



ENERGY EFFICIENCY SERVICES LIMITED
A JV of PSUs under the Ministry of Power

Innovating Energy

FEBRUARY 2020
EDITION 14

10th
Anniversary
of EESL



Inside Stories



EDITOR'S NOTE

Saurabh Kumar
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Energy Efficiency Services Limited (EESL)



Long Live EESL – More “Disruptions” to Do!!!

Jiwan Acharya
Principal Energy Specialist
Asian Development Bank



10 years of illuminating India

Soumya Prasad Garnaik
Business Unit Head (Lighting)
Energy Efficiency Services Limited (EESL)



EESL's first Employee Chronicles his Journey

Ved Prakash Dindore
Regional Head (Chhattisgarh)
Energy Efficiency Services Limited (EESL)



Another decade of transformation in energy efficiency

Amit Kaushik
Business Unit Head (Growth)
Energy Efficiency Services Limited (EESL)

EESL's Journey

Driven by clear vision and strategy,
EESL is all set to drive the next phase
of its growth story



EDITOR'S NOTE

Dear Reader,

As the global energy ecosystem matures, energy efficiency is being widely acknowledged as a viable pathway towards sustainability. Rising energy demand has emerged as a major

source of global emissions, which further highlights the rising significance of energy efficiency. According to International Energy Agency, right efficiency policies could enable the world to achieve more than 40% of the emissions cuts needed to reach its climate goals without new technology. India had recognised the efficacy of energy efficiency quite early and 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, a decade ago, it has seen remarkable success in reducing the power exigency 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 also been responsible for fostering a strong financial ecosystem for energy efficient technology. Using economies of scale in the sector, enabled by demand aggregation, EESL has made energy efficiency affordable, scalable and accessible.

The past decade of EESL journey has seen many pit-stops of its various achievements and the milestones. EESL's two flagship initiatives – Street Lighting National Programme (SLNP) and Unnat Jyoti by Affordable LEDs for All (UJALA) in particular, have been truly transformative. While UJALA was responsible for creating and shaping the market for LED bulbs in India, the SLNP has made the streets of India brighter and safer, with energy efficient LED streetlights. EESL's influence has permeated into other sectors as well, such as its Smart Meters programme that is reforming India's power sector and its efforts towards building a conducive ecosystem for e-mobility in the nation. There are other programmes as well, spanning across a multitude of sectors that are shaping India's current energy ecosystem and will continue to do so over the coming years as well.

This newsletter is a celebration of EESL's decade of excellence and provides us an insight into the future of energy efficiency in India. As the energy ecosystem in India grows, on the back of EESL's endeavors, we shall witness the integration of energy efficiency in hitherto unexplored sectors. The convergence of our initiatives in renewables, electric mobility, smart grids and more will define the blueprint of India's energy transition.

With Regards,

Saurabh Kumar

Managing Director

Energy Efficiency Services Limited (EESL)



Soumya Prasad Garnaik

Business Unit Head (Lighting)

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10 years of Illuminating India

EESL has grown from strength to strength since its inception. In the last decade, it has spearheaded an energy revolution in India, making energy efficiency an integral part of the nation's sustainability discourse. Over the years, EESL has launched several targeted initiatives that solve gaps in the energy ecosystem, across sectors. Its initiatives have brought about a paradigm shift in terms of reducing power exigency and emissions in sectors such as lighting, cooling, and mobility among others. Two of its path breaking initiatives in particular have had immense social, economic and ecological impact in the country - Street Lighting National Programme (SLNP) and Unnat Jyoti by Affordable LEDs for All (UJALA). SLNP journey began as a pilot programme in 2014, for restoring the massive damage that Hudhud cyclone had caused to the infrastructure in the state of Andhra Pradesh (AP), particularly in Visakhapatnam (popularly known as Vizag). Similarly, UJALA began in 2015, with a small pilot in Puducherry.

Both the programmes were formally launched from South Block, New Delhi by the Hon'ble Prime Minister- Shri Narendra Modi as 'National Programme for LED-based Home and Street Lighting'. UJALA was launched with an aim to reform the domestic lighting market in India. The programme utilised a carefully crafted approach of bulk procurement, which helped EESL establish a market for highly energy efficient LED bulbs in India. This strategy yielded commendable returns as the retail price of the LED bulbs in India plummeted from INR 310 to INR 38, increasing their affordability and accessibility. Till date, over 36 crore LED bulbs have been distributed across the nation under this programme. The energy savings brought about due to the programme have been unprecedented, to the tune of over 46,000 million kWh per year with avoided peak demand of over 9,000 MW. There has been colossal reduction in GHG emissions as well, which currently stands at around 3,00,00,000 tonne CO₂. Apart from these benefits, individual consumers have seen a marked reduction in their electricity bills. LED bulbs also became the window of introduction to energy efficient appliances to the consumer, who was able to see veritable proof of their efficacy in reducing their monthly bills. EESL's strategy of aggregating requirements across the country also provided considerable push to the entire domestic lighting industry.

UJALA though is just one part of the ongoing LED revolution in the country. SLNP too has reached new heights, with the programme recently achieving the milestone of 1 crore LED streetlights installation. The programme has seen the installation of over 1,07,00,000 streetlights across India and its multipronged benefits includes, estimated energy savings of more than 7000 Million Units per year, avoided peak demand of around 1100 MW and estimated GHG emission reduction to the tune of 4.95 million tCO₂. SLNP has also improved the quality of life of citizens in India, generating prosperity in local communities, through increased employment opportunities. It has also enabled increased mobility, safety and trade with increased illumination in the streets. For this

programme, EESL made use of a novel strategy of partnering with states, municipal bodies and Urban Local Bodies (ULBs), as it replaced traditional streetlights with energy efficient LED variants. This required no upfront investment by the municipalities, which bolstered their participation. Under SLNP, EESL recovers its investment over time by monetising the savings, arising from the reduction in energy and maintenance costs. Another key benefit of the programme is the ability to remotely monitor and supervise these lights through the cutting edge Centralised Control and Monitoring System (CCMS).

As the domestic LED market has grown, propelled by these initiatives, there has been a rise in indigenous manufacturing competencies, along with increased employment generation. UJALA and SLNP have been the torchbearers for ESCOs in the India, with their immense success acting as a testament to the viability of the ESCO market. The accomplishments of these programmes has also been replicated globally, as the EESL success model has sparked energy efficiency movements in other nations as well.

In the coming years, SLNP and UJALA will continue to be the nucleus of EESL's energy efficiency efforts, with more partnerships and increased penetration across the nation. I envisage a bright, energy efficient and green future for the nation, on the back of EESL's diligent endeavours.



Amit Kaushik

Business Unit Head (Growth)

Energy Efficiency Services Limited (EESL)

Another decade of transformation in energy efficiency

We live in a world, wherein countries across the globe are busy salvaging the planet from the ill-effects of climate change. During the Paris Agreement in 2015, India set ambitious targets of reducing its greenhouse gas emission intensity by 33-35% by 2030. It also envisaged making 40% of its power capacity to be based on non-fossil fuel sources. The nation is well on its way to achieve these targets, with energy efficiency emerging as a potential ace for its climate change efforts. EESL has been steering India's energy transition for the last decade and has seen considerable success in its endeavours, ushering in significant efficiency improvements in an array of sectors – buildings, lighting, transportation, industry and energy generation.

EESL has done commendable work towards building a robust charging infrastructure for Electric Vehicles in the country. It is currently partnering with Urban Local Bodies (ULBs), institutions and state governments across the nation, for establishing public charging stations at a rapid pace. The coming years should witness the emergence of an extensive network of charging stations across the country.

EESL is also working towards making significant headway in realising the government's vision of installing 250 million smart meters across India. We have already installed more than 10 lakh smart meters across the country which are reforming India's power sector, with better accountability, transparency for consumers and higher revenues for Distribution Companies (DISCOMs). The upcoming decade will witness EESL take smart metering beyond India and expand globally. In the renewable sector, EESL is already working towards the target of 800 MW of decentralised solar substations

Trigeneration will become increasingly relevant in the coming years and would be pivotal in significantly reducing the electricity load of buildings without compromising commercial activity and electricity grid stability. EESL had acquired Edina, UK's leading supplier, installer and maintenance provider for combined heat and power (CHP), gas, and diesel power generation solution, which has enabled it in capturing the international market potential for trigeneration. Edina has also set up its wholly owned subsidiary in India as "EPSL Trigeneration Pvt Ltd" with in-house capabilities of system design and feasibility study. EESL can utilise the expertise and competency of Edina in India, along with bringing in the global best practices, which can help it in tapping the potential of the technology in India.

While EESL has managed to achieve significant milestones in the past decade, the next 10 years presents an opportunity for it to scale greater heights.



Jiwan Acharya
Principal Energy Specialist
Asian Development Bank

Long Live EESL – More “Disruptions” to Do!!!

Investments in energy efficiency are increasingly being recognised by the government as the most cost-effective option (in the short to medium term) to reduce energy costs, deliver increased economic productivity and competitiveness, increase energy security, and combat climate change. A stronger emphasis on energy efficiency, both from the demand and supply side, is required, along with accelerated investments in renewable energy and in the deployment of advanced low-carbon technologies to reduce local air pollution that causes damage to health and the environment. Given that India is already one of the world's largest and fastest-growing economies, low-carbon growth in India will have a great impact on the overall global situation.

Key changes in policy priorities and investment strategies will be necessary, particularly in India, where rapid economic growth is coinciding with urbanisation impact. Some of the barriers to India realising its full energy efficiency potential are (i) regulatory challenges, as electricity is subsidised to some extent and energy efficiency programmes are voluntary; (ii) institutional challenges, as capacity to support the scaling up of energy efficiency is limited; (iii) financing challenges, as some energy-efficient technologies have high up-front costs, but project sizes are small from a lender's perspective, and returns may be difficult to quantify; and (iv) limited understanding of energy-efficient technologies and associated benefits limits its uptake. Delivering energy efficiency through third-party financing, following an ESCO delivery mechanism can help in scaling up the implementation of energy efficiency projects. However, ESCOs require support in accessing commercial finance and managing technical performance and payment security risks. Long project development lead times and high transaction costs also affect their viability; thus, there is a need to support the demonstration of a viable company that can contribute to transforming the market through various energy-efficient technologies using the ESCO business model, which can then be scaled up and replicated.

Against regional trends for growth and in recognition of energy efficiency benefits, large emerging economies, including India, have launched initiatives resulting in significant energy efficiency improvements. The government has determined that increased end-use energy efficiency is critical for meeting India's rapid energy demand growth. In 2015, the government pledged to reduce the emissions intensity of its GDP by 33% - 35% below 2005 levels by 2030 as part of its nationally determined contributions to the United Nations Framework Convention on Climate Change.

EESL has emerged as a super ESCO that is pursuing large-scale energy efficiency focused investments with a comprehensive service package of project design, implementation, monitoring, and investment. Achieving drop of prices for LED bulbs in India to 1/8th in just 3 years is a good testimony to this. It gives me a great pleasure

personally to have the opportunity to work with the EESL team and see EESL's overall approach continuously evolving to create a cycle of more innovation, more transparency, and more transformation. EESL continues to investigate opportunities to expand its services and create new market opportunities for its new technologies, while focusing on strengthening its organisation in terms of building capacity of its staff to new technologies and business models, financial management, social and environment safeguards and gender, among others.

ADB is proud to partner and assist EESL in its efforts through our investments, technical assistance and co-financing to "disrupt" the trend and technologies and push the boundaries to promote more of these efficient technologies, whose benefits will be shared by all. ADB's efforts to support EESL is consistent with ADB's country partnership strategy for India, 2018–2022, which aims to boost economic competitiveness to create more and better jobs; provide inclusive access to infrastructure networks and services; address climate change through renewable energy development, energy efficiency, and development of low-carbon and nonmotorised transit; and increase climate resilience.



Ved Prakash Dindore

Regional Head (Chhattisgarh)

Energy Efficiency Services Limited (EESL)

EESL's first Employee Chronicles his Journey

My journey with Energy Efficiency Services Limited (EESL) began in January 2011 as a new member in the then 10-member team, which grew further in the next few months. Initial years at EESL offered ample opportunities for its human resource to learn as the vision and goals of the organisation were getting in a form. Year 2013 was the breakthrough year for us, as new leaders came onboard carrying their dynamic vision and enthusiasm. This was the year that saw the emergence of the quintessential EESL spirit that still drives us. Since then this team of young and vibrant professionals have been dedicatedly working towards the success of the organisation.

Two of the most pivotal programmes of EESL – Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lighting National Programme (SLNP) have seen unprecedented success and have been transformative in their impact. These two initiatives were responsible for a marked increase in the turnover and profits, helping us evolve and grow as an organisation. The immense growth in the turnover, rising from 7 crores to a 1500 crores in a span of just three years has been possible due to the dedication, transparency and honesty within the organisation.

EESL has emerged as one of the trailblazers in the energy efficiency realm, running multiples programmes catered to an array of sectors. We have also seen the emergence of a large, dedicated team, which is working relentlessly towards EESL's vision. The dedicated efforts of EESL towards enhancing adoption of clean energy and energy efficiency lead to the organisation achieving numerous milestones within a decade.

The vision of the organisation now, is to become a more than 10,000 crore company in the next 5 years and are we are already moving in the right direction very swiftly. I firmly believe that we will achieve our goal even sooner, thanks to the indomitable spirit and our highly efficient and dedicated teams. The next chapter of EESL is set to be full of new milestones, achievements and accolades and I am proud to be a part of this journey.

EESL's Journey

Driven by clear vision and strategy, EESL is all set to drive the next phase of its growth story

