



Building Energy Efficiency Program (BEEP)

A Market Transformation Success Story in India

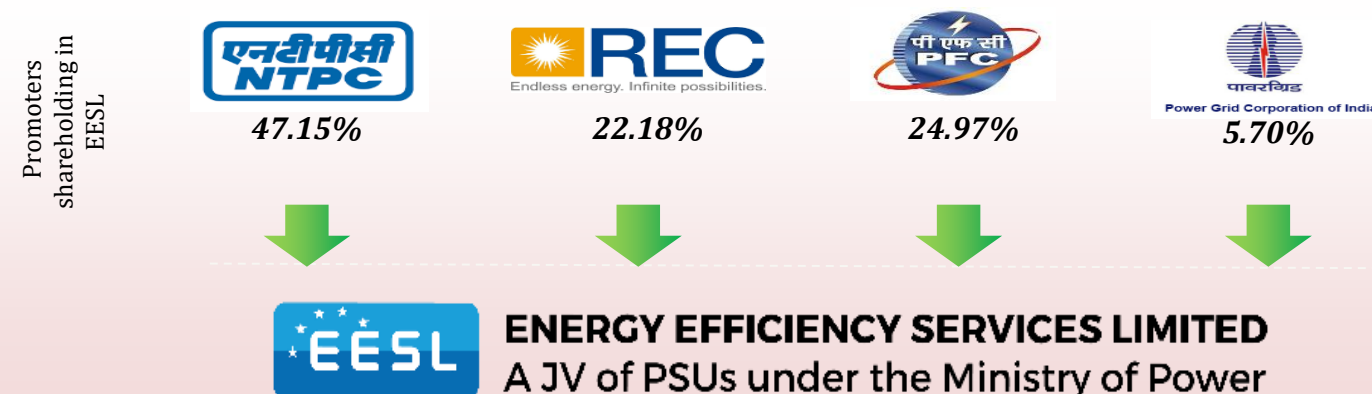
EESL: One of the largest SUPER ESCOs in the World - Driving Energy Efficiency Solutions in India and Globally

Company overview

- Founded in 2009, under National Mission on Enhanced Efficiency (NMEEE)
- Joint venture of four Public Sector Enterprise 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 Foot print reduction - 44 million t of CO₂ per year
- Estimated Monetary Savings of INR 20,000 Crore

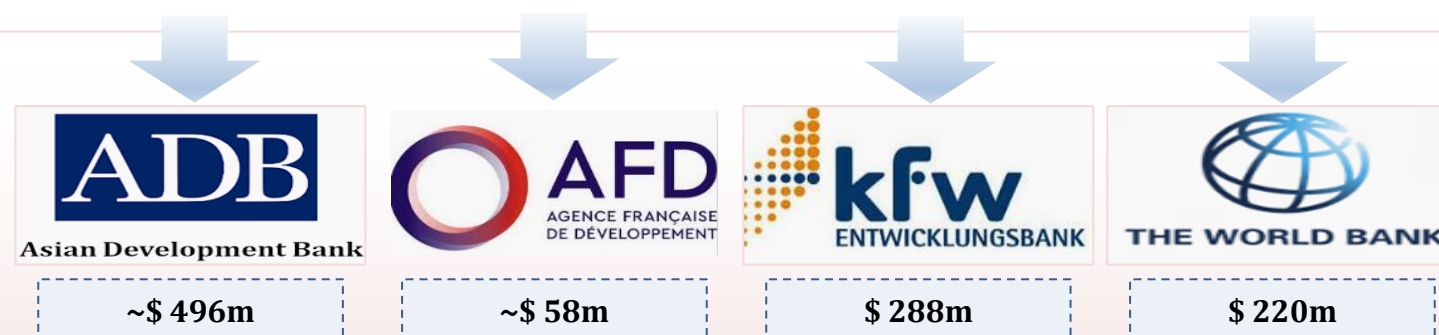
* Till September '19

EESL is promoted by 2 Navratana and 2 Maharatna PSEs



Global financial institutions supporting growth

Total line of credit sanctioned ~\$ 1,062 million





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

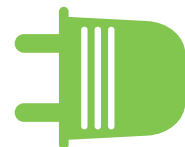
2.3 million
EE Fans
UJALA

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



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

80 MWp

Decentralized Solar

Solar Program

1510

E-Cars

National e-mobility Program

470+

AC & DC Captive Chargers

National e-mobility Program

66

Public Charging Stations

National e-mobility Program

1 MW

Tri-Generation

40 MW in Pipeline



Enabling More



Value Proposition



More Efficiency | More Innovations | More Savings | More Productivity

Project Management for complete project period – repair & maintenance



Transparent operations, outcomes in Public Domain

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



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



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



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

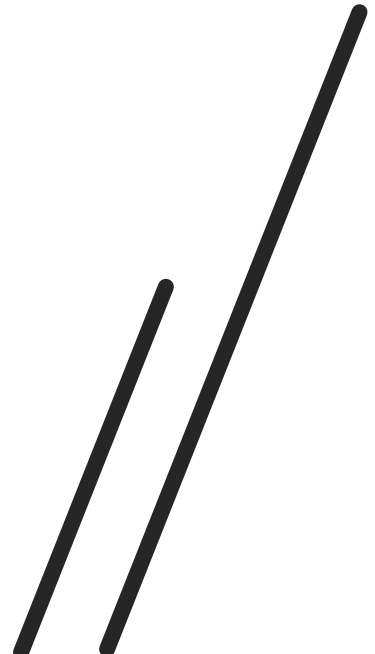


Building Energy Efficiency Program



Agenda

- 01** Background & Objectives
- 02** Program Mission
- 03** Chronology of Events
- 04** Highlights & Achievements
- 05** Future Plan



The left side of the slide features a green background with a white graphic of a wind turbine and a leafy branch. The word 'Objective' is written in a large, black, sans-serif font, centered vertically on the green background.

Objective

01 Energy Cost Reduction

20-25 % cost reduction in existing buildings by use of EE appliances

02 Affordable EE Appliances

20-30% cost reduction through Bulk Procurement & Demand Aggregation

03 Create Manufacturing Capacity of EE Appliances

Bulk procurement to result enhanced manufacturing capacity

04 Reduce Carbon Foot-Print

Demand Side intervention to result CO2 emission reduction in Supply Side

05 Promote ESCO in Deemed Saving Approach

Complex M&V System avoided

06 Business Stream for EESL

Additional revenue stream along with UJALA & SLNP



EESL implemented the BEEP Program in a Mission Mode



Energy Efficient Buildings

Convert maximum number Govt. Buildings to EE appliances



\$ 75+ Mn Revenue in 5- Yrs

EESL to recognize BEEP as one of the major revenue stream in 5-Years



Faster Adoption of Cross-Cutting Technologies

Use and promotion of New Technologies



National Movement

ESCO Business, Financing, and help support NMEEE

Mission of BEEP

Chronology of Events : Major Milestones



Launch of BEEP
 Launched by Hon'ble MoP in Mumbai following successful implantation of BEEP in 20 Buildings in Delhi.

May 2017

Advisory by DoE (MoF)
 Mandate to EESL / CPWD to replace inefficient appliances with EE appliances (LED, Fan, AC) in ESCO Model

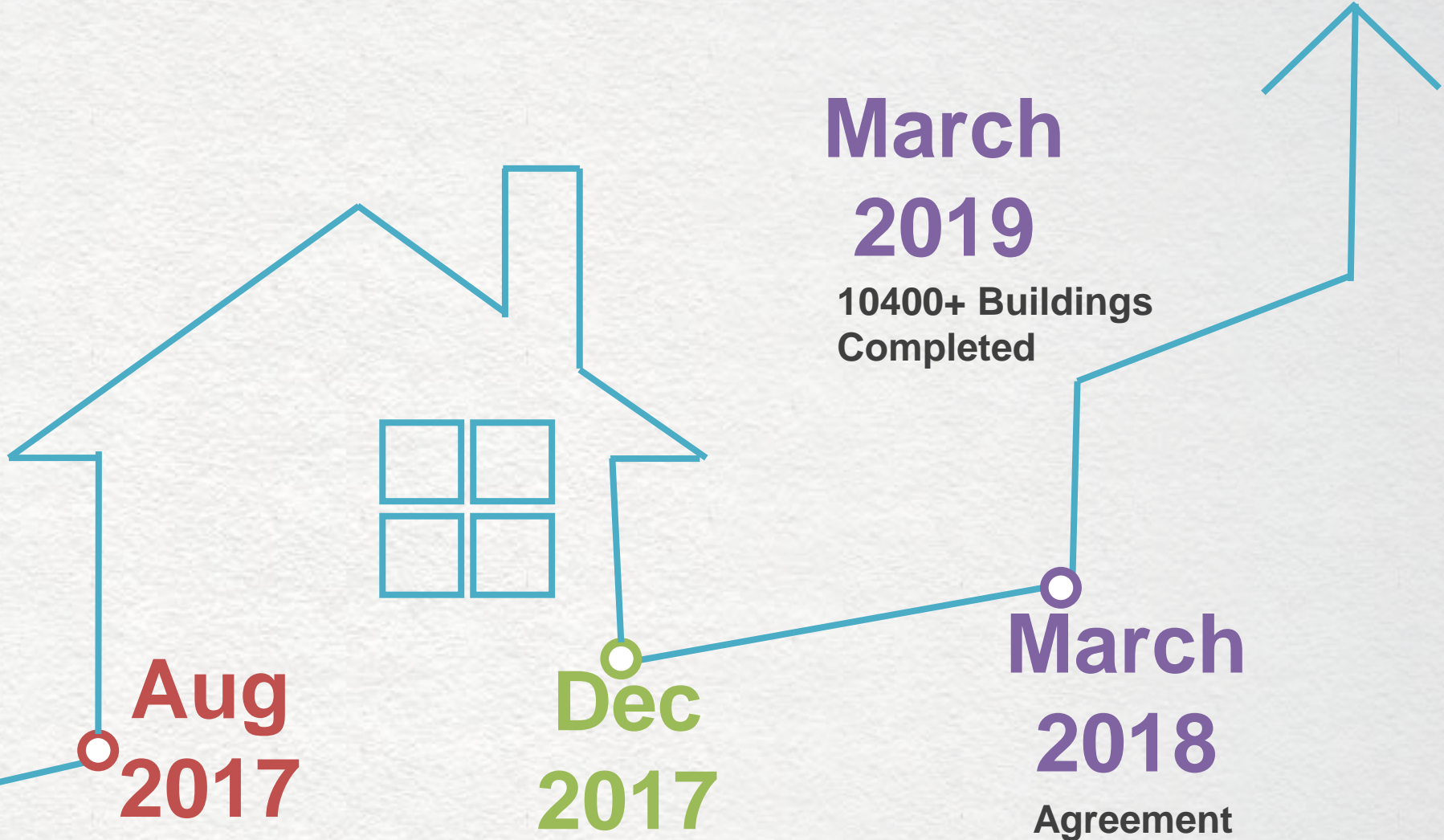
Dec 2017

Signing of Agreements by EESL
 PWD, Maharashtra
 Indian Railways
 Income Tax Deptt.



March 2018
 Agreement Signed with AAI

March 2019
 10400+ Buildings Completed



Gol mandated EESL to Implement BEEP

LED Lights Installation

2 Million

Investment

INR 360 Crores / \$ 50 Million



Estimated Energy Saving

360 Million kWh per annum

Estimated CO2 Reduction

184000 Tons per annum

Payback Period

About 24 months

F.No. 25(24)/E.Coord/2017
 Ministry of Finance
 Department of Expenditure
 (E.Coord)
 North Block, New Delhi
 Dated: 4th August, 2017
OFFICE MEMORANDUM

Subject: Economy Measures - Mandatory installation of LED based lighting in all Government buildings - regarding

The Hon'ble Prime Minister on 5th January 2015 launched the National LED programme to facilitate rapid adoption of LED based home and street lighting across the country. The programme components, Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lighting National Programme (SNLP) are under implementation in 34 States and UTs. This programme along with Building Energy Efficiency Programme (BEEP) is being implemented by Energy Efficiency Services Limited (EESL), a joint venture company of four power sector Central PSUs. EESL works on Energy Services Company (ESCO) model wherein upfront investment is done by EESL and the investment is recouped on annuity basis with performance based guaranteed energy saving during the project period.

- Pursuant to the above the Central Government has taken a decision for mandatory installation of LED based lighting and energy efficient equipments (Fans & ACs) in all Government buildings.
- Government buildings is a major source of energy consumption. Usage of LED based lightings and energy efficient equipments in Government buildings will lead to economy in expenditure and savings in the long run through reduction in energy consumed.
- Keeping in view the economy in expenditure and savings that will entail, all Ministries/Departments are requested to convert the existing lightings/equipments into LED based lightings and energy efficient equipments on priority utilizing the services of CPWD/EESL.
- The model Agreement/Contract to be entered in to between the Client Ministry/Department and EESL is enclosed for reference. The Client Ministry/Department and EESL on mutual agreement can modify/amend the provisions of the model Agreement/Contract to suit their specific requirements.
- In respect of those Government buildings maintained by CPWD but where the electricity bill is borne/paid by the respective Ministries/Departments, CPWD (as third party) will countersign the agreement to provide comfort to the Ministry/Department as well as extending help for implementing the contract.
- Action taken in this regard be reported to Ministry of Power and Department of Expenditure by 15.08.2017 for monitoring purposes.

(H. Athali)
 Director

To
 All Secretaries of Ministries/Departments

Copy to
 1. Cabinet Secretary, Government of India
 2. Prime Ministers' Office, South Block
 3. Managing Director, EESL, IWA, 1-13, Sector-1, Noida.

Letter from MoF

अजय भल्ला
 सचिव
 भारत सरकार
 AJAY BHALLA
 Secretary
 Government of India
 Ministry of Power
 Shram Shakti Bhawan
 New Delhi - 110001
 टिफ्ट मंत्रालय
 अम सचिव भवन
 नई दिल्ली-110001
 टेली : 23710271/23711316
 फैक्स : 23721487
 ई-मेल : sacy-power@pic.in
 D.O.No. 9/6/2017-EC
 Dated the 2nd August, 2017
 Dear Sir,
 As you may be aware, lighting accounts for about 20% of total electricity consumption in India. Use of LEDs in domestic and public lighting could result in 50-90% reduction in energy consumed by lighting. The National LED Programme was launched on 5th January, 2017 by the Hon'ble Prime Minister of India, to facilitate rapid adoption of LED based home and street lighting across the country. This programme along with Building Energy Efficiency Programme (BEEP) is being implemented by Energy Efficiency Services Limited (EESL), a joint venture company of four power sector Central PSUs.
 2. EESL qualifies as a "deemed Government Company" within the meaning of section 619B of the Companies Act, 1956 [equivalent sections 139(5) and 139(7) of the new Companies Act, 2013 as per clarification dated 31 July 2014 of the Ministry of Corporate Affairs, GoI (extracts at Annexure-I)]. Further, EESL is subject to oversight of the Central Vigilance Commission, Government of India under CVC mechanism. The MD of EESL is appointed by a committee chaired by Secretary, Ministry of Power, Government of India and Ministry of Power and Bureau of Energy Efficiency (BEE) are represented in EESL's Board of Directors.
 3. EESL follows a business model of demand aggregation for price optimization and passes the price benefit to end consumers. EESL works on ESCO model where upfront investment is done by EESL and which is recouped on annuity basis with performance based guaranteed energy saving during a project period.
 4. I would like to mention here that way back in August, 2014, the then Secretary (Power) had written to the then Secretary, Department of Expenditure, GoI, requesting to issue necessary directive to all Ministries/ Departments of the Government of India to procure only LED bulbs in place of CFL and JCL for future lighting (Annexure-II). In view of the emphasis of the Government of India for early conversion of all Buildings to Energy Efficient ones and the above credentials of EESL, I request you to kindly consider issuing suitable directions/guidelines to enabling Central Government procuring entities across the country to procure services from EESL for Building Energy Efficiency Programme. In this connection, a copy of the Model agreement between CPWD and EESL for Implementation of Energy Efficiency Measures on deemed energy savings based ESCO model with 100% financing by EESL is also enclosed (Annexure-III).
 Yours sincerely
 (A.K. Bhalla)
 Shri Ashok Lavasa,
 Finance Secretary & Secretary (Expenditure),
 Ministry of Finance,
 North Block,
 New Delhi

Copy to MD, EESL with request to follow up with JS (Exp.), Dept. of Expenditure

Letter from MoP

Simple Intervention Big Gains

BEEP : Physical Achievements

Implemented in Pay-As-You-Save (Pays) Model



400+
CPWD Buildings



63
Airports



594
AP Courts & Govt
Buildings



7000+

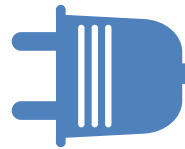
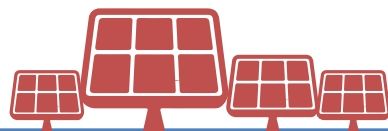
Railway Stations
& Service
Buildings



2311
PWD, Maharashtra



1000+
Bank Branches &
ATM



Enabling More

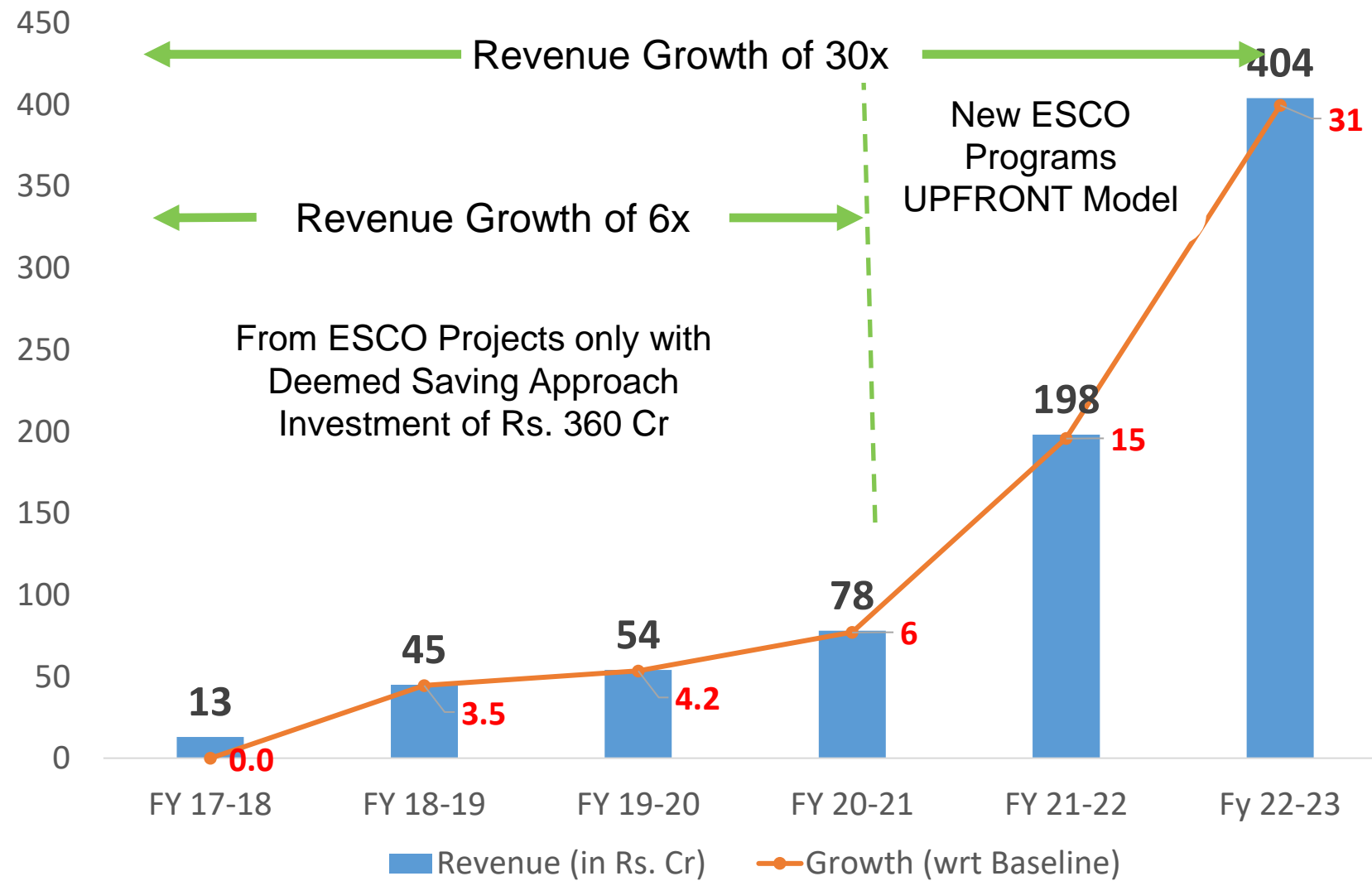
BEEP Approach & Methodology



BEEP : Financial Achievements & Projection



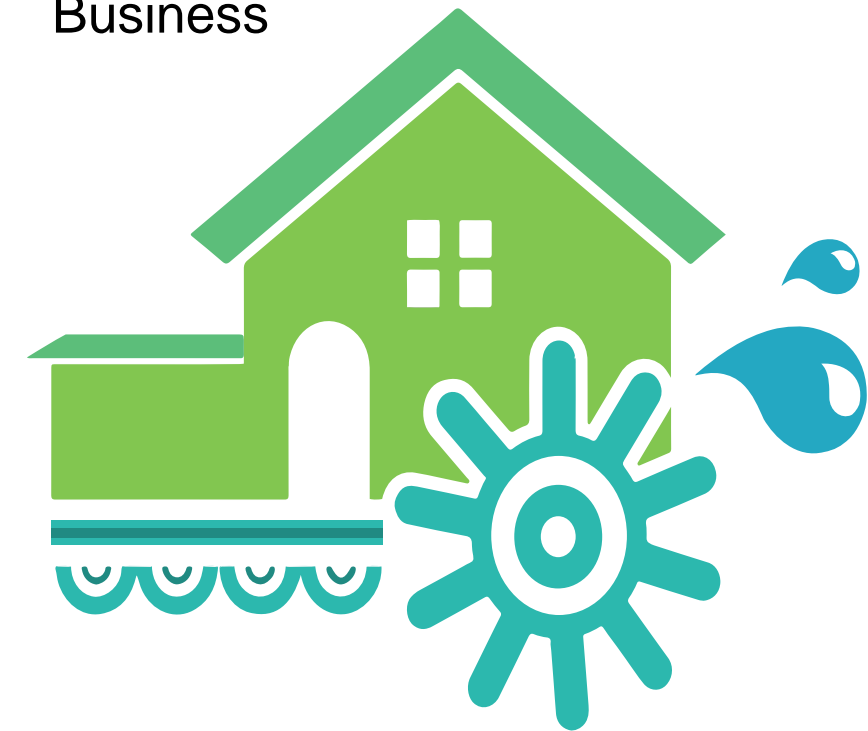
Achieved and Projected Revenue (Rs. Cr)



\$ 1 mn = Rs. 7 Cr.

- Cumulative revenue of INR 740+ Cr by 2022-23 from launch of program

BEEP has created significant Market Transformation in EE Business



Excellent Opportunities

With addition of New Interventions and Value Added Services, BEEP has the potential to support India's NDC Goal.

Strategies to Achieve the Growth



1 Widen the on-going BEEP

- 2500 Buildings (FY 21-22) and 2200 Buildings (FY-22-23) – Accelerate the implementation
- New Clients -Tourism Deptt. Sports entities, Educational Institutes –
- Project cost > Rs. 15 lac

2 Emphasize UPFRONT Model

- Utilize the EC Fund available with SDAs
- New Clients – Banks, Transport Deptt., Defense Agencies (CRPF, ITBF)
- Direct sales to employees of PSUs
- Lower the PMC Fees (around 4%)

3 Launch National Chiller EE Program

- Excellent opportunity across the India – support to India Cooling Action Plan (ICAP) – USAID’s TA support available
- Target 10 Pilot projects in FY 21-22 and develop the PoC
- Exclusive team with experts – initially CDP till scaled-up – but integrated with BEEP

6 Integration AQI Program (RAISE)

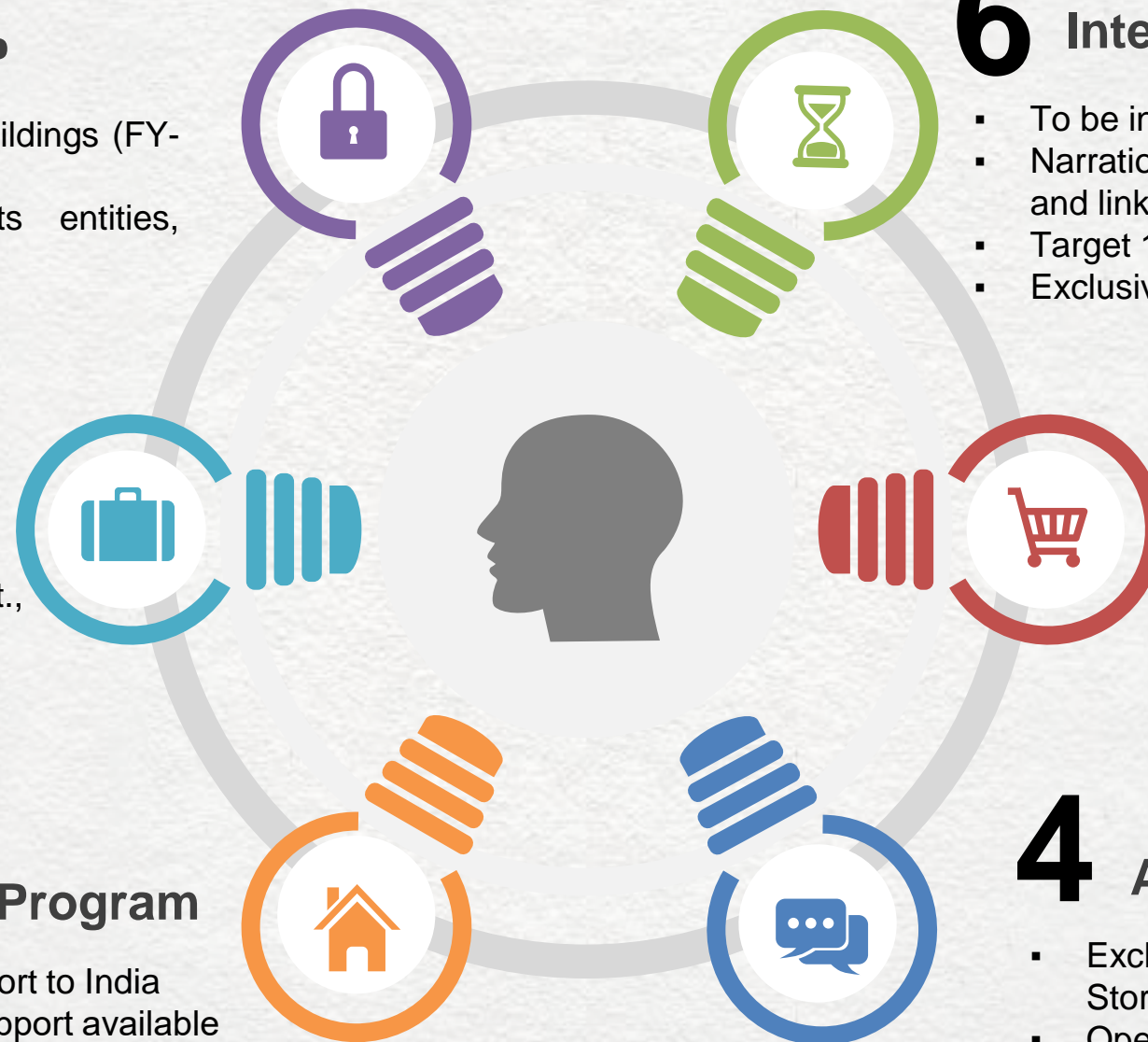
- To be integrated with Chiller EE Program
- Narration of RAISE may be changed – More on EE and linked to financial savings
- Target 10 Pilot Projects in FY 21-22
- Exclusive team with experts

5 Value Added Services

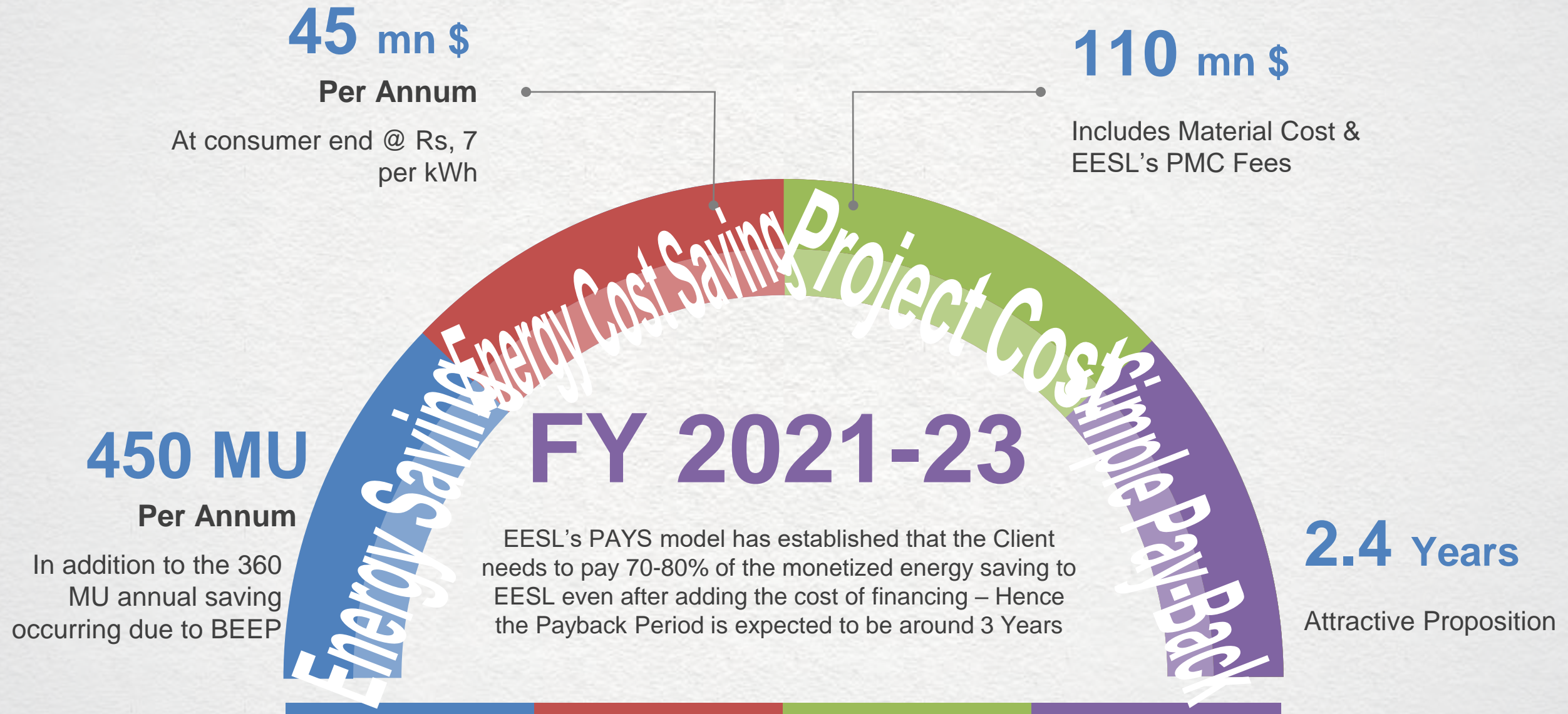
- Pilots Projects on BEMS – partnership with Schnider / Rockwell Automation / Honeywell / GE / Any other
- 2 Pilots Projects on NET ZERO Building – partnership with JICA
- Pilots to be overseen under CDP

4 Accelerate Business Development

- Exclusive PR Plan – National Workshop, Success Storybook, Media Coverage
- Operationalize Building BEEP Dashboard
- Prepare standard quality Business PPT – Strengthen the Service Level Agreement
- Engagement / Discussion with Prospective Clients



Energy Saving & Simple Payback Period





Thank You



spgarnaik@eesl.co.in



[@Soumya_Garnaik](https://twitter.com/Soumya_Garnaik)