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INNOVATING ENERGY

Celebrating 12 years of being Energy Efficient!

INSIDE STORY

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Now is the time for energy efficiency to shine: EESL will be the key

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Focus Story

TOP ENERGY TRENDS FROM INDIA & ACROSS THE GLOBE

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Energy Efficiency Services Limited (EESL)

Editor's Note

Dear Reader,

Energy efficiency is increasingly being acknowledged as a potent tool in enabling our shift towards sustainability. The recent deliberations during COP26 have served to highlight the need for solutions such as energy efficiency to gather pace. Energy demand is on the rise, which makes adoption of energy efficiency measures an obvious solution. Over the past five years, energy intensity, which is a key measure of the economy's energy efficiency, has improved on average by 1.3% a year, down from 2.3% between 2011 and 2016. We need to pick up pace in our efforts.

India has been an early mover in recognizing the potential of energy efficiency. It currently has the largest energy efficiency portfolio across the globe. EESL, with its mandate for steering India's energy transition has played a central role in this regard. Since its inception, 12 years ago, it has seen remarkable success in reducing the power intensity and carbon footprint of the nation across sectors such as lighting, transport, cooling, energy generation, agriculture and building among other. EESL, through its unique business model, has been pioneering a strong financial ecosystem for energy efficient technologies. Using economies of scale in the sector, enabled by demand aggregation, EESL has made energy efficiency scalable, accessible and affordable.

This newsletter, themed **'Celebrating 12 years of being Energy Efficient!'** is a celebration of EESL's 12 years of sustained excellence and provides us an insight into the future of energy efficiency in India. In **'It is energy efficiency's time to shine: EESL will be the key'** we explore the rise in significance of energy efficiency and how EESL is now in the driver's seat to become the harbinger of change. **'Enablement of Last Mile Connectivity Vital to Smart Metering Programme Success in India'** delves into the nuances of ramping up smart metering adoption in India. We look beyond India in **'Unlocking the international potential for Energy Efficiency'** wherein we discuss emulating the success of energy efficiency in India, across the globe and how EESL can facilitate that. The article **'What 2022 heralds for India's energy efficiency segment'** shines the spotlight on upcoming trends in the energy efficiency space and their impact. In **EESL's journey in lighting up the country with LEDs** we take a deep dive into the transformative impact of EESL's two flagship programmes - UJALA and SLNP. Finally, in **'India's journey to a brighter future'** we take look back at the last 12 years, wherein EESL's impact has been truly unparalleled in the overturn of reach and scale achieved.

As the energy ecosystem in India evolves and EESL continues its march, we shall witness the integration of energy efficiency in new sectors and geographies.

K Sreekant
Chairman
Energy Efficiency Services Limited (EESL)

Now is the time for energy efficiency to shine: EESL will be the key

Estimates by International Energy Agency state that energy efficiency can contribute up to 49% of the energy-related CO_2 emission reductions that are needed to limit global temperature increases over the next several decades. Energy efficiency offers an array of advantages– it reduces emissions, provides energy and capital savings, and creates employment opportunities. A 2021 Bureau of Energy Efficiency report on the Impact of Energy Efficiency Measures in India states that the adoption of energy efficiency programmes has led to the overall energy savings of 28.06 Mtoe for the year 2019-20. These programmes also enabled monetary savings of worth INR 115,702 crores and equivalent reduction in CO_2 emissions of around 177.6 million tonnes annually.

EESL has played an important role in upscaling energy efficiency portfolio of our country through its various schemes such as UJALA (Unnat Jyoti by Affordable LEDs for All), GRAM UJALA, AJAY (Atal Jyoti Yojana), SLNP (Streel Lighting National Programme), Solar Study Lamp etc. in consonance with its vision of providing '**Universal access to sustainable energy solutions to enable a low carbon future, with significant economic and social impact**.' Over the years, EESL has pioneered various innovative business approaches for implementing energy efficiency programmes.

The challenge ahead for our country is to achieve carbon neutrality by 2070 and energy efficiency will have a very important role to play in achieving this goal. By devising commercially sound offerings and ensuring efficiency in project implementation, EESL is well poised to be at the forefront in enabling consumers, industries and local bodies achieving their energy needs through energy efficient technologies. The time is ripe for EESL to grow its operations and contribute to the net-zero goals of our country.

Anil Rawal
MD & CEO
IntelliSmart

Enablement of Last Mile Connectivity Vital to Smart Metering Programme's Success in India

Power distribution is a critical link in the power system value chain. India has seen a lot of focus in the last 20 years on generation and transmission segments of the power value chain, whereas distribution as the main paymaster is yet to evolve on operational and financial efficiencies. With energy transition in full swing in the country and significant commitments being made by the Government of India on regulatory, policy and financial fronts for energy transition, the distribution sector is at the center stage of transformation.

With vision of 'One Nation One Grid' being realized, the next focus area is to establish a robust smart grid network that is ready to integrate renewable energy without disturbing the stability of the system, facilitate power trading across the country, and make grid management efficient. And as a steppingstone for this, the government has rolled out the Smart Meter National Programme (SMNP) to create a robust smart metering infrastructure and lay down a solid foundation. Accordingly, smart metering has emerged as the primary reformative agenda of the government and has been built as a major component in the recently introduced Revamped Distribution Sector Scheme (RDSS).

Digitalisation's reliance on AMI communication network

Digitalisation in smart metering is enabling the development of a common and scalable Advanced Metering Infrastructure (AMI) architecture that is assisting DISCOMs in the areas of data collection, optimisation of operations and improvement of performance transparency. The digital enablement created by AMI further allows DISCOMs to innovate and provide value-added services to consumers in real time and create substantial advantage in optimisation of load management and efficient billing.

This kind of holistic digital enablement, however, requires substantial reach (coverage and penetration) and scale (distributed intelligence and network resilience) of the AMI communication network capacity. The smart meter system is primarily based on wireless connectivity without the support of which it will not be able to create the kind of value that can benefit the utilities and, in turn, pass on to the consumers. In India, the telecom network itself is yet to achieve that kind of reach and scale. Even in communication rich regions, the network remains sporadic with dark spots that hinder the communication performance of implemented meters, or in cases, impede the very process of meter implementation in far-flung locations/isolated clusters and restricted saturation from being achieved.

Communication technology is the axle of last-mile connectivity

Communication technology is the fulcrum of the system's ability to create last-mile connectivity, establish a well-functioning, sustained communication channel and methodically utilise cloud technology to store and utilise data. Keeping in mind the existing limitations, it is the choice of communication technology that will impact the last-mile smart meter deployment strategy, performance solutions longevity, reliability, security, interoperability and scalability. Under current circumstances, efforts are being made to create a best fit-for-purpose AMI communication – a hybrid system with an optimal mix of available communication technologies and infrastructure – which can support rapid smart meter rollout and achieve last mile connectivity to the best possible extent by pulling in even the most isolated clusters in a region.

Moreover, for structural improvement in this context, there is a need to work with the Telecom Service Providers (TSP) to reshape the working experience between telecom service and smart meters. In the best suited cases, a smart meter project should involve more than one TSP for SIM deployment allocation on the best network coverage for each region, supported by round-the-clock vigilance to address network congestion-led issues.

Bhawanjeet Singh
Executive Director (IC)
Energy Efficiency Services Limited (EESL)

Unlocking the international potential for Energy Efficiency

The world is witnessing a consensus around combating climate change. Organisations and agencies from across the globe are working to usher in a sustainable and greener tomorrow by deploying an array of climate projects. There has also been increased collaboration between nations and agencies, who are working together in a geographically agnostic climate action ecosystem. The Paris Agreement in 2015 identified improvement of energy usage efficiency to be a vital cog in the climate action mechanism. Various organisations are sharing expertise across borders to help develop the global market for energy efficiency. Energy efficiency has already permeated a host of sectors and industries in countries across the world, such as transport, building, power and lighting amongst others. It has led to considerable reduction of emissions, along with significant energy and capital savings.

According to International Energy Agency estimates, the Net Zero Emissions by 2050 Scenario involves more than 40 energy efficiency milestones without which total final energy consumption would be around 30% higher by 2030. A major challenge for accelerating the penetration of energy efficient technologies in any country is the high upfront cost. Demand aggregation is often considered as an important strategy to significantly enhance volumes, improve economies of scale and reduce the upfront cost in the process. Bundling demand allows for bulk procurement in public sector institutions and markets, which hold significant potential for improved energy efficiency and represents a large and important market in all countries

There has been a myriad of innovative implementation mechanisms, financing structures and associated institutional frameworks and delivery models that have addressed the barriers in demand side energy efficiency markets. Many of these have been adapted and implemented across the world. Energy efficiency offers significant win-win opportunities, especially for labor-intensive projects that start quickly and are rooted in local supply chains such as construction and manufacturing. It can also provide long-term benefits by lowering overall electricity demand, thus reducing the need to invest in new electricity generation and transmission infrastructure. It also helps diversify utility resource portfolios and can be a bulwark against uncertainty associated with fluctuating fuel prices. Energy efficiency brings other major benefits, as it improves the economic competitiveness of countries and businesses, makes energy more affordable for consumers

Energy Efficiency Services Limited (EESL) India has been leading the way, as an enabler of energy efficient technologies, working closely with various nations to replicate its successful domestic initiatives globally. It has a proven track record of forging new frontiers in the global energy efficiency services markets across the world. The company has taken its market transformation models to the UK, Middle East, South Asia and South-East Asia. The international potential for energy efficiency is vast and relatively untapped. EESL, with its experience, strength and capabilities in the Indian market can help other nations realise their energy efficiency potential.

S. Gopal
Group Executive Director (Commercial)
Energy Efficiency Services Limited (EESL)

What 2022 heralds for India's energy efficiency segment

India has come a long way as a manufacturer and consumer of power since it gained independence 75 years ago. We now have an even more challenging journey ahead of us in the next 50. India, as we know, has committed to achieving net-zero emissions by 2070, reducing carbon intensity to 45 percent of current levels by 2030, and reducing carbon emissions by 1 billion tonnes, also by 2030. Energy efficiency is one of the very important ways in which India can achieve these closely interrelated targets.

Energy efficiency can accelerate progress on India's climate actions by reducing the amount of energy needed across industries and sectors. It can reduce both the amount of energy needed as well as the capacity and cost of the low-carbon energy systems that are installed to meet the energy demand. Moreover, improvements in the energy efficiency of commercial, residential, and industrial establishments can yield a huge reduction in emissions.

EESL, which celebrates its 12th anniversary this year, has pioneered and guided many of India's energy efficiency programmes. These programmes have yielded tangible benefits in terms of energy savings, cost savings, and emission reductions, and will continue to grow from strength to strength in 2022 and beyond.

Bringing energy efficiency to an important yet vulnerable sector like agriculture

The resilience and growth of India's agriculture sector can be improved, among other ways, by providing farmers with energy-efficient, easy-to-operate farming tools. EESL, through its Agriculture Demand Side Management (AgDSM) programme, distributes BEE 5-star energy-efficient agricultural pumps that ensure at least 30% reduction in energy consumption. These pumps come with smart control panels and can be operated remotely.

Making living spaces healthier and more energy-efficient

The environmental impact of residential and commercial buildings, which account for a significant percentage of the country's electricity consumption, will come under close scrutiny in the years ahead. EESL's Buildings Energy Efficiency Programme (BEEP) transforms commercial buildings in India into energy-efficient complexes. Till date, EESL has covered more than 10,460 buildings, including railway stations, under this programme. BEEP has yielded energy savings of more than 696.45 million kWh and cost savings of more than Rs 60,164 lakh till date. It has avoided energy demand to the tune of 75.64 MW and reduced CO_2 emissions by more than 571,096 tonnes.

The air conditioning systems in old buildings are often not designed for high levels of ventilation or filtration. Retrofitting these systems allows us to integrate energy efficiency measures with those for enhancing air quality. EESL's RAISE (Retrofit of Airconditioning to Improve Indoor Air Quality for Safety and Efficiency) initiative focuses on enhancing indoor air quality, thermal comfort, and energy efficiency in air-conditioning systems through upgrades or modifications to existing systems. Based on a series of pilots, EESL has developed retrofit specifications for scaling up the RAISE initiative nationwide.

Energy-efficient lighting in streets and homes

Lighting can account for up to 30-40 percent of the total energy consumption in cities. Scaling up the use of energy-efficient fans, air conditioners and light fixtures can significantly lower the amount of electricity required, which, in turn, will lessen the burning of fossil fuels, thus ultimately reducing the emission of greenhouse gases and other noxious pollutants. Two of EESL's initiatives stand out in this respect: the Street Lighting National Programme (SLNP) and Unnat Jyoti by Affordable LEDs for All (UJALA).

SLNP, the world's largest street lighting programme, has been a huge success owing to its compelling "Pay As You Save" (PAYS) model that obviates the need for municipalities to make an initial investment; the benefits of digitally connected, smart lights; and their immediate carbon and cost benefits. Over 1.255 crore LED connected streetlights have been installed nationwide under SLNP. They have reduced CO_2 emissions by over 5.81 million tons, saved 8433.62 MUs of energy consumption, and avoided peak demand of 1405.6 MW every year.

UJALA, founded on an approach of bulk procurement, has stimulated a new market for energy-efficient LED bulbs and resulted in a sharp drop in the price of LED bulbs, making them affordable for every Indian. Over 36.79 crore LED bulbs have been distributed under UJALA so far, enabling cost savings of over Rs 19,112 crore on energy bills, avoiding 47,78 million kWh of energy demand, and reducing CO_2 emissions by 3.87 crore tons every year.

Together, SLNP and UJALA have created a new paradigm for sustainability, where market-led changes will drive progress towards sustainability goals and NDCs.

Energy savings through smart metering

As part of its decarbonization efforts, India will look to digitalize its energy grid, starting with the installation of smart meters. India already has around 3 million smart meters and is aiming for 100 million meters by 2023, and 250 million by 2025. The granular data from smart meters, combined with deep data analytics and Artificial Intelligence tools, enables grid operators to manage the demand side of energy. AI-based intervention will help in managing energy peaks and balancing the grid when renewable energy is introduced into the mix. EESL, under its Smart Meter National Programme, has completed the procurement process of 1.5 crore smart meters and installed over 13.2 lakh smart meters across Uttar Pradesh, New Delhi, Haryana and Bihar.

Energy efficiency through electric mobility

EESL is playing an active role in mitigating emissions from the transportation sector too, by supporting the development of a nationwide ecosystem for electric vehicles (EVs) and EV chargers. EVs are still at a nascent stage in India, but will gain traction once certain aspects, including a nationwide charging infrastructure, fall into place. EESL, meanwhile, has procured and deployed EVs for Government organizations and is also developing and establishing EV charging infrastructure through MOUs with municipalities and DISCOMs across the country.

Energy efficiency will continue to be integral to India's climate strategies and actions to meet its climate commitments. In 2022 and subsequent years, we will see more concerted and collaborative efforts by the Government, the private sector, financial investors, and technology providers to transform India's energy systems, with energy efficiency at the core of many of these programmes, and with EESL's vast experience and expertise to bank on.

Soumya Prasad Garnaik

EESL's journey in lighting up the country with LEDs

India's energy efficiency market was still in its nascent state, a decade or so ago, with significant potential to spur the national energy transition. Since then, India's energy ecosystem has undergone a swift transformation, through significant efficiency improvements in an array of sectors – buildings, transportation, cooling and energy generation. India has made considerable headway towards the goal of enabling universal access to energy and ensuring a low-carbon future. Energy efficiency has helped reduce India's carbon footprint, peak energy demand, and electricity bills, along with enabling massive socio-economic and ecological impact. This has enhanced the lives of the people with better access to power, illumination and improved air quality.

The scale and pace of our energy efficiency initiatives has been unprecedented. One of the most important breakthroughs in our efforts to ramp up energy efficiency has been the proliferation of LED bulbs in India. The LED market in India was in its embryonic phase, just a few years ago, albeit with massive untapped potential. Recognising this opportunity, we launched our domestic lighting programme - Unnat Jyoti by Affordable LEDs for All (UJALA) in 2015. This programme sought to address India's high cost of electrification and high emissions from inefficient lighting. UJALA has created a market for energy efficient LED bulbs in India from scratch, bringing down the cost of LED bulbs from INR 310 to INR 38. This was truly transformative and led to large scale adoption of LEDs. Till date, over 36.79 crore LED bulbs, 72.17 lakh LED Tube lights and 23.59 lakh Energy efficient fans distributed by EESL across India. This has resulted in estimated energy savings of 48.30 billion kWh per year with avoided peak demand of 9,769 MW, GHG emission reduction of 39 million tCO_2 per year and estimated annual monetary savings of INR 19,290 crore in consumer electricity bills. After the immense success of UJALA, we aimed to replicate it in our hinterlands as well, culminating in the launch of our Gram UJALA programme. Helmed by our subsidiary – Convergence Energy Services Limited (CESL), Gram UJALA is currently running successfully in the states of Bihar and UP and more than 69 lakh LED bulbs have already been distributed. The programme has resulted in energy saving of 1007 MU of electricity per year, peak demand reduction of 276 MW and 9,26,478 tonnes of CO_2 emission reduction per year. UJALA stands as a testament of EESL's dedicated efforts in creating a sustainable and energy efficient India. The remarkable success of UJALA has made a difference in the lives of the people by improving their quality of life, generating prosperity in local communities and in expanding energy access to all.

India's streetlights are vital component of the nation's investment in infrastructure and road safety. They also represented an immense untapped opportunity for energy efficient lighting. We launched our Street Lighting National Programme in 2015 to leverage this potential. The programme reached the milestone of 1 crore LED streetlights installations, in just a span of four years. For this, we adopted a unique strategy of partnering with states, municipal bodies and ULBs, replacing conventional streetlights with LEDs at its own costs with no upfront investment by the municipalities, which has made LED adoption even more attractive. Till date, EESL has installed over 1.22 crore LED streetlights in ULBs and Gram Panchayats across India. This has resulted in estimated energy savings of 8.23 billion kWh per year with avoided peak demand of 1,373 MW, GHG emission reduction of 5.67 million tCO_2 per year and estimated annual monetary savings of INR 5,767 crore in electricity bills of municipalities.

This LED revolution goes beyond just illumination, as the impact of these initiatives intersects several national goals: reducing India's energy consumption and energy dependence, mitigating carbon emissions and thereby facilitating climate action, and enabling a safer and better way of life for citizens.

Venkatesh Dwivedi
Group Executive Director (Projects & BD)
Energy Efficiency Services Limited (EESL)

India's journey to a brighter future

The last 12 years of EESL's journey have been truly unparalleled in the amount of impact, reach, and scale achieved. Our initiatives have taken us across the breadth of the country, spanning numerous technologies, business models, and partnerships. But what has unified them is that they have always been aimed at the energy goals of the Government of India - Reducing energy demand, increasing energy access, and mitigating climate change.

This is exactly what our initiatives have successfully delivered to the nation's energy agenda - reductions in CO_2 emissions, cost savings, and energy savings. Our efforts have also had an intangible but meaningful impact on people, communities, society, and sectors. We are empowering beneficiaries at the last mile with more energy access, by making our cities safer with better lighting, and by empowering sectors as diverse as agriculture and industry with efficient appliances to achieve and grow more.

It is pertinent to note that the EESL story truly took off with flagship initiatives - Street Lighting National Programme (SLNP) and Unnat Jyoti by Affordable LEDs for All (UJALA). They had a simple premise: if products were affordable enough, India would not need subsidies to induce citizens, communities, and states to opt for energy efficient products over status quo products, And, we were right. UJALA has created a demand for LEDs, to which we responded by setting up a robust supply chain. SLNP made the streets of India brighter and safer, with energy efficient LED streetlights, and set a new benchmark for how cities must serve their citizens. In numbers, UJALA, the world's largest initiative of its kind, has distributed 36.78 crore LED bulbs, achieving energy saving of 47,774 MU (million units) of electricity per year, peak demand reduction of 9,565 MW and 38.69 million tonnes of CO_2 emission reduction per year.

SLNP has achieved about 1.20 crore LED streetlights installation, resulting in estimated energy savings of 8.10 billion kWh per year with avoided peak demand of 1,350 MW and estimated GHG emission reduction of 5.58 million t CO_2 per year and estimated annual monetary savings of INR 5,670 crore in electricity bills of municipalities.

Their success has validated the business model of demand aggregation upon which our subsequent programmes were founded on. The very same business model is the foundation of our Smart Meters programme, which is enabling utilities and consumers to enhance how they use and save energy, while helping grids to support a cleaner energy mix. Till date, over 20.37 lakh smart meters have been installed in the state of Uttar Pradesh, Haryana, Bihar and NDMC-Delhi.

The Super-Efficient Air Conditioning Programme has addressed the need to bring affordable, sustainable, and efficient space cooling to the masses. Our affordable ACs use low-GWP refrigerants, supporting India's India Cooling Action Plan (ICAP). As on date, EESL has deployed/procured 2,936 Super-Efficient Air Conditioners.

Over the last few years, our efforts have also synergised well with India's developmental priorities. In the space of clean energy, our initiatives, including AJAY, Agriculture-Side Management (AgDSM) Programme and decentralised solar power plants have contributed to India's target of 175 GW of installed renewable capacity by 2022. EESL's subsidiary Convergence Energy Services Limited (CESL) aims to create more than 8 GW of solar generation in the next 5-6 years specifically focusing on Decentralised mode and has already signed agreements for approx. 800 MW of generation.

We are currently planning and executing 1,500 MW solar projects in the states of Maharashtra, Jharkhand, Tamil Nadu, Andaman & Nicobar Islands, Chhattisgarh, Kerala and Meghalaya. Through Convergence, we are solving for multiple gap areas in the energy ecosystem, with interventions such as solarised agriculture feeders, LED streetlights in local villages and battery energy storage systems.

Our National Electric Mobility Programme is supporting the mandate of setting up a wider and robust charging infrastructure being established across the nation. The initiative has brought a steadily increasing fleet of 2-wheelers, 3- wheelers and 4- wheelers to Indian roads, supported by lease/buy options, solar carports and public charging infrastructure. Going ahead, Convergence aims to create a suite of awareness building, O&M, scrapping value optimisation and financing schemes by stacking central, state and OEM offerings to reduce upfront costs by 40%.

Seen at a macro scale, our work has been a powerful catalyst for Make in India. It has aggressively stimulated sectors by unlocking demand. New jobs have been created at the intersection of energy, sustainability, and business. Most importantly, the benefits of a new energy and innovation landscape are being accessed by citizens in India's remotest regions. The decade ahead will see us venture into even more sectors and geographies with a stronger sense of purpose and commitment. We will harness the innovation capital of India's youth, the latent but powerful scale of India's billion-plus market, and the strong political will that India has to usher in a brighter, greener, and cleaner future for its people.

TOP ENERGY TRENDS FROM INDIA & ACROSS THE GLOBE

- **India Energy Outlook 2021**

  India Energy Outlook 2021 explores the opportunities and challenges ahead for India as it seeks to ensure reliable, affordable and sustainable energy to a growing population. The report examines pathways out of the crisis that emerged from the Covid-19 pandemic, as well as longer-term trends, exploring how India's energy sector might evolve to 2040 under a range of scenarios.

- **Transforming India's energy efficiency market by unlocking the potential of private ESCOs**

  India is one of the world's largest energy consumers. Electricity demand, driven by economic development, population growth, urbanization, and an expanding middle class, is growing rapidly—the government must look to creative solutions to meet it. Energy efficiency implemented through energy services companies (ESCOs) has great potential to address this challenge. Worldwide, the scaling up of demand-side energy efficiency initiatives has become one of the most promising and cost-effective solutions to enhance energy security, avoid power outages, and reduce greenhouse gases and local emissions—while supporting job creation.

- **Expanding India's energy efficiency sector**

  Increased greenhouse gas emissions as a result of India's increased energy consumption and the country's future dependence on fossil fuels to serve its energy security have raised serious environmental concerns. As an emerging economy, India has a huge opportunity to meet its development goals in minimal energy consumption. Energy efficiency, termed as 'the first fuel' by the International Energy Agency (IEA), will play a pivotal role in determining an optimal energy portfolio for India and has increasingly becoming a key pillar of energy transformation policies in the world.

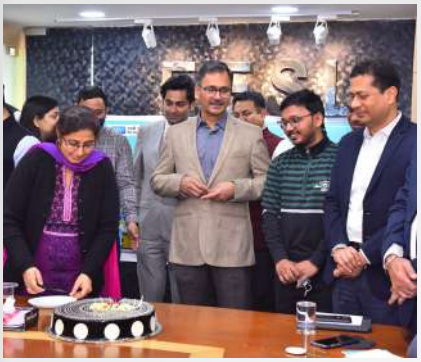
- **Making Energy Efficiency Bankable in India**

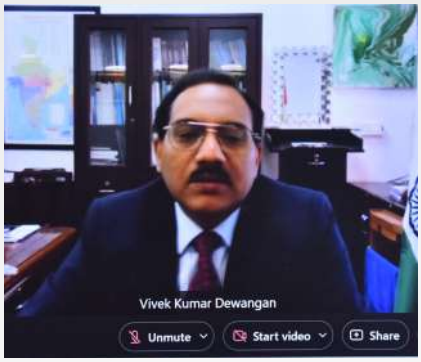
  In a continent that is starved for energy and infrastructure, it is an enigma that India's markets for energy efficiency have yet to take off. The crux of the problem relies in that politicians, policy-makers and financiers have yet to realize that energy efficiency is inexpensive and easily scalable when compared to the development of large-scale power plants. The Indian focus is very much on increasing energy generation rather than avoiding the use of energy in the first place. India needs to value each kilowatt hour (kWh) of energy saved on par with each unit of energy generated. As such, the first policy choice in the path towards energy security and energy for all must be encouraging industry and consumers to use energy more efficiently.

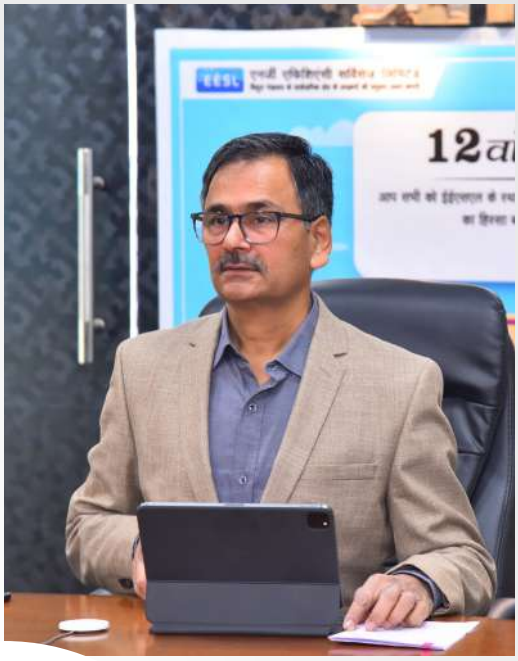
- **India's Energy Mix and the Pathways to Sustainable Development**

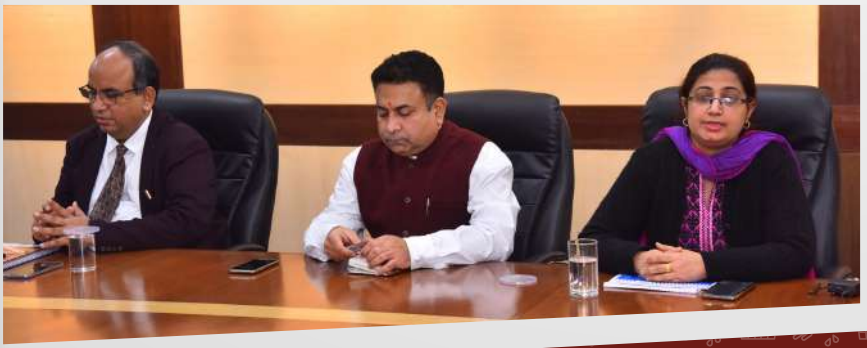
  India is one of the world's fastest-growing economies, with rising urbanization and an expanding middle class. The country will account for 25% of the rise in global energy use by 2040 and will have record growth in energy demand over the next several decades. India's energy profile continues to be heavily dominated by fossil fuel–based sources: by 2040, 42% of the new demand will be met by coal, and the country is projected to be among the largest oil consumers. India contributed 2.48 billion tons of carbon dioxide (CO_2) in 2019, which amounted to 7% of global CO_2 emissions.

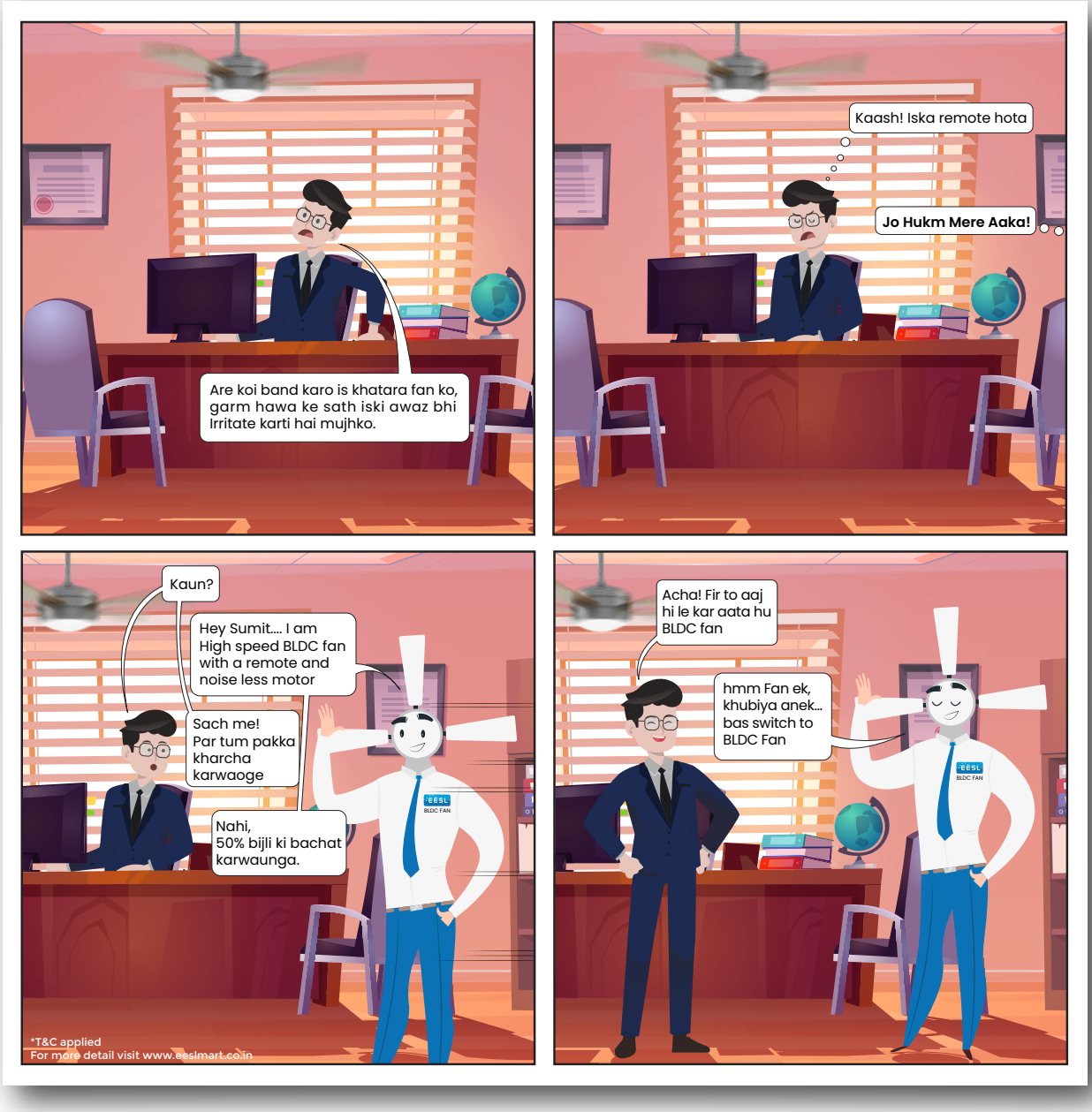
12th Raising Day Celebration











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Super Energy Efficient High Speed BLDC Fan

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