EESL Climate Change, Clean Energy and Sustainability Services

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Energy Efficiency Services Limited (EESL), a joint venture of public sector undertakings under the Ministry of Power, Government of India, has a proven track record of forging new frontiers in global energy efficiency services markets. We have successfully deployed our market transformation approach to the UK, Middle East, South Asia, and South-East Asia. Our energy efficiency initiatives have cumulatively led to energy savings of over 58 billion kWh and a reduction of over 46 million tonnes of greenhouse gas (GHG) emissions across the globe.

We have created a collaborative approach that can be aligned to local needs and is rooted in affordability and the ease of scaling up. This approach - one marked by deep partnerships with stakeholders in partner countries, actionable insight based on local needs, and the assurance of proven economic and social benefits model - has defined our role as a preferred enabling partner for countries that want to scale up their energy efficiency.

Our global, multidisciplinary team combines our experience with climate change and sustainability knowledge and experience in a variety of domains. You will receive tailor-made service supported by global methodologies to address issues relating to your specific needs. EESL Consultancy Services can put together the right team of professionals equipped with the specific skills and knowledge base that you need, to support you in reaching your sustainability goals. Our team members have extensive experience in energy efficiency projects, sustainable development, and green investment strategy advisory services.

Main areas of intervention:

I. Our multi-dimensional approach to national energy efficiency planning:

- Development of energy efficiency action plan and identification of sub-projects
- Technical appraisal and cost estimation of proposed energy efficiency interventions
- Development of innovative, path-breaking financing models including tools and techniques, attractive for the target clientele
- Financial and economic analysis & interpretation
- Due diligence of environmental and social safeguard aspects

II. We incentivise energy efficiency interventions for all stakeholders, making them a more attractive and compelling proposition:

- Designing programs to encourage private investments in the implementation of public energy efficiency projects of cities and provincial governments, especially projects related to industrial and building energy efficiency
- Project assessment of reduction of greenhouse gases emissions and climate risks
- Preparation of bidding documents and assessment on poverty and social impacts. Assessment of legal and regulatory constraints.
- Activities to increase awareness for energy efficiency and conservation for all stakeholders, including the community at large

III. We enable a multi-faceted understanding of energy efficiency in the public sector

- In consultation with concerned Ministries and organizations, drafting ESCO regulations and designing modalities of Energy Efficiency Funds (including Public-Private Partnerships) for urban lighting and public building retrofitting
- Development of frameworks and techniques for large scale deployment of domestic efficient lighting, LED street lighting, smart metering, and electric vehicle infrastructure
- Training for government officials, relevant agencies, and the local banking sector, on energy efficiency regulations and the ESCO industry

Services and experience

I. Policy counsel

- **Supporting the formulation of Energy Efficiency Policies and Frameworks:** EESL has experience in supporting the formulation of energy-efficiency-conducive policies in India and overseas. These have been proven by the faster adoption of diverse energy efficient appliances and services. EESL's formulation process includes load research studies, devising market-specific energy efficiency measures, and the designing of a market transformation approach through attractive and viable technical and commercial strategies that are tailor-made as per specific market conditions.
- **Formulating and implementing ESCO market structure and regulations:** We are classified as a super-ESCO for our leadership and enabling role in the energy efficiency domain, and our impact has created suitable market conditions and regulatory support for 124 ESCOs in India. Spearheading India's ESCO market, we have created the critical mass in identifying areas of intervention, helping establish the regulatory framework, and mobilizing vital market forces to create the minimum environment for ESCOs to build further. This experience has already been replicated successfully in several international markets, and can be developed further as per the local conditions
- **Undertaking Technology Needs Assessment and Creating action plans for climate change mitigation:** Guided by a comprehensive technical needs analysis of climate technology needs, we can determine their impact on GHG reduction and climate change mitigation to make suitable recommendations. EESL's approach entails building institutional capacity and coordination mechanisms to govern and coordinate climate action and finance; building country programming processes, and devising climate finance strategies based on insights from field studies, stakeholder

consultation, a review of institutional framework review, among other salient inputs.

II. Sectoral interventions

- **Electric vehicle infrastructure design and deployment**: Aimed at creating efficiencies of scale and driving down costs, our e-Mobility Programme has catalysed India's electric mobility ecosystem, comprising EV manufacturers, charging infrastructure companies, service providers, among others.
- **Solarization of agriculture[1]:** Towards reducing the energy cost of India's agriculture sector, we are implementing three initiatives: the installation of decentralised solar projects on vacant, un-used land of DISCOMs; the installation of grid-connected solar PV-based rooftop projects at various government buildings, and competitive bidding for off-grid solar pumps
- **Smart Metering & Variable Tariffs**: We are revamping India's inefficient method of energy revenue collection by facilitating the installation of 250 million smart meters across the country. Towards this, we are attracting energy utilities nationwide to replace their current traditional energy meters, and then using their aggregated demand to make smart meters more affordable.

III. Establishing protocols and benchmarks

- **Design of Minimum Energy Performance Standards (MEPS) for various sectors:** Based on insights from primary research, consultations with industry associations, site visits, focus group discussions with policy makers and sector experts, we devise MEPS for the key industrial sectors across the globe. These are deployed across devices, segments, and sectors. Leveraging our vast array of internal and external technical experts, we design optimum, dynamic MEPS models suited to local conditions and aspirations. MEPS have also created a level playing field for India's emerging energy efficiency market.
- **Standards & Labeling for Equipment and Appliances:** Implemented via our intervention by UJALA and other domestic appliances, our stringent Standards & Labeling (S & L) scheme has given customers an informed choice about the energy-saving and cost-saving potential of products. Our S&L process takes into account the current technical preparedness of the market, and also ensures that there are enough provisions to upgrade and advance to local and international standards.
- **Development of Building Energy Codes & Implementation Mechanism:** Playing a key role on the Energy Conservation Building Code (ECBC) 2017 committee, our insights helped frame a stronger ECBC 2017 to encourage the proliferation of energy efficient buildings in India. Our Buildings Energy Efficiency Programme (BEEP) has enabled over 10,000 buildings of the government, industry, and institutions to implement and retrofit energy efficient appliances and systems at affordable prices. Drawing upon this experience, we develop Building Energy Grading Systems based on current consumption patterns and peer group analysis. We also develop incentives and reward systems that ensure program outreach and easy adoption and recommend the latest technologies to ensure energy efficiency and occupant comfort and health.
- **Energy Efficiency Certification Programs:** Towards supporting the creation of a large pool of energy efficiency experts, we aid the development of accredited energy auditors/energy managers programs. We also implement training and certification programs for international platforms
- **Measurement & Verification Protocols:** Measurement & Verification (M&V) involves real-time and/or retrospective assessments of the performance and implementation of a project. It takes into consideration two aspects: the intended changes to a facility were made as well as their potential to

[1] https://www.eeslindia.org/content/raj/eesl/en/Programmes/Solar0/About-Solar.html

save energy; and document a project's measurable impact (i.e., energy and demand savings) and determine whether it met its ex-ante estimates.

IV. Project finance

- India's energy efficiency sector has been held back due to high up-front costs and long payback periods. Our project financing - implemented via the ESCO and PMC model - and our innovative business models have ensured steady uptake for new energy efficient technologies and services. Our process takes various stakeholders on board and offers a variety of finance mechanisms from our diverse repertoire, which can be customised based on our client needs.