy through PAT, Standards & Labelling and other programmes with an to develop and enhance the energy efficiency throughout the country.

R K Rai
Secretary, BEE

MESSAGE

India aims to reduce the emissions intensity of its GDP by 33 to 35% by 2030 from 2005 level and raise the non-fossil fuel power generation capacity to 40%. To achieve this, the Bureau of Energy Efficiency has taken a host of steps through its various schemes and progammes.

I take this opportunity to share with you all that during the FY 2018-19, India has achieved a savings of 23.728 Million Tonnes of Oil Equivalent i.e. 2.69% of total primary energy supply of the country

Reduction in CO2 emission of around 151.7 Million Tonnes, with various energy-efficient initiatives taken under various schemes like PAT, S&L, ECBC etc. It is becoming progressively strong that energy efficiency needs to be crucial in energy policies around the world and with the introduction of the 6th cycle of PAT scheme which covers 1091 large units from 13 energy-intensive sectors, it is expected to save more energy in the coming time and build an energy-efficient economy.

BEE is always determined to contribute towards an energy-efficient economy, and I urge we all to stay safe from the current global COVID19 pandemic.

Release of report on "Impact of energy efficiency measures"

A Report on "Impact of energy efficiency measures" for the year 2018-19 was e-released by Hon'ble Minister of State (I/C) for Power and NRE, Shri R K Singh on 06th May, 2020. The report was prepared to assess the resultant annual savings in energy as well as CO_2 emissions through various initiatives in India. India has been witnessing a significant rise in the demand for energy over the past years and various energy efficiency measures have contributed in reducing 151.74 Million Tonnes of CO_2 emissions, as compared to previous year's 108 $MTCO_2$, which is translated into savings worth INR 89,122 crores (approximately) against last year's (2017-18) savings of INR 53,627 crore. The objective of this study was to assesses the resultant impact of current schemes at national as well as state level and evaluate the performance and impact of all the key energy efficiency programmes.

The findings of the report reflect that implementation of various energy efficiency schemes have led to total electricity savings to the tune of 113.16 Billion Units in 2018-19, which is 9.39% of the net electricity consumption. The major programmes identified under the study includes Perform, Achieve and Trade Scheme, Standards & Labeling Programme, UJALA Programme, Municipal Demand Side Management Programme, etc.

The total energy savings achieved in 2018-19 is 23.73 Mtoe (million Tonne of Oil Equivalent), which is 2.69% of the total primary energy supply (estimated to be 879.23 Mtoe in India) during 2018-19. This includes both Supply Side and Demand Side sectors of the economy. Identifying the fact that energy conservation and its efficient use is one of the most effective options to meet this increasing demand, BEE is committed to developing new and effective techniques and measures for energy efficiency.

The detailed report is available on the website: www.beeindia.gov.in

Achievements during 2018-19

Total Energy Savings of *23.73 Mtoe*

Monetary savings of *INR 89,122 Crore*

Emission Reductions of *151.74 Million tonne of CO_2*

India Sets Rules for Default Setting of ACs at 24ºC to Conserve Energy & Environment

Numerous researches on energy efficiency underscore how the rising use of air conditioners (ACs) in Indian homes will account for roughly 45 per cent of their power consumption by 2050. Global warming would be on the rise as a result, while increased power bills will shock many and burn holes in their pockets.

Degree Matters

Currently, ACs account for 10 per cent of global energy consumption. Many people misconstrue that lowering the thermostat to 18ºC enables quick cooling of the room. However, this is not true. Setting the thermostat at lower temperature results in increased power consumption as the AC compressor works for a longer period. However, if we set the temperature to 24ºC, the compressor will work for much less time leading to less power consumption. It takes roughly the same amount of time for the room temperature to reset at 24ºC, which is significantly cooler than the average

temperature outdoors in both dry and humid regions. However, the amount of energy consumed would be far less than what is wasted at 18ºC or 22ºC.

A study by the Bureau of Energy Efficiency (BEE) reveals that the total connected load in India due to the rampant use of ACs will be around 200 GW by 2030. This is likely to increase in future as only six per cent of the households are now using them. Residential electricity consumption has gone up by 50 times since 1971 and now constitutes about a quarter of India's total electricity consumption.

Rapid electrification of remote cities, towns and villages is expected to push the increasing demand for AC use. Besides, raised income levels and technological innovations mean that the use of ACs is becoming common and an imperative need for many.. Rapid electrification of remote cities, towns and villages is expected to push the increasing demand for AC use. Besides, raised income levels and technological innovations mean that ACs are becoming common and an imperative need for many. An indispensable item to many, ACs emit greenhouse gases and have an unwarranted impact on the planet's climate. Typical cooling units like ACs need electricity and refrigerant gas to operate. Electricity comes from non-renewable sources like fossil fuel while the carbon dioxide emitted from ACs is one of the major causes of global warming.

Setting Standards

Small things can make a huge difference. The need is to make judicious use of the air conditioners. Increasing the temperature setting on your AC by a degree results in six per cent less utilization of energy. Setting your AC at 24ºC instead of 20ºC enables saving of 24 per cent energy. If every

household and business establishment follow this policy, India can save up to 2,300 crore units of electricity annually. Setting the AC to 24ºC benefit both you and the nation by not only helping to conserve power but save money on electricity bills too.

Besides, the normal human body temperature is roughly 36-37ºC, while our ACs are set at 18-21ºC. This not only causes discomfort but may have debilitating health effects too.

Regulations in Place

The Central Government in collaboration with the BEE notified new energy performance standards for room air conditions (RACs) on October 30, 2019. To promote energy efficiency in air conditioning, Ministry of Power has mandated the 24ºC default setting for all RACs from January 01, 2020 under the BEE star labelling program. Also, under the new standards, the Indian Seasonal Energy Efficiency Ratio (ISEER) will be between 3.30 - 5.00 for split and 2.70 – 3.50 for window ACs from January 01, 2021.

The government notification states, "All brands and types of star labelled room air conditioners, namely, Multi-Stage Capacity Air Conditioners, Unitary Air Conditioners and Split Air Conditioners which are rated from one star to five stars, based on their relative energy efficiencies up to a rated cooling capacity of 10,465 Watts (9,000 kcal/hour) and manufactured, commercially purchased or sold in India, shall ensure default setting of temperature in the room air conditioners at twenty-four degrees Celsius with effect from January 01, 2020." Japan is way ahead of India in energy and environment conservation as it mandates the regulation of AC temperature at 28ºC.

Checking the energy efficiency of household appliances other than ACs is also important. It is important to

choose an energy-efficient air-conditioner with a higher star rating to save electricity, environment, and money, thus, helping the country to fulfil its commitments made in Paris. Energy saving is a national cause and every citizen must try to make India an energy-efficient economy and society.

A new building code for residential buildings - ECO Niwas Samhita

The Government of India's Nationally Determined Contributions commits to reducing the emission intensity of its GDP to 35 per cent below the 2005 levels by 2030. To achieve this target, the efficiency of energy use across all sectors, especially the building sector, must increase. India's building sector consumes over 30 per cent of the total electricity consumed in the country every year and is second only to the industrial sector as the largest emitter of greenhouse gases.

"Housing for All" is a focus of the Government, and the built-up area of residential buildings is expected to grow rapidly. Almost two to three crore residential units are expected to be constructed under the "Housing for All" initiative by 2022. As residential building stock increases along with an

increase in electricity use for space conditioning, electricity use in residential buildings is rapidly increasing. Roughly 75 per cent of the total electricity consumed in the building sector is used in residential buildings. An important aspect of residential buildings is thermal comfort to ensure the health and well-being of the occupants. Data collected from a sample of urban middle-income apartments show that the electricity for providing thermal comfort contributes to 30-60 per cent of the annual electricity consumption. The NITI Aayog projections indicate that electricity consumption for the residential sector could increase six to 13 times by 2047.

A residential building energy conservation code is therefore important, and the Bureau of Energy Efficiency (BEE) envisages a phased approach to implement it. Starting from a simple and implementable code that can be integrated with the existing building codes/by-laws while focusing on the building envelope, a clear roadmap will be mapped out for future development.

The design of the building envelope has a direct impact on:

a. Heat conduction through the roof, opaque wall, and glazed windows
b. Solar radiation gains through glazed windows
c. Natural ventilation
d. Daylighting

The building envelope, thus, impacts both the thermal comfort and electricity used for space conditioning. The primary focus is on the building envelope, as energy efficiency in appliances is already being addressed through a successful appliance labelling programme by the BEE.

Eco-Niwas Samhita (Building Envelope) sets minimum building envelope performance standards to limit heat gains for cooling dominated climates and to limit heat loss for heating-dominated climate and ensure adequate natural ventilation and daylighting. The code applies to all residential use

building projects built on plot area equal to or greater than 500 m2. The code has been developed with special consideration for its adoption by Urban Local Bodies (ULBs) into building by-laws. This strategy enables the encompassing of much new urban housing stock into the net to capture the opportunities and benefits of energy efficiency in residential buildings.

The Part I – Building Envelope Design is the first component of the Eco-Niwas Samhita, Building Code for Residential Buildings launched on December 14, 2018. Its early and immediate introduction is to improve the construction and design of new residential building stock as it is being built currently and shortly to significantly curtail the anticipated energy demand for comfort cooling in times to come. This critical investment in envelope construction and design made today will reap the benefits of reduced Green House Gas (GHG) emissions for the lifetime of the buildings.

The code designed in an easy to apply format requires only arithmetic tabulation based on the architectural design drawings of the residential buildings. This usable format by architects and engineers will not require any specialized skills or simulation software. This also enables the Code to be readily adopted in the building by-laws and regulatory instruments such as environmental clearance for large projects.

In future, new components will be added to the Energy Conservation Building Code for residential buildings, which will address other aspects such as energy efficiency in electro-mechanical equipment for building operations, renewable energy generation, embodied energy of walling materials and structural systems.

The residential building sector is expected to double in terms of floor area by 2030 from the 2017 level. Residential buildings, today, account for

nearly 25 per cent of the total electricity consumed in the country. With increasing construction and affordability of air conditioning, residential buildings will soon become the largest consumer of electricity, consuming about 37 per cent of the total electricity consumption by 2030. To improve thermal comfort and energy conservation in residential buildings, the Eco Niwas Samhita, Part – I Building Envelope (Energy Conservation Building Code for Residential Sector) is launched on December 14, 2018 on the occasion of National Energy Conservation Day by the Hon'ble Speaker of Lok Sabha and the Hon'ble Minister of Power and New & Renewable Energy. It sets minimum building envelope performance standards to limit heat gains (for hot climates) and to limit heat loss (for cold climates) as well as for ensuring adequate natural ventilation and daylighting potential.

There is a huge potential for energy saving and GHG emission reductions through effective implementation of Eco-Niwas Samhita (Part-I: Building Envelope).

- Minimum 20 per cent energy saving in cooling compared to a typical building
- Minimum 125 billion kWh of electricity saving for 2018-2030
- Minimum 100 million tonnes of CO2 equivalent abatement for 2018-2030

The implementation of Eco-Niwas Samhita (Part-I: Building Envelope) will not only improve thermal comfort but will also substantially reduce the electricity bills. The subsequent Part-II (covering electro-mechanical systems) of Eco-Niwas Samhita is under development.

Superannuation of Shri K K Nair
(Finance and Accounts Officer)

Shri K K Nair had been a dedicated and appreciated employee as the Finance and Accounts Officer in the Bureau of Energy Efficiency, Government of India for the last 13 years. April 30th, 2020 was his last day to the service at Bureau, as he brought down the curtains. During the period of his service, he dealt with budget preparation, payment and accounting matters, preparation of annual accounts and regulating accounts of the Bureau. Throughout his selfless service to the Bureau of Energy Efficiency, he ensures that the Bureau maintains complete and proper records of financial transactions while adopting the right methodology. He is a commerce graduate from Delhi University and holds an MBA degree in Finance.

Bureau of Energy Efficiency wishes Shri Nair, a happy and healthy retirement filled with fun and happiness. Best wishes for a new chapter in life.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

A WEBINAR ON ECO-NIWAS SAMHITA" (ECBC-RESIDENTIAL) WAS ORGANIZED BY BEE AND ANDHRA PRADESH STATE ENERGY CONSERVATION MISSION

Webinar on "Eco-Niwas Samhita" (ECBC-Residential) was organized by Bureau of Energy Efficiency (BEE) and Andhra Pradesh State Energy Conservation Mission (APSECM) with the support from BEEP India (Indo-Swiss Building Energy Efficiency Project) on 7th May, 2020.

The webinar was chaired by Sh. Ajay Jain, Principal Secretary, Housing Department, Andhra Pradesh and joined by Sh. Srikant Nagulapalli, IAS, Secretary – Energy & Vice Chairman/APSECM, Government of Andhra Pradesh.

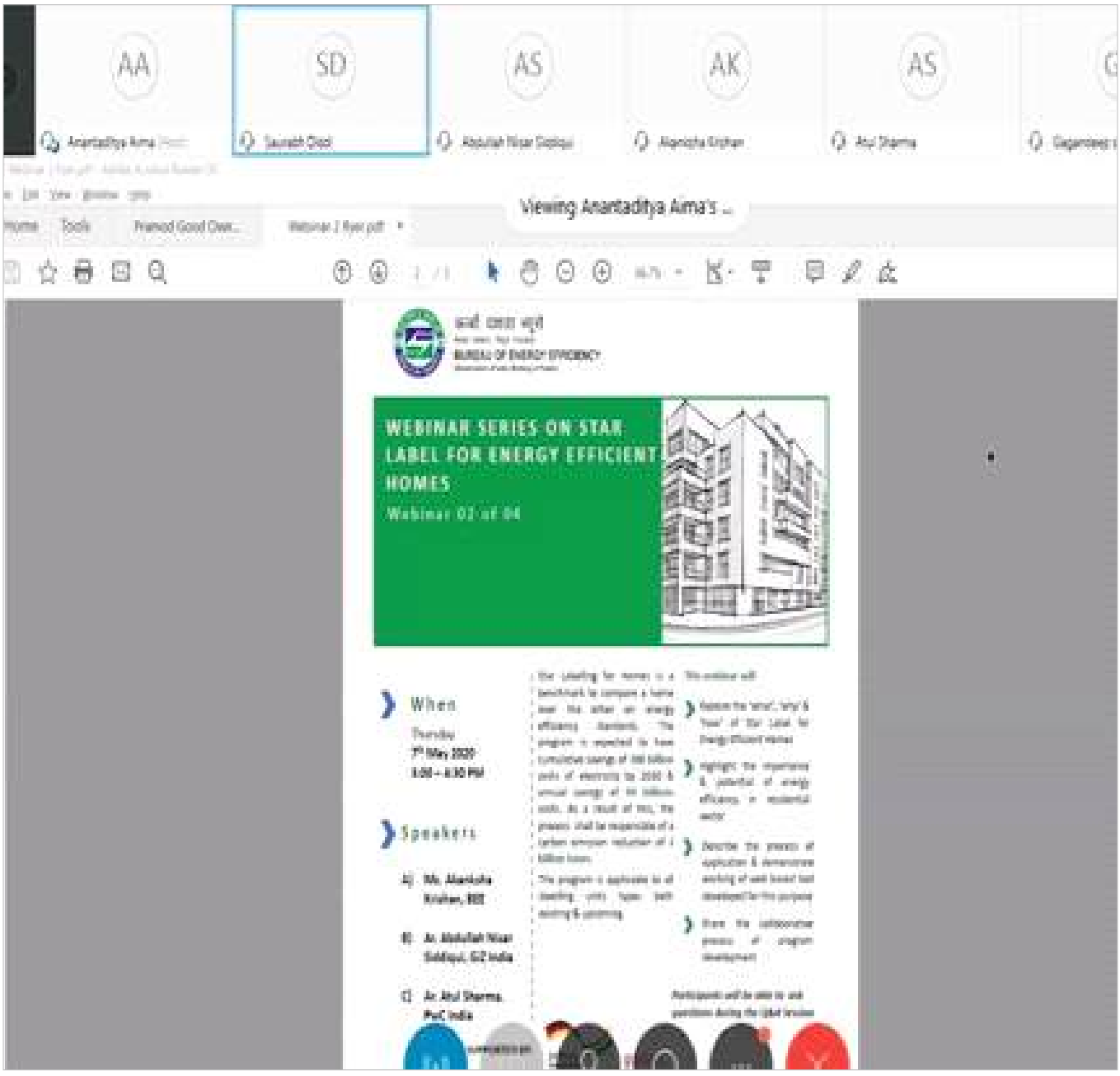
This webinar was attended by building industry stakeholders comprising of developers, architects, engineers, building-related government departments, State Urban Development Departments, Officials of Municipal Corporation, etc.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

BEE WITH SUPPORT FROM GIZ-INDIA ORGANIZED A SERIES OF WEBINAR ON 'STAR LABELLING FOR ENERGY EFFICIENT HOMES'

A Webinar on 'Star Labelling for Energy Efficient Homes' was organised by Bureau of Energy Efficiency (BEE) with the support from GIZ-India on 7th May, 2020. And was chaired by Shri Saurabh Diddi, Director, BEE. The Webinar was attended by participants like architects, developers, and individual dwelling space owners.

It provided information to the participants regarding the programs background, its application process, and demonstration of its online labelling tool.



HIGHLIGHTS OF THE QUARTER (April - June 2020)

3RD WEBINAR ON 'STAR LABELLING FOR ENERGY EFFICIENT HOMES' WAS ORGANIZED

3rd Webinar on 'Star Labelling for Energy Efficient Homes' organized by Bureau of Energy Efficiency (BEE) with the support from GIZ-India on 14th May 2020.

This Webinar provided information regarding the program background, its application process, and the demonstration of its online labeling tool. The webinar was attended by architects, developers, and individual dwelling space owners.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

BEE OBSERVED SWACHHTA PAKHWADA FROM 16th TO 31st MAY 2020.

BEE observed Swachhta Pakhwada from 16th to 31st May 2020. Social distancing was maintained by the BEE officials while participating in activities to keep their surroundings clean and hygienic. Online programs and events were organized to promote the importance of cleanliness and good hygiene to fight COVID- 19. A Swachhta Pledge was taken in observance of the Swachhta Pakhwada fortnight. Secretary, BEE, Shri R K Rai administered the pledge to maintain cleanliness in the surroundings and to spread the message of Swachh Bharat to the officials of the Bureau of Energy Efficiency.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

BEE ORGANIZED A WEBINAR ON "IMPLEMENTATION OF ECBC FOR ARCHITECTS, BUILDERS AND BUILDER'S ASSOCIATION"

A Webinar on "Implementation of ECBC for Architects, Builders and Builder's Association" was organized by Bureau of Energy Efficiency (BEE) on 15th May 2020 under the chairmanship of Shri Abhay Bakre, DG, BEE.

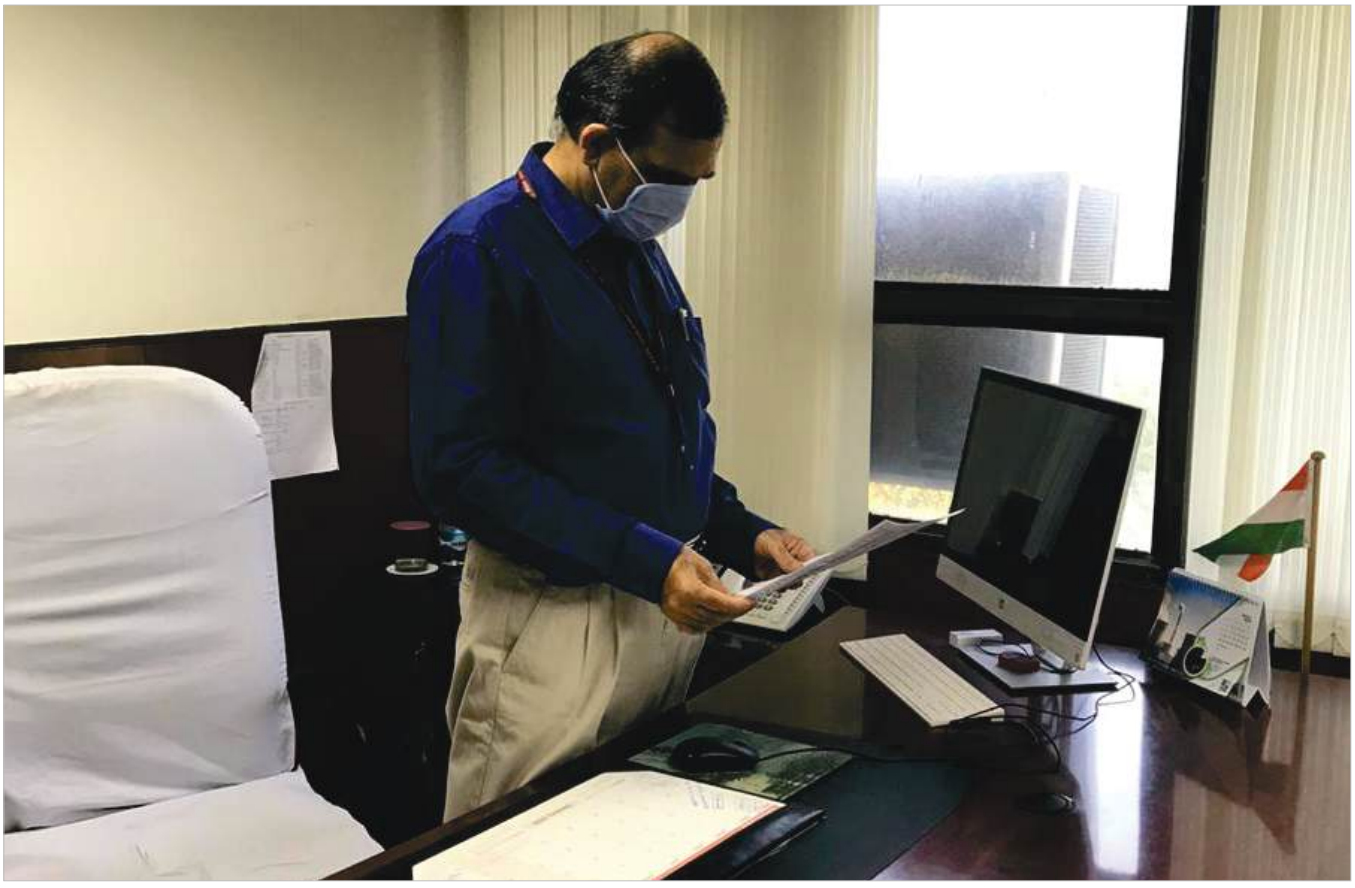
In the opening remarks DG, BEE requested to participants for providing comments on ideas to implement building energy efficiency post Covid-19, scale up the demand of energy efficient building material, and indigenization of building material production.

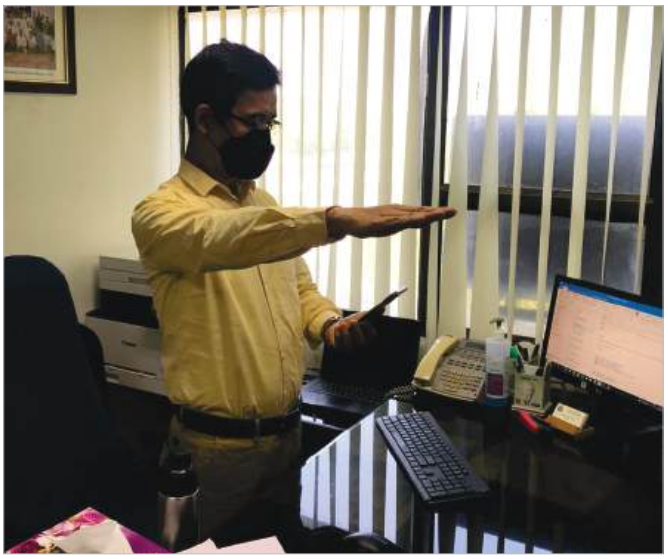
This webinar provided information regarding ECBC and helped share some best practices of ECBC with the participants. The webinar was attended by architect's, builders, and builder's association.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

BUREAU OF ENERGY EFFICIENCY OBSERVED ANTI-TERRORISM DAY PLEDGE TAKING CEREMONY

Bureau of Energy Efficiency observed a pledge ceremony on Anti Terrorism Day 21st May. DG BEE, Shri Abhay Bakre administered the pledge to oppose all forms of terrorism and promote peace, to the officials of BEE who attended the pledge ceremony while following social distancing at the BEE premises.





HIGHLIGHTS OF THE QUARTER (April - June 2020)

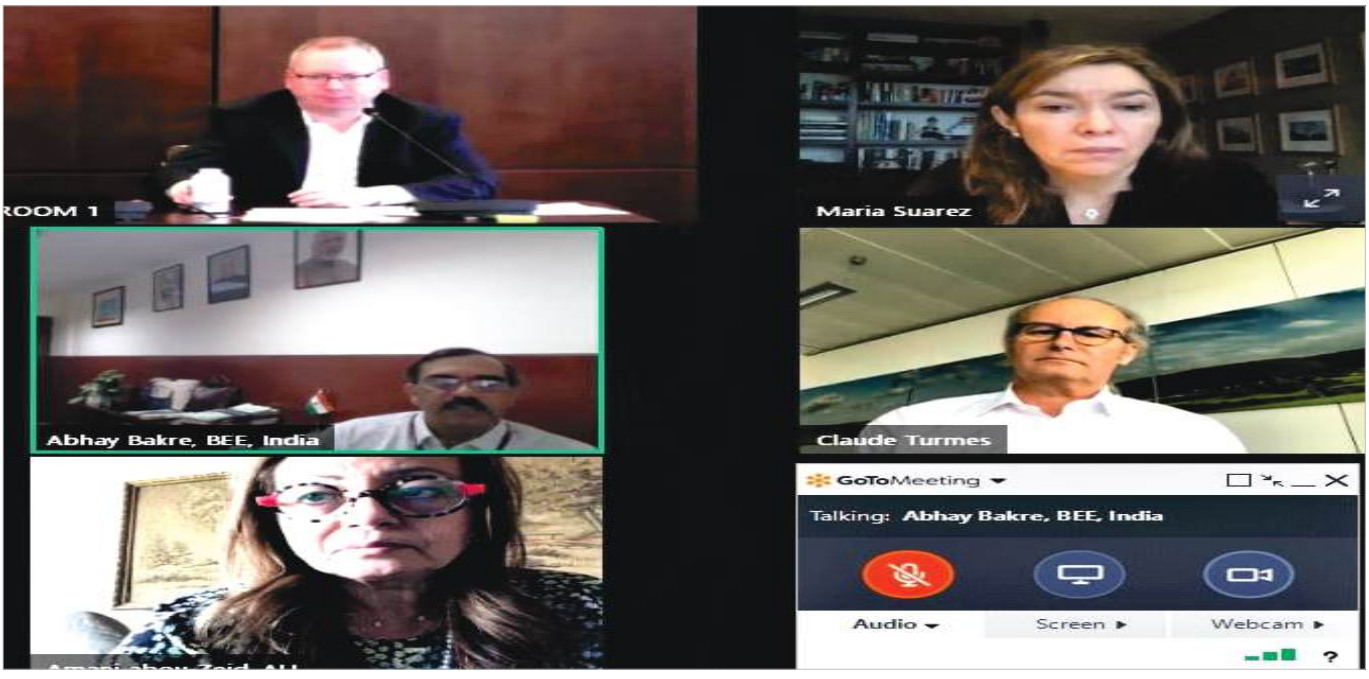
DG BEE PARTICIPATED IN A WEBINAR ON THE TOPIC "GREEN STIMULUS & ENERGY EFFICIENCY" DURING THE UK-IEA EFFICIENCY CHAMPIONS CALL

Director General, BEE, Shri Abhay Bakre, participated in a webinar on the topic "Green Stimulus & Energy Efficiency" during the UK-IEA Efficiency Champions Call. Shri Bakre highlighted that various energy efficiency initiatives undertaken in India during 2018-19 have resulted in electricity savings of 136 Billion Units and Thermal Savings of 23 million TOE. These savings are worth USD 12 billion and equivalent to reduction of 151 Million Tons of CO_2 annually.

Majority of these savings were due to the country's successful programmes on enhancing product efficiency and by way of reduction in energy consumption among the large energy-intensive industrial units. Shri Bakre further mentioned that the topic of energy efficiency will be one of the key pillars in transforming our country into low carbon economy.

In coming years, the focus on energy efficiency will be on building construction as well as MSME sector which also have potential to create job opportunities and at the same time ensure efficient use of energy.

Speakers during the session included Minister of Mines and Energy, Colombia, Commissioner for Infrastructure and Energy, African Union Commission and Minister for Energy and Minister for Spatial Planning, Luxembourg. The session was chaired by Head, Energy Efficiency, International Energy Agency.



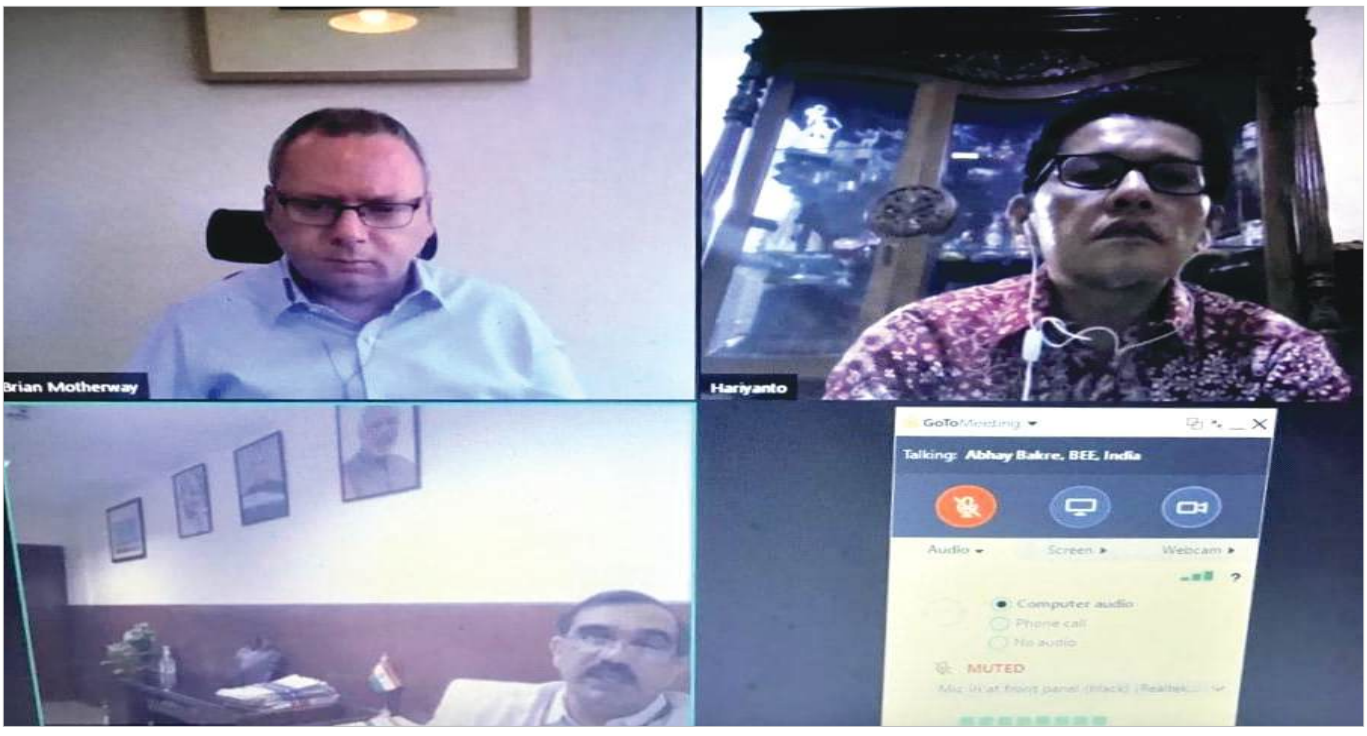
HIGHLIGHTS OF THE QUARTER (April - June 2020)

DG BEE PARTICIPATED IN THE ROUNDTABLE UNDER THE IEA PROGRAMME ENERGY EFFICIENCY IN EMERGING ECONOMIES (E4)

Director General, BEE, Shri Abhay Bakre participated in the roundtable under the IEA programme Energy Efficiency in Emerging Economies (E4). He emphasized on the need to decarbonize the industry sector with a focus on MSMEs through electrification, distributed energy sources, use of clean fuels, among others.

Shri Bakre further stressed that in the Indian context improving efficiency of cooling equipment and systems will continue to remain a top priority due to its huge demand impact on the future energy systems. Shri Bakre also highlighted that various Energy Efficiency initiatives undertaken in India during 2018-19 have resulted in electricity savings of 136 Billion Units and Thermal Savings of 23 million TOE which are worth USD 12 billion and equivalent to a reduction of 151 Million Tons of CO_2 annually.

The session was chaired by Mr. Brian Motherway, Head, Energy Efficiency, International Energy Agency. Amongst other speakers were Melanie Slade, Manager of the E4 Programme and Government officials from Brazil, China, Indonesia, South Africa, and Thailand.



HIGHLIGHTS OF THE QUARTER (April - June 2020)

TRIPURA BECOMES THE 16th STATE IN INDIA TO MAKE THE ENERGY CONSERVATION BUILDING CODE MANDATORY

Building sector constitutes about 33% of the total electricity consumption in India and possess a great opportunity for energy conservation. To increase energy efficiency in the commercial building sector, Energy Conservation Building Code (ECBC) has been developed and is implemented in 15 States/UTs across the country.

Taking the initiative forward, Tripura becomes the 16th State in India to make the Energy Conservation Building Code mandatory to ensure efficient use of energy in the state. Assam, Andhra Pradesh, Himachal Pradesh, Kerala, Punjab, Haryana, Karnataka, Odisha, Rajasthan, Telangana, Uttarakhand, Uttar Pradesh, West Bengal, Andaman & Nicobar, and Puducherry are amongst the other state/UTs to have made the ECBC mandatory.

ECBC CODE 2018 AND ECBC RULES 2018 WAS NOTIFIED IN THE KARNATAKA STATE GAZETTE

The building sector in India has significant potential (around 30-40%) of energy efficiency. To achieve this saving, the Bureau of Energy Efficiency has taken up various tasks for setting energy efficiency measures like developing Energy Conservation Building Code (ECBC), notifying energy-intensive buildings as Designated Consumers for mandatory energy audits and implementation of energy efficiency upgrades in existing buildings.

Adhering to BEE's energy efficiency guidelines, the ECBC Code 2018 and ECBC Rules 2018 have been notified in the Karnataka State Gazette on 28th May 2020. This shall prove as one of the key steps in transforming our country into an energy-efficient nation.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

PEDA IN ASSOCIATION WITH BEE ORGANIZED A TRAINING SESSION ON MUNICIPAL DEMAND SIDE MANAGEMENT (MuDSM) THROUGH A WEBINAR

Punjab Energy Development Agency in association with BEE organized a training session on Municipal Demand Side Management (MuDSM) through a webinar on 8th June. Shri Arijit Sengupta, Director, BEE, addressed the participants about the need for energy conservation and initiatives taken by BEE in this direction.

Shri Sengupta along with Shri M P Singh, Director, PEDA and Manav Jain, Senior Town Planner, Department of Local Bodies, Government of Punjab motivated the participants to improve the energye fficiency in the municipal demand side. The session was attended by officials of Urban Local Bodies, MCs, PWDs, improvement trust and DISCOMs, Peda EC.

G20 SAUDI ARABIA PRESIDENCY HOSTED A VIRTUAL MEETING OF ENERGY SUSTAINABILITY WORKING GROUP

The G20 Saudi Arabia presidency hosted a virtual meeting of Energy Sustainability Working Group through a Workshop on 14th June 2020 to develop Circular Carbon Economy (CCE) Guide. The participants discussed the approach to advance innovative technologies and solutions for a cleaner & more sustainable energy systems.

Director General, BEE, Shri Abhay Bakre, participated in the workshop from India and highlighted the efforts made by the Government in energy transition through increasing energy efficiency and deployment of renewables. He mentioned that energy demand in the cooling sector is likely to enhance in the coming years.

The concept of CCE 4R's (Reduce, Reuse, Recycle and Reduce) including cross-cutting aspects like Hydrogen and enabling policies are important for India to move towards a more reliable, secure and sustainable energy system.

HIGHLIGHTS OF THE QUARTER (April - June 2020)

INTERNATIONAL ENERGY AGENCY (IEA) ORGANISED THE 5TH GLOBAL CONFERENCE ON ENERGY EFFICIENCY

The 5th Global Conference on Energy Efficiency 2020 was organised by International Energy Agency (IEA) on 23rd June 2020. DG, BEE Shri Abhay Bakre was a keynote speaker for Session: "Learning from Global Best Practices" and shared his views on leveraging the benefits of energy efficiency post-Covid – including opportunities for job creation. He detailed the various steps taken by BEE with an aim to reduce the energy intensity of economy.

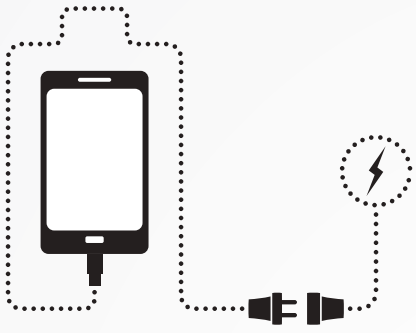
Shri Bakre highlighted outcomes of Perform, Achieve and Trade (PAT) and Standards & Labelling, which are the flagship schemes launched by Govt. The PAT scheme is currently in its 6th cycle and covers 1091 large units from 13 energy intensive sectors.

The S&L program covers star labels for 26 appliances and is a major contributor to the energy savings.

India is one of the first countries to develop a comprehensive Cooling Action plan. ICAP seeks to reduce cooling demand across sectors by 20% to 25%, refrigerant demand by 25% to 30%, by 2037.

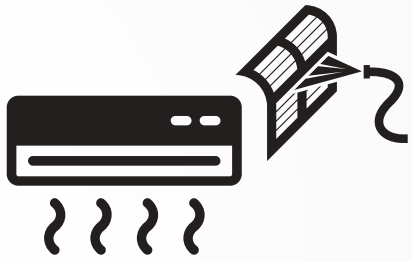
Other keynote speakers in the session were Minister of Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austria; President, King Abdullah Petroleum Studies and Research Centre, Saudi Arabia; and Deputy Commissioner for Internal Affairs, Agency for Natural Resources and Energy, Ministry of Economy, Trade & Industry, Japan.

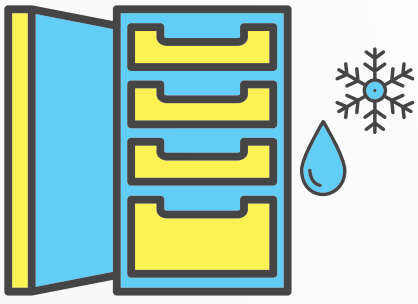
ऊर्जा संरक्षण के सुझाव



रात भर मोबाइल को चार्ज में लगा कर न छोड़ें, मोबाइल फोन को पूरी तरह चार्ज होने में चंद घंटे ही लगते हैं।

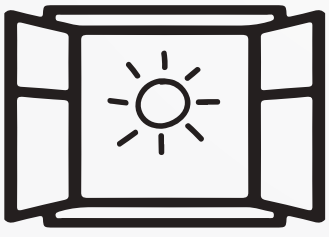
महीने में कम से कम एक बार अपने **एसी के फ़िल्टर को साफ करें अथवा बदलें।** गन्दें फ़िल्टर की वजह से आपके उपकरण ऊर्जा की अधिक खपत करते हैं।





उपकरणों की दक्षता सुनिश्चित करने हेतु, अपने **रेफ्रीजिरेटर** तथा **फ्रीजर** को नियमित अंतराल पर **डिफ्रॉस्ट** करें

पैसों की बचत के लिए इलेक्ट्रिक ड्रायर इस्तेमाल करने के बजाए अपने **कपड़े धूप या खुली हवा में सुखाएं**



स्मार्ट बनें, **प्राकृतिक रोशनी** को अंदर आने दें इससे आपके कमरे तरो–ताज़ा एवं रोशन रहेंगे

ऊर्जा संरक्षण– एक बेहतर कल का संकल्प

सत्यमेव जयते
विद्युत मंत्रालय
भारत सरकार

बिजली बचाएंगे तो रोशन होगा इंडिया

- मानक और लेबलिंग कार्यक्रम
- ऊर्जा संरक्षण भवन संहिता
- मांग पक्ष प्रबंधन
- परफॉर्म, अचीव एंड ट्रेड

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