

बीईई लाईन

समाचार पत्रिका



Issue 13 | October'21 - December'21

BEE LINE

NEWSLETTER



- ◆ NATIONAL ENERGY CONSERVATION WEEK 2021
- ◆ STAR RATING PROGRAMME FOR TYRES & LITHIUM-ION BATTERY PACKS
- ◆ SHUNYA LABELLING PROGRAMME
- ◆ REVIEW MEETING WITH BREDA
- ◆ TRADING OF ESCERTS FOR PAT CYCLE II



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अस्वीकरण: सर्वाधिकार सुरक्षित। इस पुस्तिका की सामग्री के इस्तेमाल के सभी अधिकार ऊर्जा दक्षता ब्यूरो (BEE) के पास सुरक्षित हैं। इसमें शामिल सामग्री का कोई भी भाग प्रकाशन की पूर्व अनुमति के बिना किसी भी माध्यम, इलेक्ट्रॉनिक, मैकेनिकल, फोटोकॉपी, रिकॉर्डिंग या अन्य किसी तरीके से इस्तेमाल नहीं किया जा सकता। इस सामग्रीके अनधिकृत उपयोग पर कानूनी कार्रवाई की जा सकती है।

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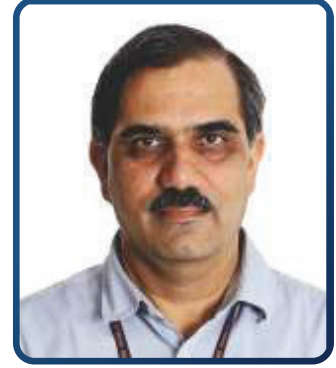


महानिदेशक का संदेश

भारत एक बढ़ती हुई अर्थव्यवस्था है जो कि एक महत्वाकांक्षी रास्ते पर आगे बढ़ रही है। विद्युत मंत्रालय के मार्गदर्शन में ऊर्जा दक्षता ब्यूरो ने ऊर्जा दक्षता प्राप्त करने के लिए विभिन्न उपायों को निष्पादित किया है। बीईई की योजनाएं ऊर्जा दक्षता में सुधार के उद्देश्य को लक्षित करते हुए तैयार की गईं और मैं इन योजनाओं के विस्तार और उनके व्यापक लाभों को प्रसारित करने के उद्देश्य से किए गये सुधारों के लिए सभी हितधारकों के प्रयासों की सराहना करता हूँ।

ऊर्जा संसाधनों का कुशल उपयोग और इनके संरक्षण से हमारे देश के ऊर्जा क्षेत्र पर जबरदस्त प्रभाव पड़ सकता है। ऊर्जा दक्षता ब्यूरो ने अपनी राष्ट्रव्यापी योजना जैसे निष्पादन, उपलब्धि और व्यापार, मानक और लेबलिंग, मांग पक्ष प्रबंधन, व्यावसायिक और आवासीय दोनों भवनों के लिए ऊर्जा संरक्षण भवन संहिता के विकास आदि के माध्यम से ऊर्जा का कुशल उपयोग करने की देश की पहल का नेतृत्व किया है। इसके अलावा, बीईई ने अपने 'शून्य लेबलिंग कार्यक्रम के माध्यम से व्यावसायिक इमारतों में दक्षता को बढ़ावा देने के लिए एक नई संकल्पना विकसित की है। बीईई ने टायरों के लिए मानक और लेबलिंग कार्यक्रम तथा इलेक्ट्रिक वाहनों में इस्तेमाल होने वाले उच्च ऊर्जा लिथियम आयन ट्रेक्शन बैटरी पैक और सिस्टम के लिए मानक और लेबलिंग कार्यक्रम शुरू किया है।

इस समाचार पत्र में एक सतत भविष्य के लिए ऊर्जा के कुशल उपयोग की दिशा में बनाई गई नीतियों पर प्रकाश डाला गया है। मैं आशा करता हूँ कि यह हितधारकों को ऊर्जा दक्षता के क्षेत्र में जागरूकता से कार्रवाई करने के लिए प्रेरित करेगा।



DG MESSAGE

India is a growing economy and is embarking on an ambitious path. Under the guidance of the Ministry of Power, the Bureau of Energy Efficiency has executed several measures to achieve energy efficiency. BEE's schemes are formulated to improve energy efficiency and I appreciate the efforts of all the stakeholders for making amendments to further expand these schemes and widespread its benefits.

The efficient use of energy resources and its conservation can make a tremendous impact on energy conservation for our country. Bureau of Energy Efficiency has led the country's initiative to make efficient use of energy through its nationwide scheme Like Perform, Achieve & Trade, Standards & Labeling, Demand Side Management, development of Energy Conservation Building Code for both Commercial and Residential buildings etc. In addition, BEE has developed a new concept to boost efficiency in Commercial buildings through its 'Shunya' Labeling programme. BEE has also introduced Standards and Labeling Programme for High-Energy Lithium-Ion Traction Battery Packs and Systems for Electric Vehicles and Standards and Labeling Programme for Tyres.

The newsletter highlights policies aimed at maximizing efforts towards efficient use of energy for a sustainable future. I hope that it will inspire stakeholders to move from awareness to action in the area of energy efficiency.

अभय बाकरे

महानिदेशक, बीईई

Abhay Bakre

Director General, BEE



सचिव का संदेश

भारत में ऊर्जा गहन क्षेत्र ऊर्जा दक्षता के लिए रणनीतियों को विकसित करने और लागू करने में महत्वपूर्ण भूमिका निभाते हैं। एस एंड एल, ईसीबीसी, पी ए टी आदि योजनाओं के साथ बीईई लगातार सभी को एकजुट हो कर भारत को ऊर्जा दक्ष बनाने की दिशा में योगदान देने के लिए प्रोत्साहित कर रहा है।

आज भारत के लिए एक प्राथमिक चिंता यह है कि कार्बन उत्सर्जन को कम करने और जलवायु परिवर्तन की चुनौती का सामना करने के लिए उद्योगों में ऊर्जा दक्षता को बढ़ाया जाए। बीईई, ऊर्जा दक्षता को बढ़ावा देने और अपनी प्रदर्शन, प्राप्ति और व्यापार दृष्टिकोण योजना के साथ इस समस्या से निपटने के प्रयास चला रहा है। भारत की ऊर्जा खपत को अनुकूलित करने और कार्बन उत्सर्जन को कम करने के लिए, पीएटी योजना का 7वां चक्र शुरू किया गया है और विभिन्न क्षेत्रों से चिन्हित अभिहित उपभोक्ता दृष्टिकोण को उनकी विशिष्ट ऊर्जा खपत को कम करने का लक्ष्य दिया गया है।

ऊर्जा दक्षता ब्यूरो एक सतत भविष्य को प्राप्त करने के लिए देश में ऊर्जा के प्रभावी उपयोग को प्रोत्साहित कर रहा है, और हम सभी को भारत को एक ऊर्जा कुशल देश बनाने के लिए मिलकर काम करने की जरूरत है।



SECRETARY MESSAGE

The energy intensive sectors in India play a critical role in developing and implementing strategies for energy efficiency. With the schemes like S&L, ECBC, PAT etc, BEE is continuously encouraging everyone to come forward and contribute towards making India energy efficient.

One of the primary concerns for India today is to enhance the energy efficiency in the industries, in order to reduce the carbon emissions and to face the challenge of climate change. Bureau of Energy Efficiency is driving efforts to promote energy efficiency and tackle this problem with its Perform, Achieve & Trade (PAT) Scheme. In order to optimize India's energy consumption and reduce the carbon emissions, the 7th Cycle of the PAT scheme has been introduced and the identified Designated Consumers (DCs) from various sectors have been given a target to reduce their specific energy consumption.

The Bureau of Energy Efficiency is encouraging the effective use of energy in the country to achieve a sustainable future, and we all need to work together to make India an energy-efficient country.

आर.के. राय
सचिव, बीईई

R.K. Rai
Secretary, BEE





आज़ादी का
अमृत महोत्सव

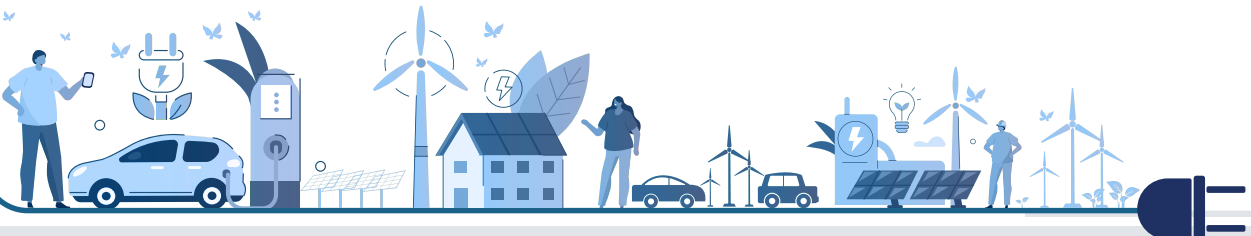
आजादी का अमृत महोत्सव

आजादी का अमृत महोत्सव भारत सरकार की एक पहल है जो प्रगतिशील भारत के 75 साल तथा इसके लोगों, संस्कृति और उपलब्धियों के गौरवशाली इतिहास को मनाने और याद करने का उत्सव है।

यह महोत्सव भारत के लोगों को समर्पित है, जिन्होंने न केवल भारत के विकास की यात्रा में महत्वपूर्ण भूमिका निभाई है, बल्कि उनके भीतर आत्मनिर्भर भारत की भावना से प्रेरित प्रधानमंत्री मोदी के भारत 2.0 को साकार करने की शक्ति और क्षमता भी है।

आजादी का अमृत महोत्सव भारत की सामाजिक-सांस्कृतिक, राजनीतिक और आर्थिक क्षेत्र में हुई प्रगति का मूर्त रूप है। “आजादी का अमृत महोत्सव” की आधिकारिक यात्रा 12 मार्च, 2021 से शुरू हुई थी जो 75 सप्ताह तक हमारी स्वतंत्रता की 75वीं वर्षगांठ तक चलेगी और उसके एक वर्ष के बाद 15 अगस्त, 2023 को समाप्त होगी।

आजादी का अमृत महोत्सव एक व्यापक देशव्यापी अभियान है जो नागरिकों की भागीदारी पर आधारित होगा, और यह अंततः एक शजन आंदोलन का रूप लेगा, जहां स्थानीय स्तर पर छोटे बदलाव, महत्वपूर्ण राष्ट्रीय लाभ में योगदान देंगे।

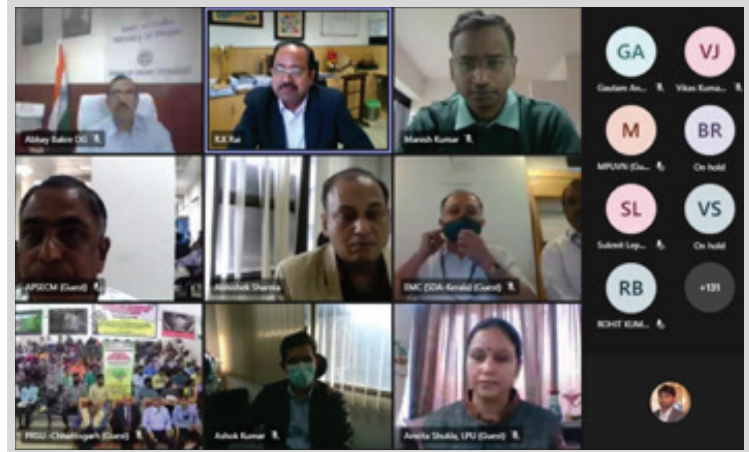


1. BEE Launched 'Certification Course on Home Energy Audit' Initiative

BEE virtually launched a 'Certification Course on Home Energy Audit (HEA)' on 8th December, 2021. A Home Energy Audit enables appropriate accounting, quantification, verification, monitoring, and analysis of energy use of various energy-consuming equipment and appliances in a house and the submission of a technical report with feasible solutions and recommendations for improving energy efficiency, with a cost-benefit analysis and action plan to reduce energy consumption.

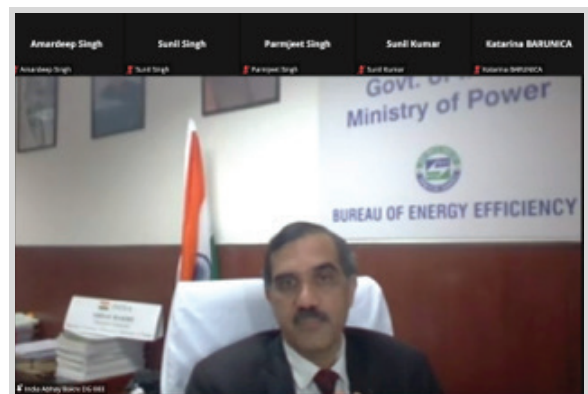
This would ultimately lead to a reduction in energy bills and the carbon footprint of the consumer.

The certification program will create awareness on importance and benefits of energy audit and energy efficiency and conservation among students from engineering/diploma colleges. This will increase employability of youth in the domain of energy efficiency, climate change mitigation, and sustainability.



2. BEE organized virtual workshop on Technology Transfer for Decarbonisation of Industry

The Bureau of Energy Efficiency (BEE) organised a virtual workshop on 'Technology Transfer for decarbonisation of Industry' under Azadi Ka Amrit Mahotsav on December 9, 2021. The workshop zoomed into specific technology transfer options for the decarbonisation of the steel and cement sectors in India. The workshop also facilitated discussions on the state of the art technologies and know-how, as well as opportunities for deployment within India.



4. National Workshop on “Role of Energy Efficient Appliances in Market Transformation”

BEE organised a National Workshop on the “Role of Energy Efficient Appliances in Market Transformation” on 10th December 2021 at Hotel Claridges, New Delhi. The workshop provided an opportunity to share the success of India’s Standards and Labeling program in space cooling and refrigeration segment and their market transformation.



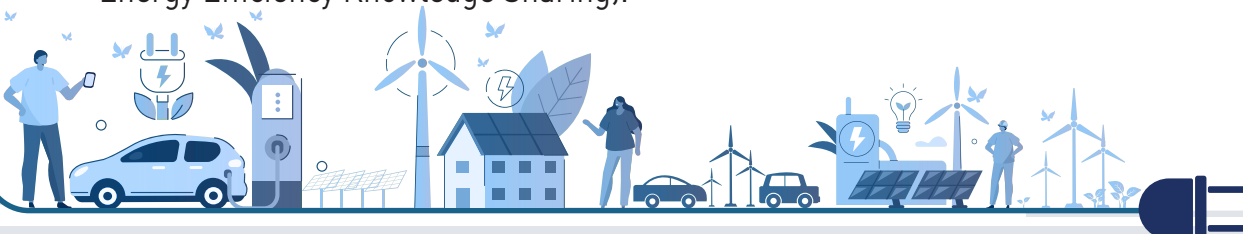
Members of Refrigeration and Air-conditioning Manufacturers Association (RAMA), Consumer Electronics and Appliances Manufacturers Association (CEAMA) would share their experience in adopting and implementation of energy efficiency technologies in space cooling and refrigeration sector.

5. Workshop and discussion on Outcomes of Energy and Resource Mapping of MSME Clusters

The Bureau of Energy Efficiency (BEE) organized an Interactive Workshop on Outcomes of Energy and Resource Mapping of Ministry of Micro, Small & Medium Enterprises (MSME) Clusters at India Habitat Centre on December 11, 2021. A presentation on findings of ‘Energy and Resource Mapping of MSME clusters in India’ was given by BEE official, regarding 8 sectors and 40 clusters.



The workshop was aimed at discussing the findings of the work being undertaken by BEE in 8 select sub-sectors in terms of energy and resource mapping. The Bureau of Energy Efficiency and the Ministry of MSME have together taken a number of initiatives to ensure the growth of this sector in an energy-efficient and environmentally-friendly way. To ensure synergy among various players in the MSME sector, BEE and the Ministry of MSME have also promoted a collaborative platform-- “SAMEEESHKA” (Small and Medium Enterprises Energy Efficiency Knowledge Sharing).



6. Large Industries celebrates Energy Conservation Week across India under “Azadi ka Amrit Mahotsav”

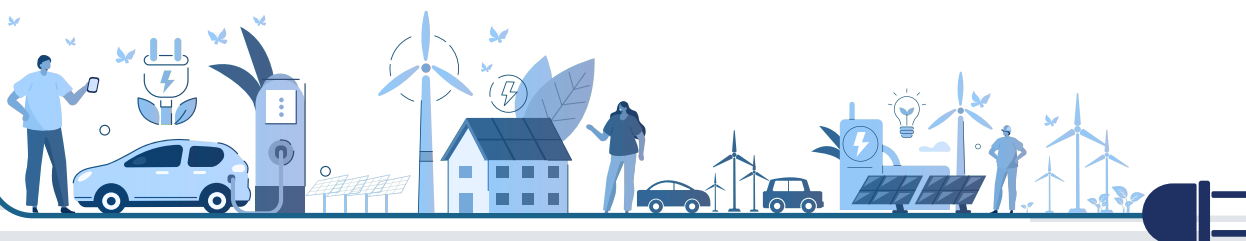
The Bureau of Energy Efficiency organised a webinar for Designated Consumers under the PAT scheme during the National Energy Conservation Week on 13th December 2021. The webinar was conducted to interact with DCs so as to share experiences of the celebration of the week and a highlight their broad course of action plan to contribute to the recent announcements by the Hon'ble Prime Minister at COP 26, Glasgow, UK.



7. National Level Painting Competition on Energy Conservation

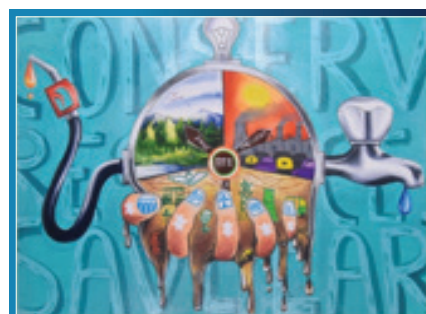
The Bureau of Energy Efficiency has been organizing National Level Painting Competitions on Energy Conservation for school children since 2005. This year, the theme for the competition was 'Azadi ka Amrit Mahotsav: Energy Efficient India' and 'Azadi ka Amrit Mahotsav: Cleaner Planet'. The State level painting competition was organized from 1st to 10th December' 2021 in all 36 States and Union Territories of the country, and it culminated to a National Level Painting which was held on 12th December' 2021 at New Delhi. The winners of the National level competition was awarded on the occasion of National Energy Conservation Day on December 14th 2021.

The objective of the activity is to promote energy conservation in young minds of the country. The painting competition for students would not only make the students aware about the need of conserving energy but at the same time would sensitize and involve their parents as well in the above cause. This may inculcate a habit in the minds of young children towards energy conservation which may bring behavioral change among them.



To ensure maximum participation, BEE and Nodal PSUs have given the best efforts to popularize the competition and enhance participation. FM Radio/AIR/Video films, Print advertisements and other Social Media Platforms were vigorously used to promote the campaign, as more than 81,500 school children participated at 293 locations.

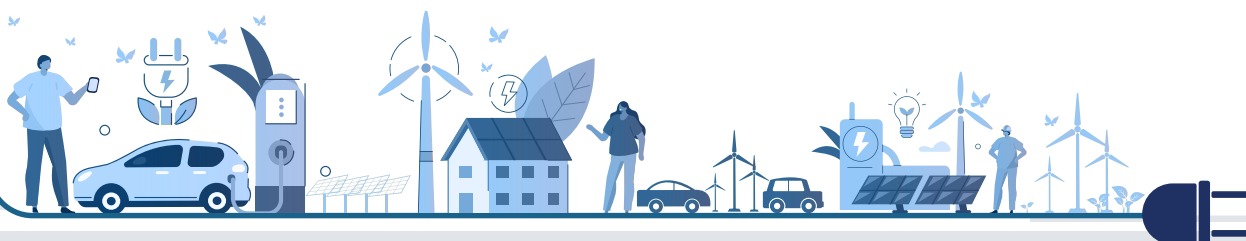
The paintings were evaluated by the committee of State level Experts/Jury for two groups separately i.e. Group A (5th to 7th Standard) and Group B (8th to 10th Standard). The 1st, 2nd and 3rd prize of state level painting competitions were evaluated by a panel of juries for National level painting prizes.



8. National Energy Conservation Day observed on 14th December 2021

Bureau of Energy Efficiency under the Ministry of Power celebrated the National Energy Conservation Day on 14th December at Vigyan Bhawan, New Delhi. On the occasion, Shri R.K Singh, Union Minister of Power and MNRE in the august presence of Shri Krishan Pal, Minister of State for Power launched:

- a) **Standard and Labelling Programme for High-Energy Lithium-Ion Traction Battery Packs and Systems:** The EV battery accounts for about one-third of the total purchase price of an EV, bringing down battery costs through rapidly scaling production and standardizing battery components could be a key element of long-term success for India's electric mobility sector.



B) Standard and Labelling Programme for Tyres:

The Tyre industry is dominated by replacement market by vehicle owners, who are totally unaware of wastage of fuel on account of inefficient tyres. To provide consumer an informed choice BEE has launched Standard & labelling program covering tyres for Passenger Cars (C1), Light duty vehicles (C2) & Heavy-duty vehicles (C3), meant for manufactured, imported and sold in India. Star label criteria are based on Rolling Resistance Coefficient (RRC) of tyres.



C) 'Shunya' Labelling Programme Promoting Net Zero Energy Buildings:

There is huge growth potential of building sector and therefore to enhance the scope of existing Building labelling Programme, the Shunya programme for Net Zero Energy Buildings (NZEB) and Net Positive Energy Buildings (NPEB) is launched. The buildings having 10 EPI 0 kWh/m²/year, will be awarded by Shunya Label, while the buildings having EPI < 0 kWh/m²/year will be awarded by Shunya+ label. The programme will encourage the building owners and promoters to make energy efficient buildings and further making improvements to make it net zero or net positive energy buildings.



D) Guidebook on "Awareness Generation on Energy Efficient & Thermally Comfort Buildings":

Media plays an important role in taking information to the public. The guidebook covers information on the design of energy efficient buildings, key features, important national and international policies, etc. The Centre for Media Studies (CMS) has developed the manual along with BEEP after running a series of training programs and fellowships on the subject of building energy efficiency. Additionally, a guidebook for Training of Trainers has also been developed.



E) **Cloud Based Data Analytical Tool for SMEs:**

The objective of the tool is to analyze the energy efficient technologies, measures and renewable energy technologies in process application in 5 MSME sectors. The tool is developed through data collected from energy audit activities, technology, implementation supports.



- F) **1 million LED bulb distribution:** Under this initiative, a total of 10 lacs LED bulbs are distributed in a single day across 2579 villages in five states – Bihar, Uttar Pradesh, Telangana, Andhra Pradesh, and Karnataka. In this program, 7-Watt & 12-Watt LED bulbs against replacement of working incandescent bulbs for price of INR 10 each, which comes with a guarantee period of three years from the date of purchase.

9. National Energy Conservation Awards (NECA) 2021

The National Energy Conservation Awards are given to the energy-intensive units of various sectors of the Indian economy for their exceptional achievements in reducing the specific energy consumption. For NECA (2021), online applications were called from Industry, Transport, Building, Institution and Appliance category, which were further divided in 30 Sectors.

This year, a total of 408 applications were received for NECA and the participating units have contributed an electrical savings of 3,034 Million kWh which is equivalent

to avoiding 2.51 Million tonnes of CO₂ emissions. In monetary terms this is equivalent to a savings of Rs. 1,517 Cr.

The award committee chaired by Secretary, Power has finalized the awardees who would be felicitated with National Energy Conservation Awards on 14th December 2021.

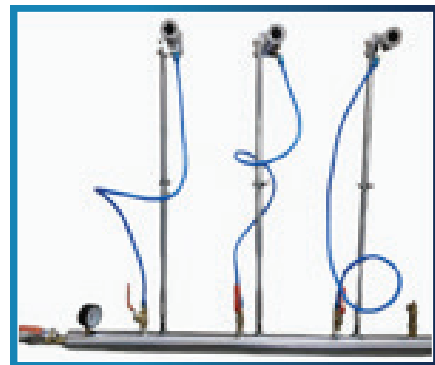


10. National Energy Efficiency Innovation Awards (NEEIA) 2021

In year, BEE under the Ministry of Power has initiated National Energy Efficiency Innovation Award (NEEIA). It is to recognize “Innovative Energy Efficiency Technologies” and instill a sense of competition to motivate industries & sectors to develop innovative energy efficiency efforts in their units. The online applications were invited from 2 categories; ie: Category A (Industry, Transport, Building) & Category B (Students & Research Scholars). A total of 149 applicants participated for NEEIA 2021. The Energy Efficiency Innovation Award is the need of the hour to promote newer technologies, ideas, and pave way for adoption of these innovations by the larger groups.



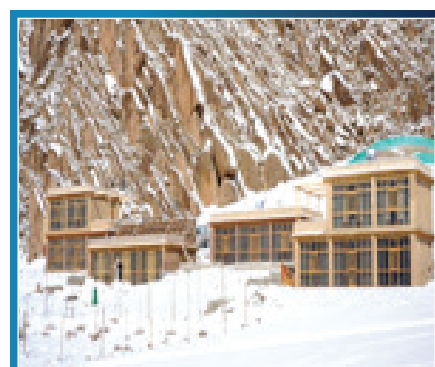
**Energy Savings
for a leading QSR
chain in India**



**Compressed Air Saving
Device For Cooling
Applications**



**Recycling of
Plastics in Electric
Arc Furnace**



**Passive Solar Heated
(PSH) Buildings of HIAL**





**Hybrid Treadmill
Electric-Scooter**



**IOT based automation,
in Integration with
NTES**



**Low Temperature
Evaporation Technology**



HIGHLIGHTS OF THE QUARTER - OCTOBER TO DECEMBER 2021

MEETING OF HON'BLE MINISTER WITH STATE GOVERNMENT AGENCIES

Hon'ble Minister for Power & NRE, Shri R. K. Singh in the august presence of Hon'ble MoS for Power and Heavy Industries, Shri Krishan Pal to chair a meeting with the senior officials from State Governments, on 22nd October 2021 at 3.15 pm through video conferencing.

The objective of the meeting is to review the current level of activities in the field of energy efficiency and clean energy transition being implemented by State Agencies.

TRADING OF ESCERTS FOR PAT CYCLE II

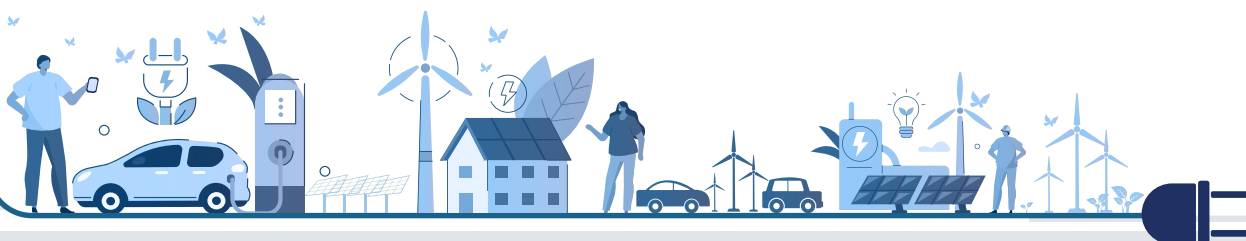
Trading of Energy Saving Certificates (ESCerts) for PAT cycle II commence on 26th October 2021 at 1 PM on both the Power exchanges i.e. IEX and PXIL.

Earlier, on 18th Aug 2021, Ministry of Power issued 57,38,195 ESCerts to 349 DCs for their performance exceeding their targets and directed 193 DCs to purchase 36,68,612 ESCerts against their shortfall.

Trading of ESCerts was launched by Hon'ble Union Minister of Power & NRE Shri R K Singh in September 2017 & trading of approx. 13 lakh ESCerts took place for PAT cycle I, with an overall business of Rs 100 crores & 96% of the Designated Consumers (buyers) met their compliance. On 22nd October 2021, Hon'ble Union Minister of Power & NRE made the announcement regarding the trading of ESCerts for PAT cycle II from 26th October 2021.

SECOND VIRTUAL MEETING OF THE COMMON IMPLEMENTATION FORUM

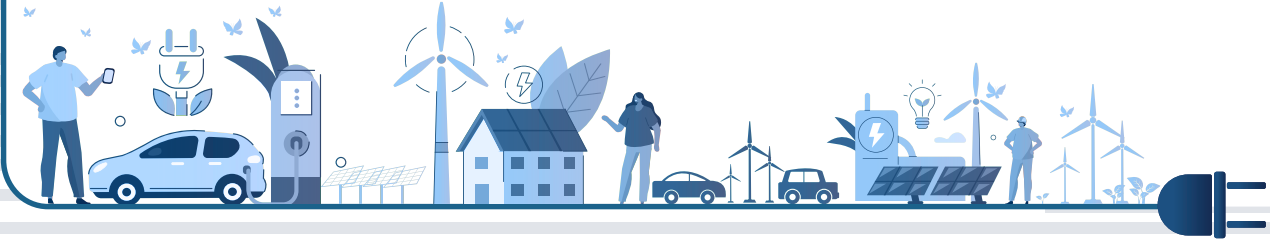
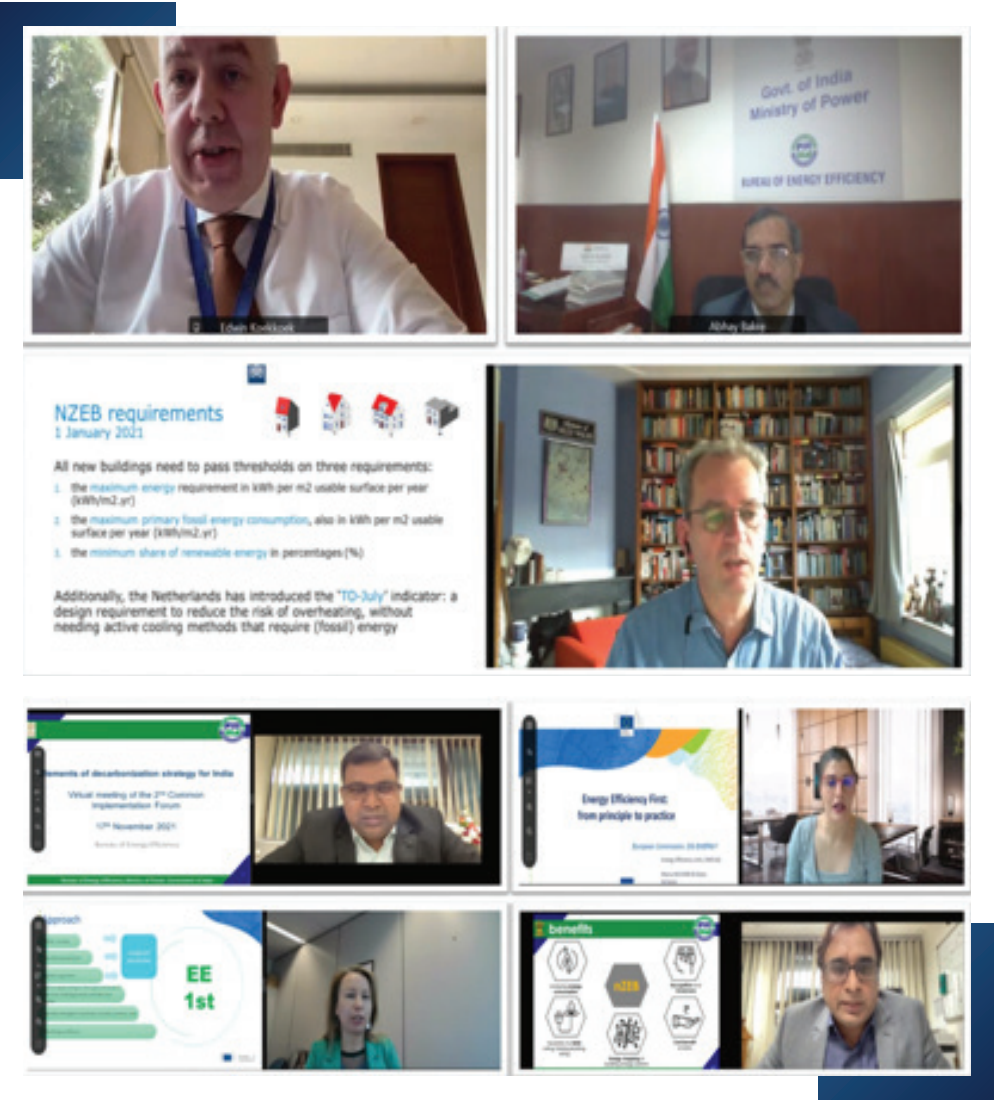
Bureau of Energy Efficiency, Ministry of Power and Europe (EU) successfully organized the second virtual meeting of the Common Implementation Forum (knowledge exchange forum between BEE, EU, Indian States, EU Member States) on 17th November 2021 as part of EU-India Clean Energy and Climate Partnership. Mr Matthieu Craye, International Relations Officer, Directorate-General for Energy, European Commission highlighted the importance of EU-India collaboration on energy efficiency, together with renewable energy and grid integration.



Shri Abhay Bakre, Director General, BEE welcomed the cooperation between the EU and India in the area of energy efficiency and emphasized the role of energy efficiency in the buildings and transport sector for transitioning towards a low carbon economy.

The Forum discussed energy efficiency policies for a low-carbon economy, knowledge exchange between Indian states and EU Member States on nearly zero energy buildings, advanced sustainable cooling solutions and different approaches to greening India's building stock.

BEE presented India's strategy for decarbonization. DG ENER presented the Energy Efficiency First Principle and its meaning for policy development and investment decisions. Experts from Sweden, the Netherlands, and Finland presented European experiences. Representatives from Kerala, Karnataka, and Himachal Pradesh presented State's energy efficiency strategies/commitments. The event saw participation by more than 50 experts from the Europe and India.



REVIEW MEETING WITH BRED A (SDA BIHAR)

A review meeting has been convened on 20th & 21st November 2021 under the chairmanship of Shri R K Rai, Secretary, BEE with officials of BRED A (SDA Bihar) at Vidyut Bhawan, Patna for successful implementation of energy efficiency activities under various schemes of BEE.

Detailed report of the completed work/ongoing schemes by BRED A were also presented during the meeting.



ONE-DAY CONFERENCE ON INVESTMENT BAZAAR FOR ENERGY EFFICIENCY

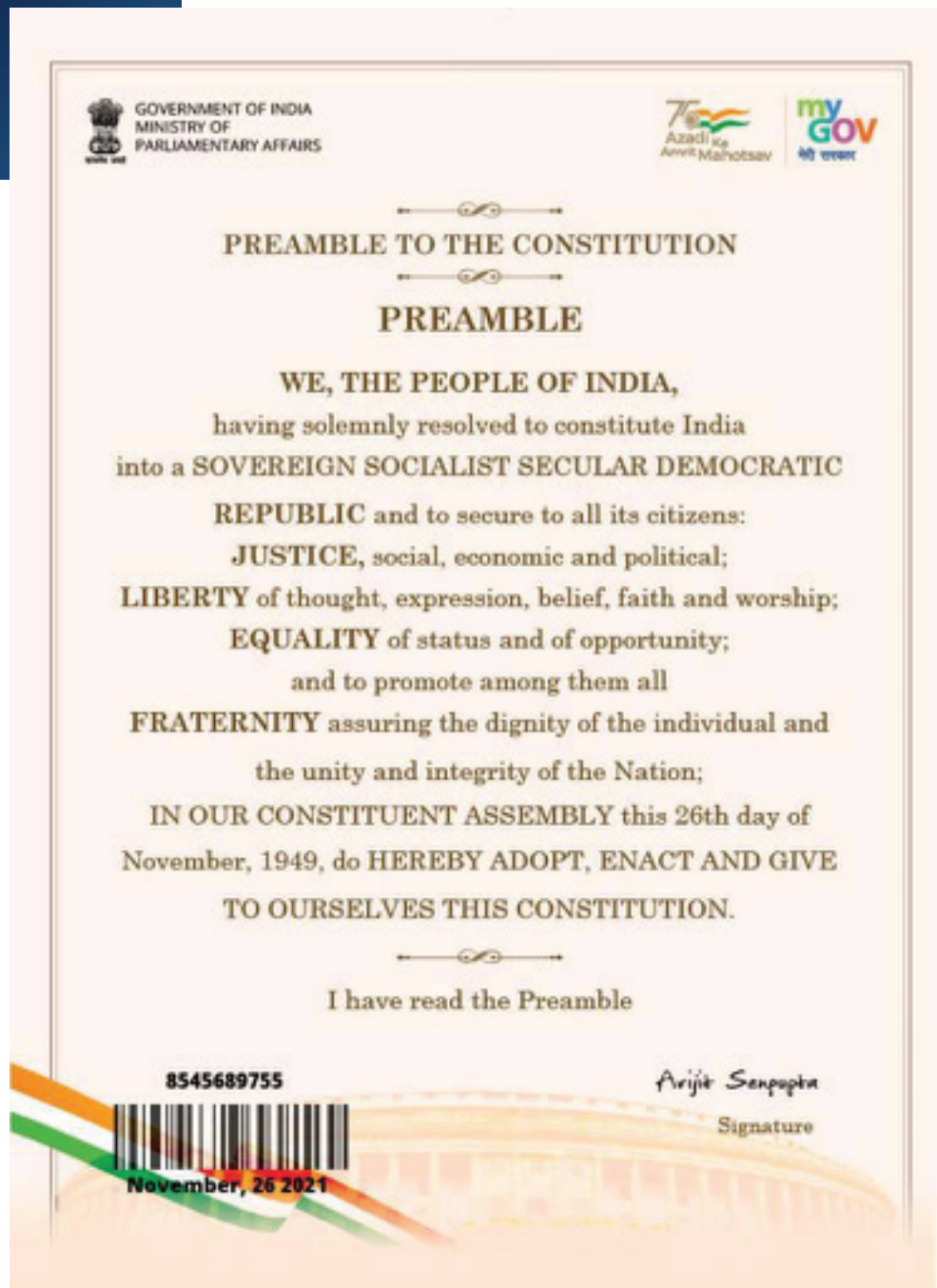
BEE in association with PED A-EC organized Investment Bazaar event in Chandigarh on 26th November 2021, which was inaugurated by Hon'ble Minister Sh. Raj Kumar Verka, NRES, Government of Punjab.

This event was attended by more than 120 participants from Large Industries, MSMEs, Financial Institutions, OEMs, and ESCOs. Various new energy efficient technologies & bankable energy efficiency projects were showcased in the one-day conference 'Investment Bazaar'.



CONSTITUTION DAY

On the occasion of Constitution Day on 26th November 2021, BEE's employees read out the Preamble of the Constitution and reaffirmed their commitment to uphold its ideology.



GO ELECTRIC CAMPAIGN RALLY

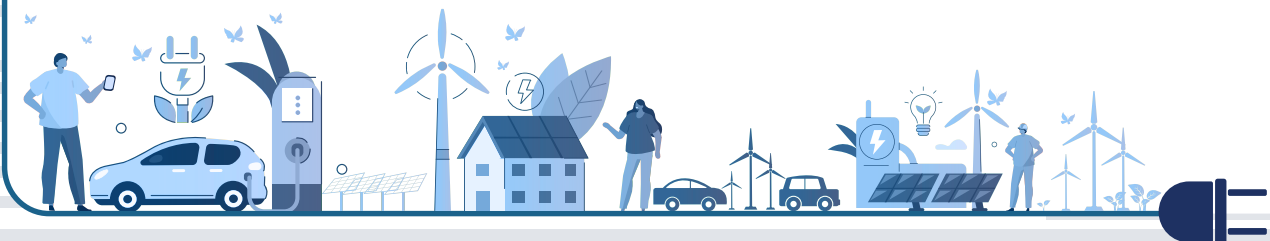
To spread awareness on the benefits of Electric Mobility and Electric cooking, the Bureau of Energy Efficiency (BEE) under the guidance of the Ministry of Power, Government of India launched the “Go Electric” Campaign on 19th Feb 2021 at Vigyan Bhawan, New Delhi in the august presence of Union Minister for Road Transport & Highways, Micro, Small & Medium Enterprises and Union Minister of State (IC) for Power and New & Renewable Energy, Minister of State for Skill Development and Entrepreneurship.

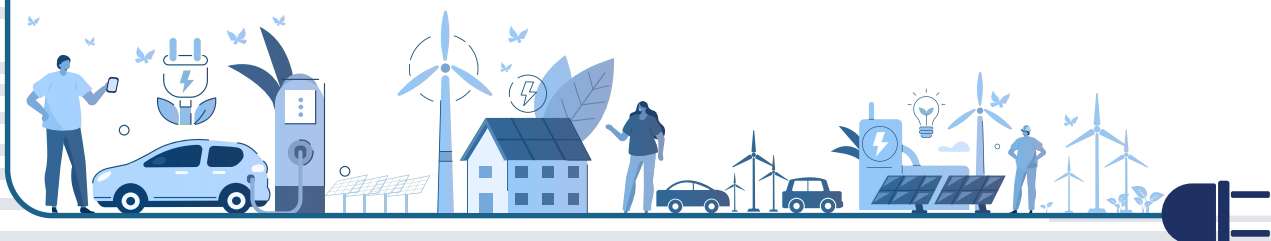
Under the “Go Electric” campaign, State Nodal Agencies (SNAs) & State Designated Agencies (SDAs) have conducted 37 Roadshows across 19 Cities, and various other awareness activities including the airing of Radio Jingles and videos, organizing EV Carnival, EV Exhibition, displaying Go Electric Hoardings, advertisements on electricity bills, etc. Country's largest impact “Go Electric Campaign” rally in NCR region was organised by Department of New and Renewable Energy, Haryana & HAREDA with support from Bureau of Energy Efficiency at Tau Devi Lal Stadium, Gurugram on 11th December 2021.

Shri Abhay Bakre, DG, BEE flagged off the EV rally as Chief Guest preside over by Dr. Hanif Qureshi, IPS, DG DNRE & HAREDA in the august presence of Dr. Yash Garg, IAS, Deputy Commissioner Gurugram and Shri Vishram Kumar Meena, IAS Additional Deputy Commissioner.



GLIMPSES OF E-MOBILITY ROADSHOW HELD IN VARIOUS PARTS OF THE COUNTRY





Learning how to do something better than before is what innovation is, so any improvement is innovation. It is critical to develop and create a sustainable ecosystem that includes not only large steps such as electric vehicles (EVs), EV charging stations, and energy infrastructure, but also small changes in daily habits such as recycling, energy efficiency at home, and promoting locally sustainable products and services. While organisational and cultural change will have the biggest impact, we can all contribute on an individual level.

Many are constantly trying to buy greener in order to lessen their carbon footprint. This includes adopting goods made locally and supporting brands that are transparent about their environmental efforts. We can all help to make our homes more sustainable by reducing the amount of energy we use at home. One of the most effective ways to help the environment is to make an effort to consume less energy. It doesn't have to take a lot of time to be thoughtful about how we manage our home energy. Switching off unnecessary lights and electronics at home, taking shorter showers, avoiding central heating unless absolutely necessary, repairing problems such as leaky sinks, washing laundry on the eco-cycle, and skipping the heat dry setting on your dishwasher are all simple ways to save energy today.

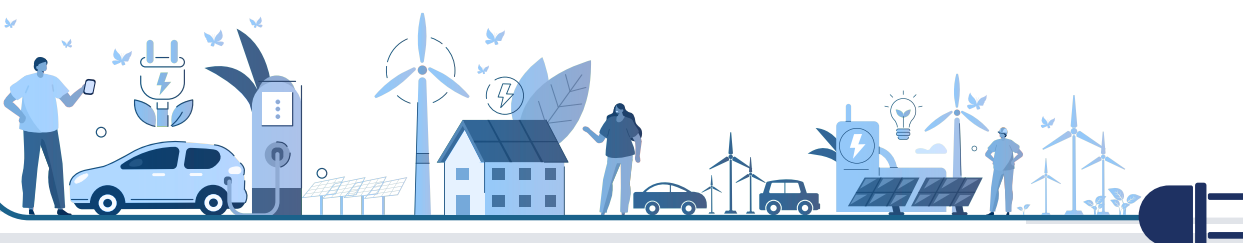
We have a good understanding of greenhouse gases and their role in climate change. Many of us try to avoid generating garbage whenever possible, but it's not always possible. This is where reusing, recycling, and upcycling come into play. Landfills are one of the biggest sources of pollutants and greenhouse gas emissions, so sending trash to one is bad for the environment. You can help the environment both at home and at work by learning what products can and cannot be recycled. You can even find new uses for old goods that can't be recycled if you're feeling creative. Let go of single-use plastic. Because many plastics can take hundreds or even thousands of years to break down in waste, it's critical to limit our use of single-use plastic (plastic that we use once and then throw away). Food packaging, lightweight plastic bags, beverage containers and coffee cups, throwaway cutlery, and wet wipes are all examples of single-use plastic. You can help avoid and prevent long-term environmental impact by using these goods as little as possible.



Energy conservation, at its most basic level, is the practice of utilising less energy in order to save money and lessen environmental effects. This could imply consuming less electricity, gas, or any other sort of energy that you pay for and receive from your utility. With finite energy resources in our world, it is important for both individuals and larger energy systems to actively save energy whenever possible. Traditional incandescent light bulbs use a lot of energy and need to be replaced more frequently than their energy-efficient counterparts, like light-emitting diode bulbs (LEDs).

While looking for an energy efficient appliance, search for one that has the **ENERGY STAR label**, which is a federal assurance that the appliance will use less energy while in use and when not in use than regular models. The amount of energy saved varies depending on the appliance.

Purchase a low-energy water heater, install low-energy windows, and insulate your home. These are just some of the ways one can stay aware and conscious and take the next step towards energy conservation on an individual level. By simply taking a small step towards living a more energy-conscious lifestyle, you can begin to enjoy all of the perks of being energy efficient. They may appear insignificant at first, but they can add up over time.



कोरोना का ऊर्जा दक्षता की पहल पर प्रभाव

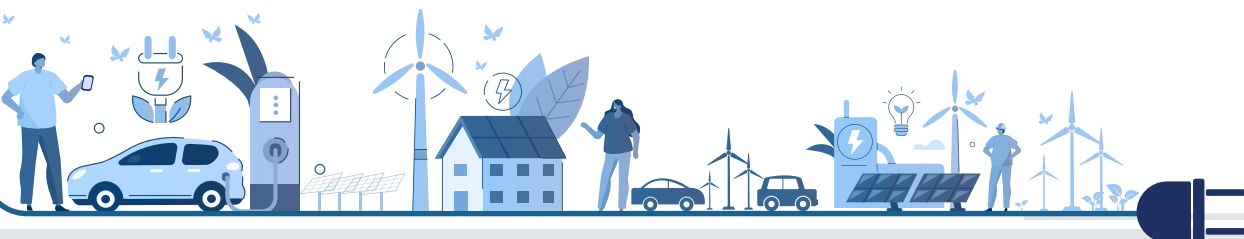
कोरोना महामारी के परिणाम स्वरूप ऊर्जा उद्योग को काफी बाधाओं का सामना करना पड़ा। महामारी के प्रकोप के परिणाम के तौर पर उभरे नए सामाजिक व्यवहार और रहन-सहन के नए तरीकों की क्षमता विकसित होने से बिजली की मांग और खपत प्रभावित हुई।

नोवल कोरोना वायरस के आर्थिक प्रभाव के फलस्वरूप ज्यादा दक्ष ऊर्जा स्रोतों को नियोजित करने में विश्व स्तर पर प्रगति धीमी पड़ने की उम्मीद थी। इससे जलवायु परिवर्तन, वायु प्रदूषण और ऊर्जा तक पहुंच की समस्याओं के समाधान के लिए विश्व स्तर पर हुई प्रगति खतरे में पड़ सकती है। घर में लोगों के ज्यादा समय गुजारने से बिजली की खपत ज्यादा होने लगी है। इससे ऊर्जा की खपत में विचार करने योग्य और जटिल बदलाव आए हैं। आवासीय कूलिंग लोड बढ़ गया है और इसके साथ ही ऊष्मीय ऊर्जा (हीट एनर्जी) का प्रयोग बढ़ गया है। जिसके नतीजे के तौर पर बिजली की मांग बढ़ गई है।

ऊर्जा की तीव्रता और गहनता में बदलाव आया है। ऊर्जा की स्थिर होती मांग के संदर्भ में कोरोना से जंग के लिए अतिरिक्त ऊर्जा की जरूरत को नकारा नहीं जा सकता। अलग-अलग जगहों से अलग-अलग मात्रा में ऊर्जा को फिर से हासिल किया जा सकता है। कोरोना के बाद के समय के लिए ऊर्जा से संबंधित उभरती संभावनाओं की खोज और उनका आवंटन सोचने का विषय बन गया है। महामारी से पहले बिजली की खपत, संरक्षण और ऊर्जा के नए-नए साधनों की खोज को बिजली की मांग की स्थिरता को बरकरार रखने के लिए महत्वपूर्ण पहलू माना जाता था। महामारी के दौरान और बाद में आर्थिक और शहरी स्थिरता के संरक्षण के लिए बिजली की स्थिरता की मांग को महत्वपूर्ण संकेत माना जाता था। जब तक महामारी का प्रकोप बना रहेगा। बिजली की मांग को पूरी तरह स्थिर रखना और एक ही लेवल पर बरकरार रखना काफी मुश्किल है।

ऊर्जा, उपयोगिता और संसाधनों के क्षेत्र में काम कर रहे संगठनों के लिए अच्छा माहौल बनाने की मिलजुलकर प्लानिंग करना बहुत जरूरी है। इसमें उन्हें यह आकलन भी करना होगा कि उसके कारोबार की विभिन्न घटनाएं किस तरह से थोड़े समय, मध्यम और लंबे अवधि के लिए प्रभावित कर सकती है। जैसे-जैसे स्थिति गंभीर होती है, बिजली आपूर्ति करने वाली कंपनियों को यह सुनिश्चित करना होगा कि उनके पास अलग-अलग स्थितियों के लिए आकस्मिक योजनाएं हैं, जिसे अलग-अलग समय अवधि में विकसित किया जा सकता है, जिससे वह तेजी से निर्णय लेने के लिए तैयार हों। बिजनेस के संचालन और इंफ्रास्ट्रक्चर को उचित सहयोग देने की गारंटी के लिए कारोबार की निरंतरता और किसी भी स्थिति के लिए तैयार रहने की योजनाओं की नियमित आधार पर समीक्षा करने की जरूरत है। ऊर्जा सामर्थ्य, स्थिरता और सप्लाई की सुरक्षा के नतीजों को समझने के लिए सरकार और नियंत्रकों को साथ काम करना अब पहले से कहीं अधिक महत्वपूर्ण हो जाएगा।

आर्थिक विकास के लिए ऊर्जा, खासतौर से, दुनिया के उभरते हुए बाजारों में स्थिर विकास के 7 लक्ष्यों (एसडीजी7) को प्राप्त करने के लिए बहुत जरूरी है। इससे यह सुनिश्चित होगा कि हर किसी के पास किफायती, टिकाऊ, स्थिर और आधुनिक बिजली के संसाधनों की पहुंच हो। यह स्थिर विकास के दूसरे लक्ष्यों की ओर कदम बढ़ाने की शर्त है, जिसमें स्वास्थ्य, शिक्षा, उद्योग, स्थिर शहर और कई अन्य लक्ष्य शामिल हैं।



कोरोना महामारी के दौरान और उसके बाद

ऊर्जा क्षेत्र को अर्थव्यवस्था के शेष क्षेत्रों के साथ बेहतर तालमेल से उभरने की संभावना है। आर्थिक गतिविधियों को पूरे जोर-शोर से फिर शुरू करने की क्षमता महामारी के प्रभावी नियंत्रण और आम जनता को वैक्सीन की उपलब्धता पर निर्भर करेगी। ऊर्जा क्षेत्र की संभावनाओं का फैसला बिजली का उत्पादन और सप्लाई करने वाली दिग्गज कंपनियों के लिए जरूरी भी होगा। नई सामान्य स्थिति में संक्रमण के समय ऊर्जा उद्योग के हितधारकों को तीन प्रमुख चुनौतियों का सामना करना पड़ेगा।

भारत में कई सालों से स्वच्छ और नवीकरणीय ऊर्जा की ओर परिवर्तन पर खास ध्यान दिया जा रहा है। हरित ऊर्जा की कम लागत के साथ ही स्वच्छ पर्यावरण के प्रति बढ़ती जागरूकता ने इस ट्रेंड को बढ़ावा दिया है। महामारी के बाद ऊर्जा की खपत पहले जैसे बड़े स्तर तक वापसी कर जाएगी और अक्षय ऊर्जा की मांग को ठीक होने में अधिक समय लग सकता है।

कोरोना के बाद हमारी रोजमर्रा की जिंदगी, कामकाज और खेलों में तकनीक को शामिल करने या उसे अपनाने की ओर लोगों का झुकाव बढ़ेगा। यह सभी इंडस्ट्रीज के लिए करीब एक जैसा ही ट्रेंड होगा जहाँ रोजमर्रा के संचालन के लिए ऊर्जा क्षेत्र को मानवीय संपर्कों पर अपनी निर्भरता कम करनी होगी। क्षेत्र के फिर से उभरने और प्रगति और ऊर्जा के पूरे चक्र में मानवीय हस्तक्षेप को कम करने के लिए आधुनिक तकनीक से तालमेल बनाए रखना काफी महत्वपूर्ण होगा। कोरोना महामारी के दौरान इस क्षेत्र पर पड़ने वाले अन्य संवेदनशील प्रभाव को देखना होगा और इस दौरान सामने आई समस्याओं को पहचान कर उनका समाधान तलाशना होगा।

ऊर्जा क्षेत्र को अपनी आधुनिक तकनीक के ज्ञान और नए-नए प्रयोग करने की क्षमता के बल पर इस संकट से उबरना चाहिए। रोजमर्रा के संचालन से जुड़े महत्वपूर्ण हिस्सों, चाहे वह अप्रत्याशित घटनाओं के कारण बिजली की खपत पर पड़े प्रभाव का मुद्दा हो, सप्लाई चेन को बरकरार रखना हो, अनिवार्य परिसंपत्तियों का प्रबंधन या रखरखाव का मुद्दा हो या तेजी से विकसित जमीनी हालातों के अनुसार कदम उठाना हो, इन सभी कार्यों के लिए आधुनिक तकनीक के उपकरणों का इस्तेमाल किया जाना चाहिए, जिसके कारण बिजली उत्पादन और सप्लाई से जुड़ी दिग्गज कंपनियां आधुनिक तकनीक के उपकरणों का प्रयोग कर जहां अपनी प्रदर्शन क्षमता बढ़ाने में सक्षम होगी, वहीं किसी भी स्थिति से निपटने के लिए जल्द कदम उठाने की कंपनी की क्षमता भी निखरेगी।



THE IMPORTANCE OF BEHAVIOUR CHANGE IN ENERGY EFFICIENCY

TO IMPROVE ENERGY EFFICIENCY, BOTH TECHNOLOGICAL AND HUMAN BEHAVIOUR ASPECTS ARE IMPORTANT.

Energy efficiency is one of the most cost-effective, environmentally friendly, and widely available energy resources. Improved energy efficiency opens up chances to extend energy services in a sustainable way while also supporting development and economic growth, raising living standards and lowering greenhouse gas emissions. Energy efficiency improvements have a huge promise in developing countries, as demand for energy is quickly increasing. It is possible to reduce energy demand without compromising comfort. Improved efficiency means that comfort may be provided while using less energy.

Human behaviour has an important role in promoting additional energy savings. Energy-related decisions, such as indoor temperature settings, appliance adoption, and participation in demand-response programmes, are all inextricably tied to human behaviour. Individual behaviours and attitudes have a significant impact on total energy use. Humans are at the centre of energy efficiency action, and hurdles to adoption of energy-efficient methods are often sociological and behavioural in nature.

EMPLOYING BEHAVIOUR CHANGE TO ENHANCE ENERGY EFFICIENCY

People are encouraged to take appropriate action when relevant information and facts regarding the benefits of energy conservation are communicated. Consumer awareness is raised through energy labels, smart metres, and real-time electricity systems.

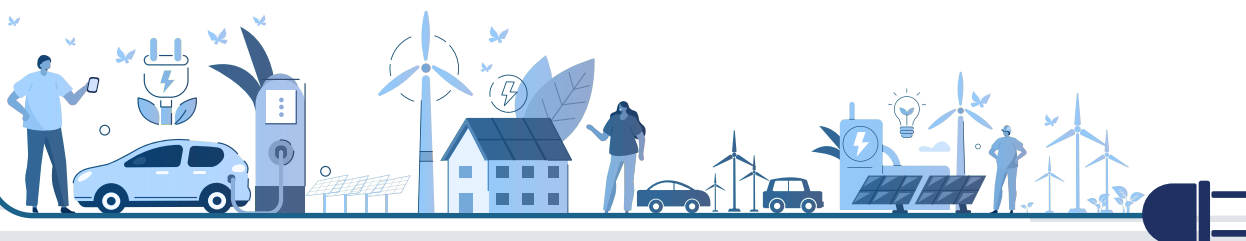
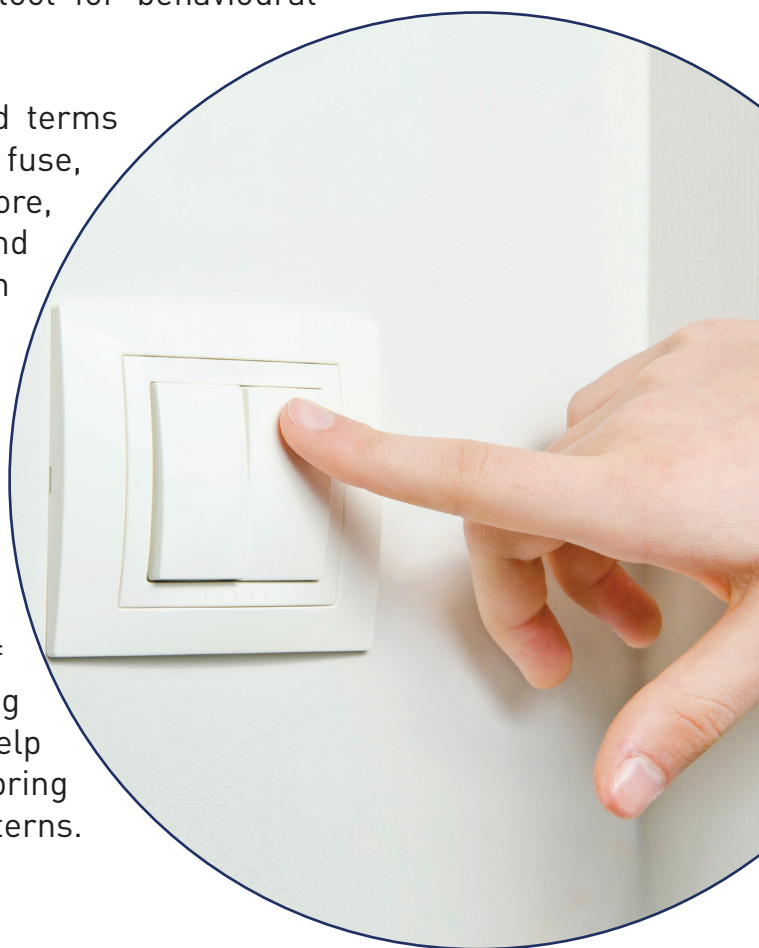
Information policies give people a more complete view of the economic and environmental implications of their decisions and activities. As a result, providing information as an intervention technique has a high potential for eliciting energy savings. However, it is very crucial to spread awareness about these concepts and keep the public informed about energy-efficient methods.



As a result, information is one of the first steps to bringing a change in terms of habits, behaviour, and acceptance of new methods for increasing energy savings.

Most households choose products and services that they have accepted for many years. Hence, an initiative to take the necessary steps to conserve energy becomes challenging. The "value-action gap," or the gap between people's self-proclaimed intents and their desired behaviours, can be explained by behavioural study findings. Consumer behaviour frequently depends on realistic goals or self-interest due to a variety of cognitive biases and motivational issues. This explains why user awareness is not a one-time strategy but must be employed on a consistent basis to keep consumers aware and updated on new technologies and methods for energy efficiency as a tool for behavioural change.

Energy or electricity have figures and terms like Kilowatt (kW), Kilowatt Hour (kWh), fuse, voltage, Megawatt, Volt, and many more, which are probably too abstract and technical, and as a result, they are often ignored during the decision-making process by consumers. In general, people see energy use as a low-profile issue. The users' energy consumption is mostly automatic and of minimal personal preference. Hence, it is crucial to define these terms and concepts in layman's language and explain the importance of conscious observation. Providing information and explanation will help consumers make a better choice and bring about a change in their purchasing patterns.



Programs and strategies to improve energy efficiency might include both technological and human-behavioural aspects. Most efforts to improve energy efficiency have traditionally focused on replacing inefficient technology or hardware with more efficient alternatives. For instance, instead of inefficient incandescent lighting, use light-emitting diode (LED) bulbs, more efficient motors, and better sealed windows or greater insulation to provide improved thermal comfort while reducing energy waste. While technology-focused energy efficiency programmes and policies have resulted in large energy savings over the past several decades, continuous improvements in consumer behaviour can result in significant energy savings too.

Effective communication can aid in the formation and maintenance of positive attitudes toward a situation. When communicating with energy customers and other key stakeholders about the benefits of energy efficiency and the techniques that can assist in reducing energy consumption and costs, the information must be presented in a compelling manner and must be based on solid research. It is vital to understand the local context in order to be successful. The messages to bring about a change in someone's behaviour should always be concise, concrete, and credible, and they should tell the story.

Energy efficiency programmes and policies have highlighted behaviour change as a critical component. Combining behavioural management approaches with traditional technology solutions can result in greater and more cost-effective energy savings than focusing just on technological replacement solutions, as most energy efficiency projects in developing countries haven't done yet. Incorporating energy efficiency behaviour change interventions into energy efficiency programmes targeting various sectors can increase overall reach and improve outcomes, and may be especially beneficial in the context of home energy efficiency initiatives.



As a result, it is important to teach and educate them about the need for energy efficiency and to mould them in any way possible, as it is easier to approach children. Bringing a substantial change in one's behaviour is important in achieving energy efficiency. When any human action is repeated regularly, it becomes a habit, which ultimately leads to change in the behaviour. A change in our habits through our actions can help us use energy judiciously in our day-to-day life.

The methods and strategies listed above in regards to using LED bulbs, switching appliances when not in use, or even eliminating plastics are just a few examples of how an individual might save energy. Developing a mindful lifestyle and habits is one of the most essential parts of energy efficiency. Any behaviour or habit may be changed; the only question is what we will replace it with. For example, consciously encouraging paper bags instead of single-use plastics, using eco-friendly products, and striving to be minimal on a daily basis can go a long way towards contributing to energy efficiency.

Behaviour change cannot be expected to occur overnight; it must be practised on a daily basis. Actions, awareness, and conscience all play an important role.



