Market Transformation through Domestic Efficient Lighting Program (UJALA) in India

Energy Efficiency Services Ltd.

Ministry of Power, Govt. of India
EESL Overview

EESL: One of the largest SUPER ESCOs in the World - Driving Energy Efficiency Solutions in India and Globally

Company overview

- Founded in 2009, under National Mission on Enhanced Efficiency (NMEEE)
- Joint venture of four Public Sector Enterprises of Ministry of Power, GoI
- Equity Paid up capital – INR 983.33 Crore *
- Current employee strength - 955
- Total number of active schemes - 14
- No. of Urban Local Bodies (ULBs) touched across States - 1,500+
- International presence/operations - 8 countries
- Estimated Energy Savings from EESL’s interventions – 54 billion kWh per year with Avoided peak demand of 10,740 MW
- Estimated Carbon Footprint reduction - 44 million t of CO₂ per year
- Estimated Monitory Savings of INR 20,000 Crore

EESL is promoted by 2 Navratana and 2 Maharatna PSEs

Promoters shareholding in EESL

<table>
<thead>
<tr>
<th>Promoter</th>
<th>Shareholding</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTPC</td>
<td>47.15%</td>
</tr>
<tr>
<td>REC</td>
<td>22.18%</td>
</tr>
<tr>
<td>JSEB</td>
<td>24.97%</td>
</tr>
<tr>
<td>PowerGrid</td>
<td>5.70%</td>
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</tbody>
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ENERGY EFFICIENCY SERVICES LIMITED
A JV of PSUs under the Ministry of Power

Global financial institutions supporting growth

Total line of credit sanctioned~$ 1,062 million

<table>
<thead>
<tr>
<th>Institution</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Development Bank</td>
<td>~$ 496m</td>
</tr>
<tr>
<td>Agence Francaise de Developement</td>
<td>~$ 58m</td>
</tr>
<tr>
<td>KfW</td>
<td>$ 288m</td>
</tr>
<tr>
<td>The World Bank</td>
<td>$ 220m</td>
</tr>
</tbody>
</table>

* Till September ’19
Established an entity of Ministry of Power, Govt. of India under National Mission on Enhanced Efficiency (NMEEE)

EESL’s Birth

EESL acquires Edina, the UK Company to spearhead Tri-Generation Business

Launches Annual International event INSPIRE

Global Footprint

Ambitious plan to transform the market in Energy Efficiency and Clean Energy area - $1.5 billion revenue turnover by 2022

Aspiring More

Hon'ble PM of India launches the LED National Program – UJALA and SLNP – 1st Projects start at Puducherry and Vizag

First Project

EESL reaches 10 million LED street lights installed in over 1500 Urban Local Bodies

Touching 10 million SL

SPVs in Smart Meter and Tri-Generation Business

2009

2015

2017

2019

2020

EESL’s Journey
Energy Efficiency Business has resulted Electricity saving of over 45 billion kWh per annum

360 million LED Bulbs
UJALA

7.2 million LED Tube Lights
UJALA

2.3 million EE Fans
UJALA

10.4 million LED Street Lights
Street Light National Program

10400+ Buildings
Building EE Program

74700 EE Agri-Pumps
Ag-DSM Program

1 million Smart Meters
Smart Meter National Program

Enabling More Sustainable Development Initiative
Buildings | Industry | Corporates
Clean Energy Business for Sustainability and enhancing Social Value

150,000 Solar LED Street Lights
Atal Jyoti Yojana (AJAY)

6.3 million Solar Study Lamps
SoUL Program

1510 E-Cars
National e-mobility Program

470+ AC & DC Captive Chargers
National e-mobility Program

80 MWp Decentralized Solar
Solar Program

66 Public Charging Stations
National e-mobility Program

1 MW Tri-Generation
40 MW in Pipeline

Enabling More
Value Proposition


Problem Statement
Feasibility Studies, Energy Audits, Diagnostic Studies to understand the energy saving potential and the business model

Procurement
EESL follows the Public Procurement Guidelines to procure Goods & Services – Bulk Procurement Approach followed.

Project Management
Project Management for complete project period – repair & maintenance

Investment
Mobilize investment to implement the project on ESCO model – Pay-as-You-Save (Pays) Model

Implementation
EESL takes full responsibility to design, install and commissioning of the project

Transparent operations, outcomes in Public Domain

EESL

Buildings | Industry | Corporates

Sustainable Development Initiative
Prime Minister of India launches UJALA Program in January 2015

U J A L A
Domestic Efficient Lighting Program

World’s Largest Non-Subsidy Based Energy Saving Program

Achievements

- 360+ million LED Bulbs distributed
- Electricity Saving of 47590 Million Units per annum
- Annual Saving of US$ 2700 million
- Avoided Peak Demand of 9,528 MW
- Annual CO₂ emission reduction 35.5 Million tons
Operating Model of UJALA

1. Demand Aggregation
   Launch of Program

2. Media Agency

3. Tenders floated for Procurement

4. Supply of LED Bulbs

5. Distribution
   EESL Distribution Centre

6. 4-8 bulbs on producing utility electricity bills
   And id proof

7. Payment
   Option
   Payment Through EMIs
   (Zero Interest Rate)
   added to monthly bill

8. Payment Aggregation

9. 3-Year Warranty (EESL Call Centres or Directly to Supplier)

Participating Companies
- Company 1
- Company 2
- Company n

Electricity Utility

Consumer Outreach Program

Outreach Program Planning

Payment to EESL
UJALA: Huge Cost Reduction with Same Quality Product !!!

![Graph showing Procurement Price Per LED Bulb](chart.png)

- **Drop in price by 1/8th**

![Bar chart showing Relative Retail Prices](chart2.png)

- **EESL’s price is much lower than the Retail Price in SE Asian Region**

- **Investment done: $300 mn**
Impact of UJALA

1/8th Reduced
Due to Bulk-Procurement through Demand Aggregation

300+ Deployed
Across the Country for distribution, On-Bill-Financing Model through DISCOMs, Other distribution channels like Post-Offices, Petrol Pumps

30000+ times Increased
Domestic manufacturing increased from 10,000 to 30 million per month

INR 2918 Cr Earned
In last 6 financial years.
Total LEDs distributed as on 05 OCT 2020 01:45

36,644,555,382

- 47.590 mn kWh: Energy saved per year
- INR 19,036 Cr: Cost saving per year
- 9,528 MW: Avoided Peak Demand
- 3,854,482,733 t CO₂: CO₂ Reduction per year
Gol mandated EESL to Implement BEEP

LED Lights Installation
2 Million

Investment
INR 350 Crores / $ 50 Million

Estimated Energy Saving
360 Million kWh per annum

Estimated CO2 Reduction
184000 Tons per annum

Payback Period
About 24 months

Letter from MoF
Letter from MoP
Pilot Program of (300,000 + 100,000 LED bulbs) in a Mixed Model

- **400,000 LED Bulbs**
  - Procurement from EESL-DELP & PMC Support by EESL
  - Program Management
  - Distribution
  - Data Management
  - Warranty Mgmt
  - DELP Price
  - Repayment to EESL
  - Awareness Campaign
  - Demand Aggregation
  - Payment Collection
  - Finance Management
- **300,000 LED Bulbs**
  - Procurement from EESL-DELP & PMC Support by EESL
  - Program Management
  - Distribution
  - Data Management
  - Warranty Mgmt
  - DELP Price
  - Repayment to EESL
- **100,000 LED Bulbs**
  - Procurement through Open Bidding & PMC Support by EESL
  - Open Bidding with Support from EESL
  - Bid Price
  - Payment to EESL
  - Repayment to EESL
- **Local Manufacturer**
  - US $ 2.0 /Bulb
  - Payment
  - Subsidy if Bid Price < DELP Price

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- **Multilateral Agency**
  - PMC Support
  - Repayment Risk Guarantee
  - US $ 0.72/Bulb
  - Distribution of Bulbs at DELP Price
  - Up front Payment
  - Distribution Agency
  - EMI Payment

- **DELP Price**
  - US $ 1.08/Bulb
  - US $ 1.08/Bulb

- **EESL**
  - Multilateral Support
  - PMC Support
  - Repayment to EESL

- **EVN**
  - Payment
  - US $ 1,08/Bulb
  - US $ 0.92/Bulb

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- **Multilateral Agency**
  - US $ 0.72/Bulb
  - Distribution of Bulbs at DELP Price
  - Up front Payment
  - Distribution Agency
  - EMI Payment
DELP in Vietnam: Pilot of 300,000 LED Bulbs Distribution

1. **Province**
   - ✓ Good Visibility
   - ✓ Ease of Implementation
   - ✓ Political Importance
   - ✓ Good Infrastructure

2. **Awareness Campaign**
   - ✓ Electricity Bills
   - ✓ Print/Electronic Media
   - ✓ Pamphlets
   - ✓ Appeal by Prominent Person

3. **Procurement**
   - ✓ Direct Purchase from Retail Market
   - ✓ Domestic Bidding
   - ✓ Supply from DELP of EESL

4. **Distribution**
   - ✓ KIOSKS by EVN PCs
   - ✓ Private Distributors

5. **Payment**
   - ✓ Upfront Payment
   - ✓ 5 to 6 EMIs added to Electricity Bills

6. **Warranty**
   - ✓ 3 Years Waranty
   - ✓ EVN’s Complain Management System
Thank You

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