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

Market expansion for Energy Efficient appliances through demand aggregation and bulk procurement

SCOPE Convention Centre, New Delhi

13 December 2019

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About EESL

Impacts of EESL's activities

Demand aggregation and bulk procurement

Driving market towards 5 Star Air-Conditioners

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Energy Efficiency Services Limited (EESL)

Joint venture of four National Public Sector Undertakings of Government of India

A Maharatna Company

Power Grid Corporation of India



Mandate to unlock the potential of Indian energy efficiency landscape through innovative market-based interventions

20%

Targeted energy savings, viz current consumption



Interventions create access to innovative and future-ready technologies for domestic consumers, including households, commercial establishments, industries & public facilities

US$ 12 billion

(INR 80,000 crore)
Total market for energy efficiency in India

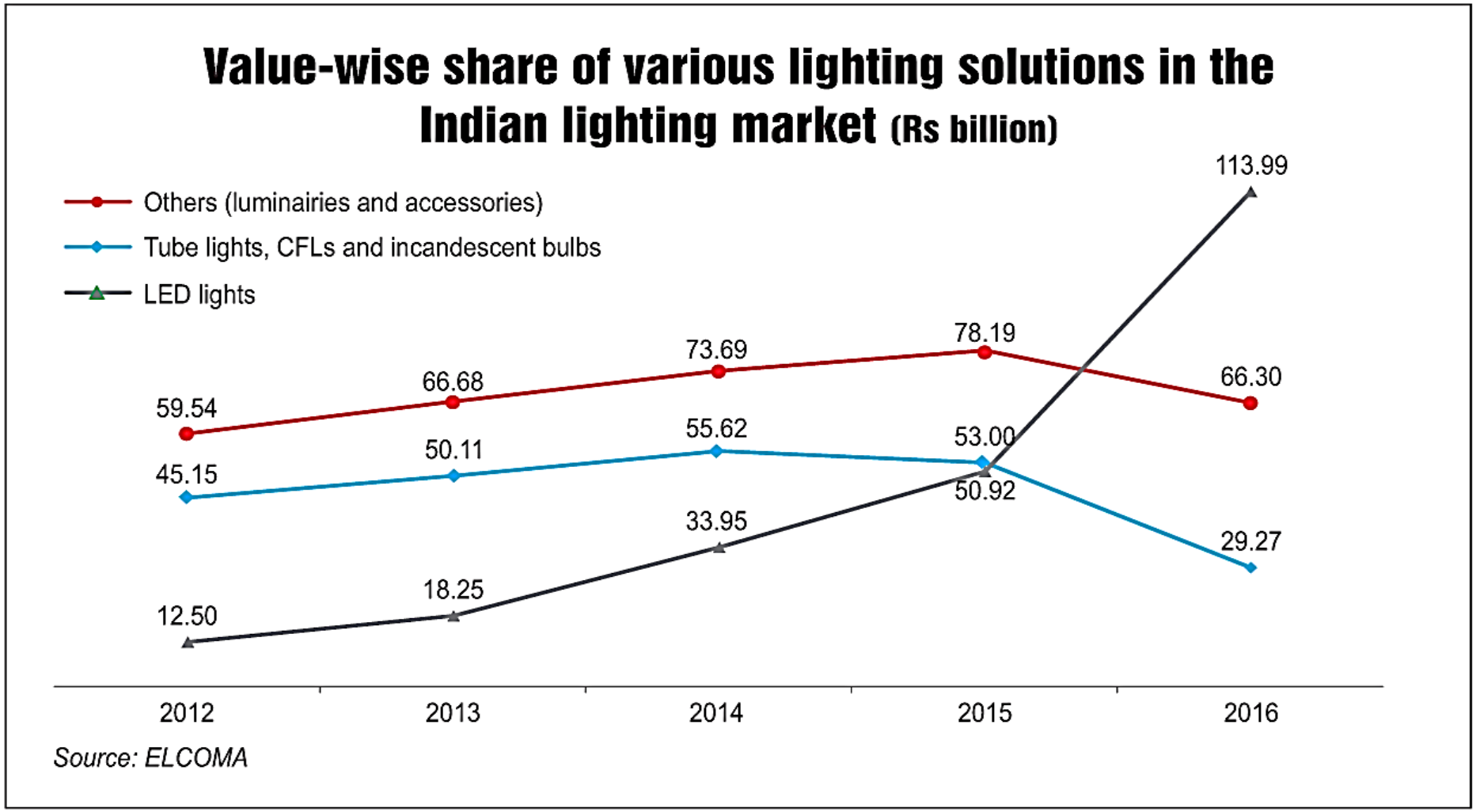


Growth-oriented organization founded in 2010, has become a leader in transforming markets for energy efficiency in India and abroad

US$ 1.5 billion

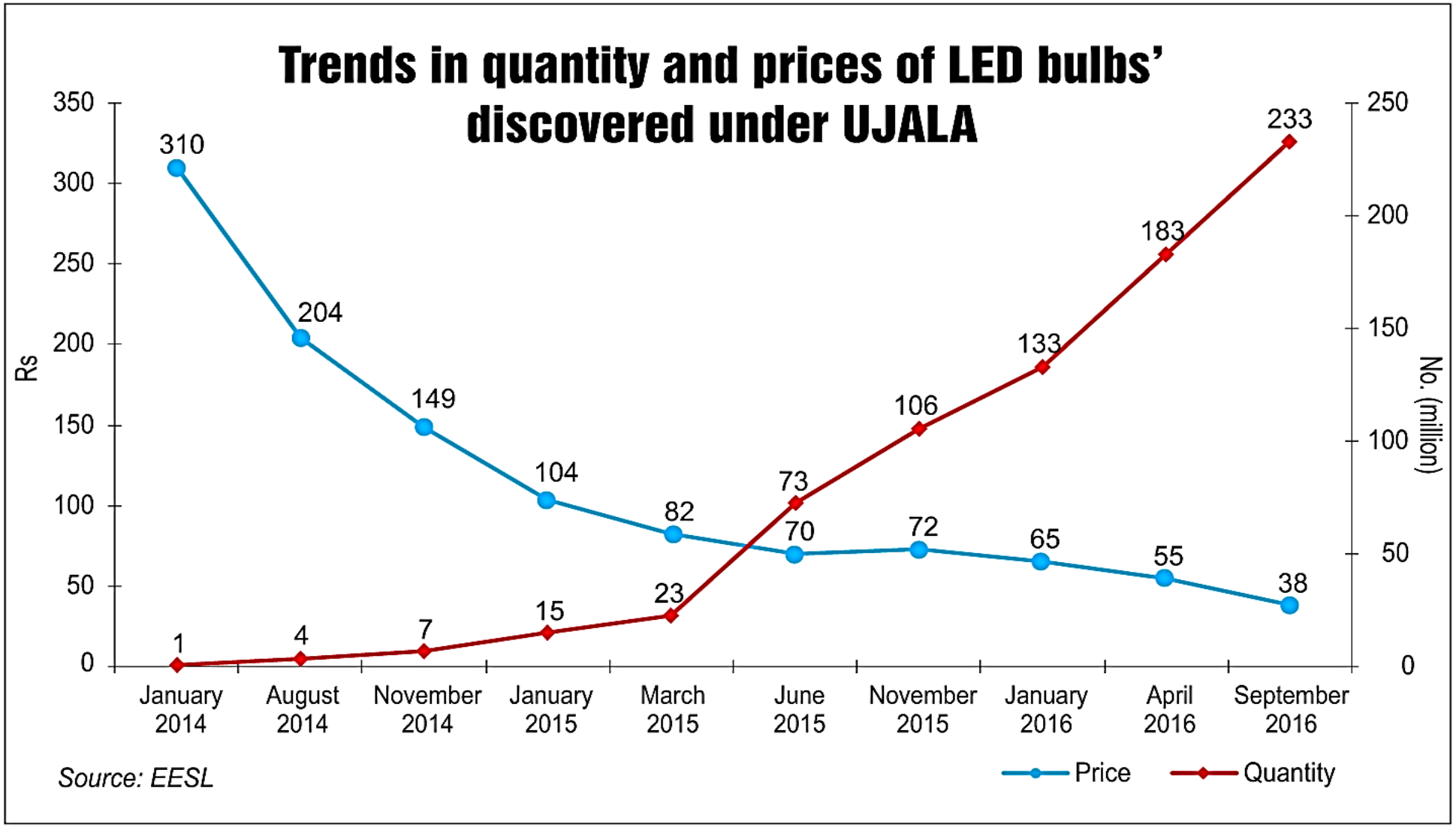
(INR 10,000 crore)
Target company size by 2020

Share of lighting solutions



Source: Economic Times, India

Trends in LED lighting



Source: Economic Times, India

Demand aggregation and Bulk procurement

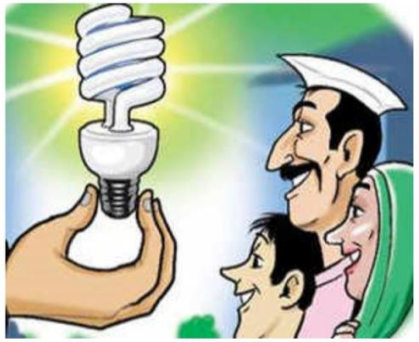
Prices of LED bulbs drop to Rs 38

Production of LED lamps has increased to about 4 cr per month from 10 lakh two years ago. LED bulbs consume 80% less energy than incandescent bulbs.

By *Sarita C Singh*, ET Bureau | Updated: Sep 15, 2016, 11.50 AM IST

Save

78 Comments



Production of LED lamps in the country has increased to about four crore per month from 10 lakh two years ago. LED bulbs consume 80% less energy than incandescent bulbs and almost half of that used by CFLs.

NEW DELHI: Prices of LED bulbs being distributed by state-run Energy Efficient Services Ltd (EESL) under a government programme have fallen to one-tenth of their rates two years ago.

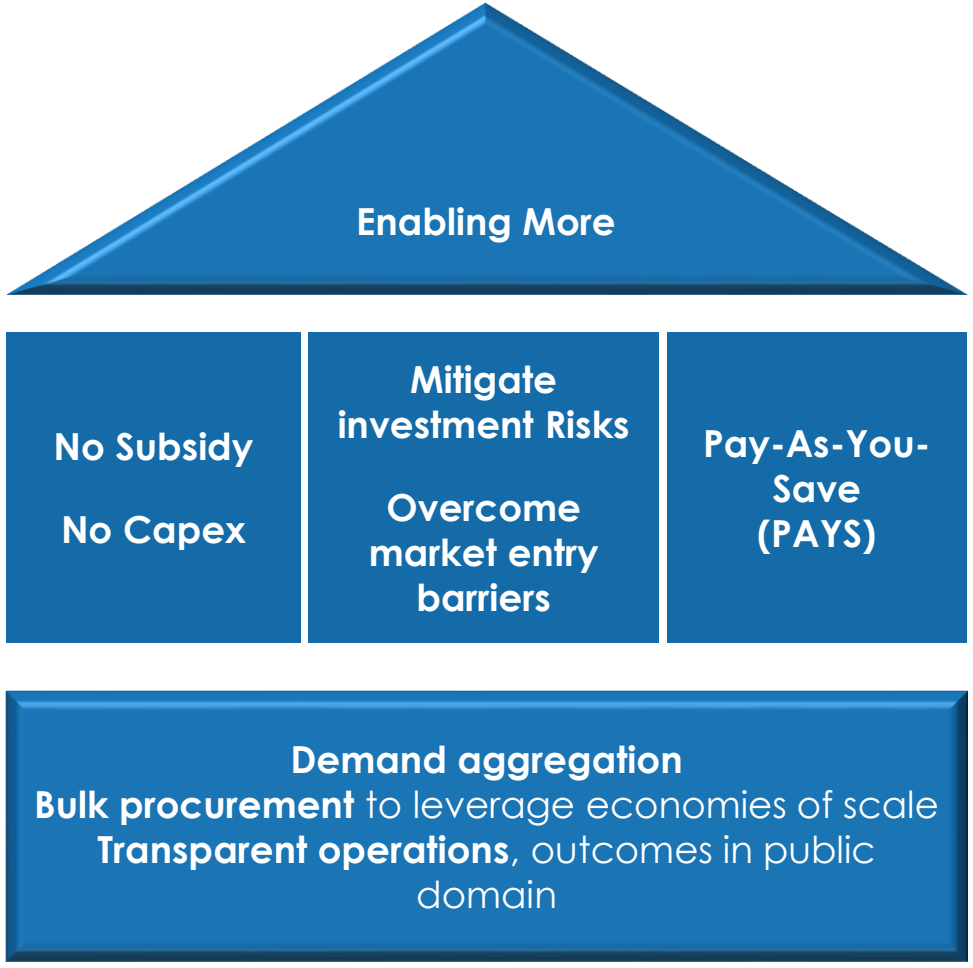
A senior government official said EESL has received bids at Rs 38 for a 9-watt LED lamp. Fourteen companies participated in the tender opened last week for procuring five crore LED bulbs. Prices of LEDs procured by EESL under the Unnat Jyoti by Affordable LEDs for All (Ujala) scheme have been consistently falling. The company had in March received bids at Rs 55 per piece.

The company had purchased the LEDs at Rs 310 in 2014. LED bulbs are available in the market at Rs 90-100 a piece.

	LED bulbs	LED tube lights
Distributed quantity	361 million	7.16 million
Reduction in peak demand	9389 MW	201 MW
Energy savings per annum	46.89 million kWh	532 million kWh
Emission reduction	37.98 million tCO_2	2.31 million tCO_2

Demand aggregation and Bulk procurement

- **Approach without subsidy and incentive**
- **Aggregate demand,** share incentives for all stakeholders
- **Large Procurements, economies of scale**
- Undertake upfront **risk** of **investment** and deliver **performance**
- **Procurement**, **installation, service and maintenance**
- **Sharing benefits** to clients and end users



More Efficiency. More Innovations. More Savings. More Productivity.

Air-conditioner market in India

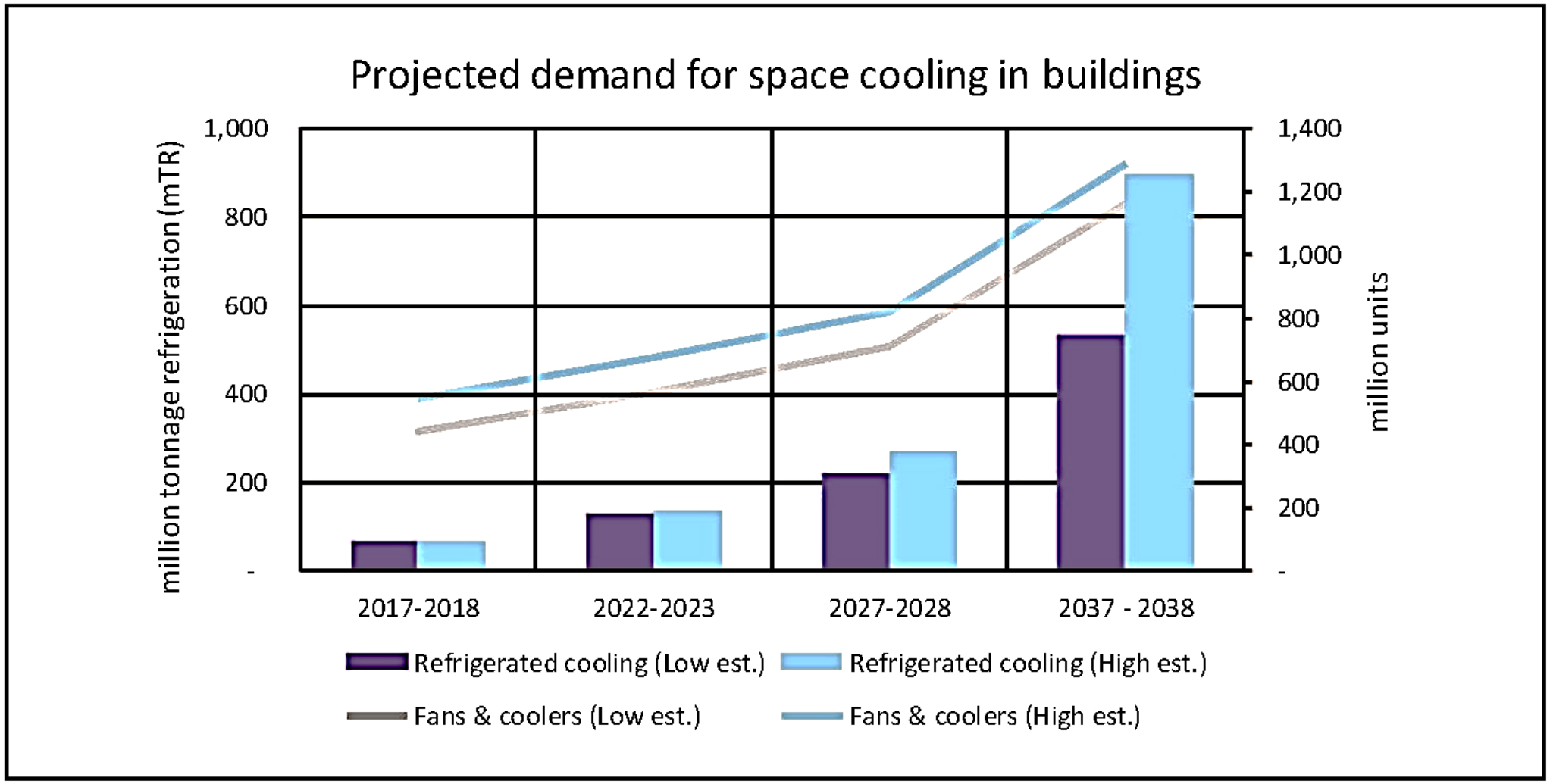
Air-Conditioning in India:

- Penetration of ACs in India is around 6% with ~8 million units sold per year
- Nearly 35% of air-conditioning units are imported, completely assembled and charged with refrigerants
- Around 60% of the ACs sold are 3 Star; total ACs sold is expected to increase by 4.5 times in next 2 decades
- Total Primary Energy Supply (TPES) for cooling is expected to rise from 60 mtoe in 2017 - 18 to 260 mtoe by 2037 - 38

India Cooling Action Plan:

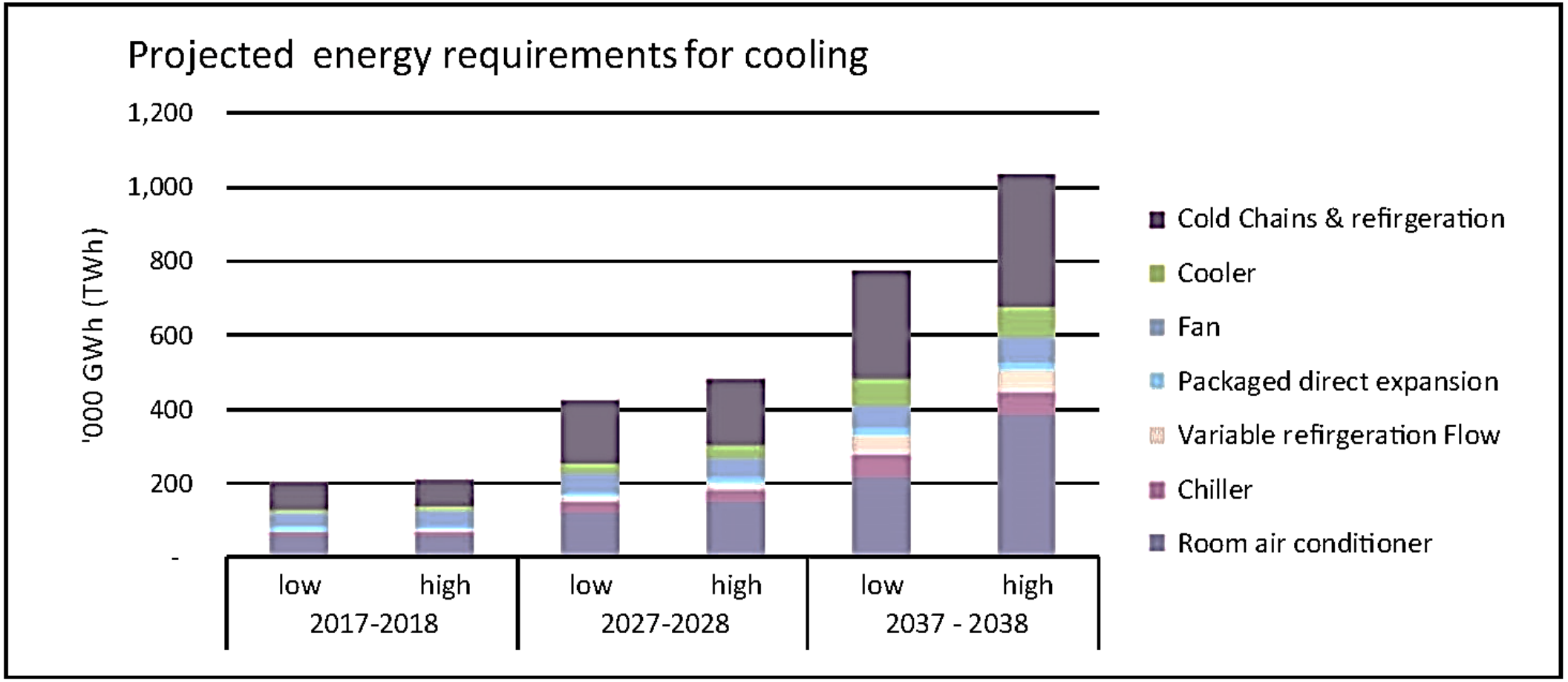
- Reduction of cooling demand by 20 - 25% by 2037 - 38
- Reduction in refrigerant demand by 25 - 40% by 2037 - 38
- Training and certification of 100,000 servicing sector professionals by 2022 - 23

Projected demand for space Cooling



Source: Cool: How EESL is meeting India's cooling needs in a sustainable manner, EESL

Projected energy requirement for space Cooling



Source: Cool: How EESL is meeting India's cooling needs in a sustainable manner, EESL

Super Efficient Air-Conditioner Programme

5 Star Split Invertor AC
ISEER 5.4
Superior technical specification at competitive cost



Sab se Sasta

Sab se efficient

Eco Friendly

Easy Buyback

Promoting EE in retail market segment

EESL mart HOME ABOUT SUPER EFFICIENT AC BENEFITS PRODUCT PARTNERS



EESL Super-Efficent A C 1.5 TR

₹41300.00

Bank Offer Rs 1000 Instant Discount* with HDFC Bank Credit Cards EMI Option. T&C

1 Year on Complete Unit and 5 Years on Compressor Know More

Included in the box : Indoor Unit, Outdoor Unit, Remote Control, User manual, Warranty Card, Connecting Pipes

Optional Servies

- ☐ Standard Installation @ Rs 1400/AC*
- ☐ 4 Year extended Warranty @ Rs 4000/AC*
- ☐ Buy back of AC @ 2500/AC*

Shall be directly paid to the supplier

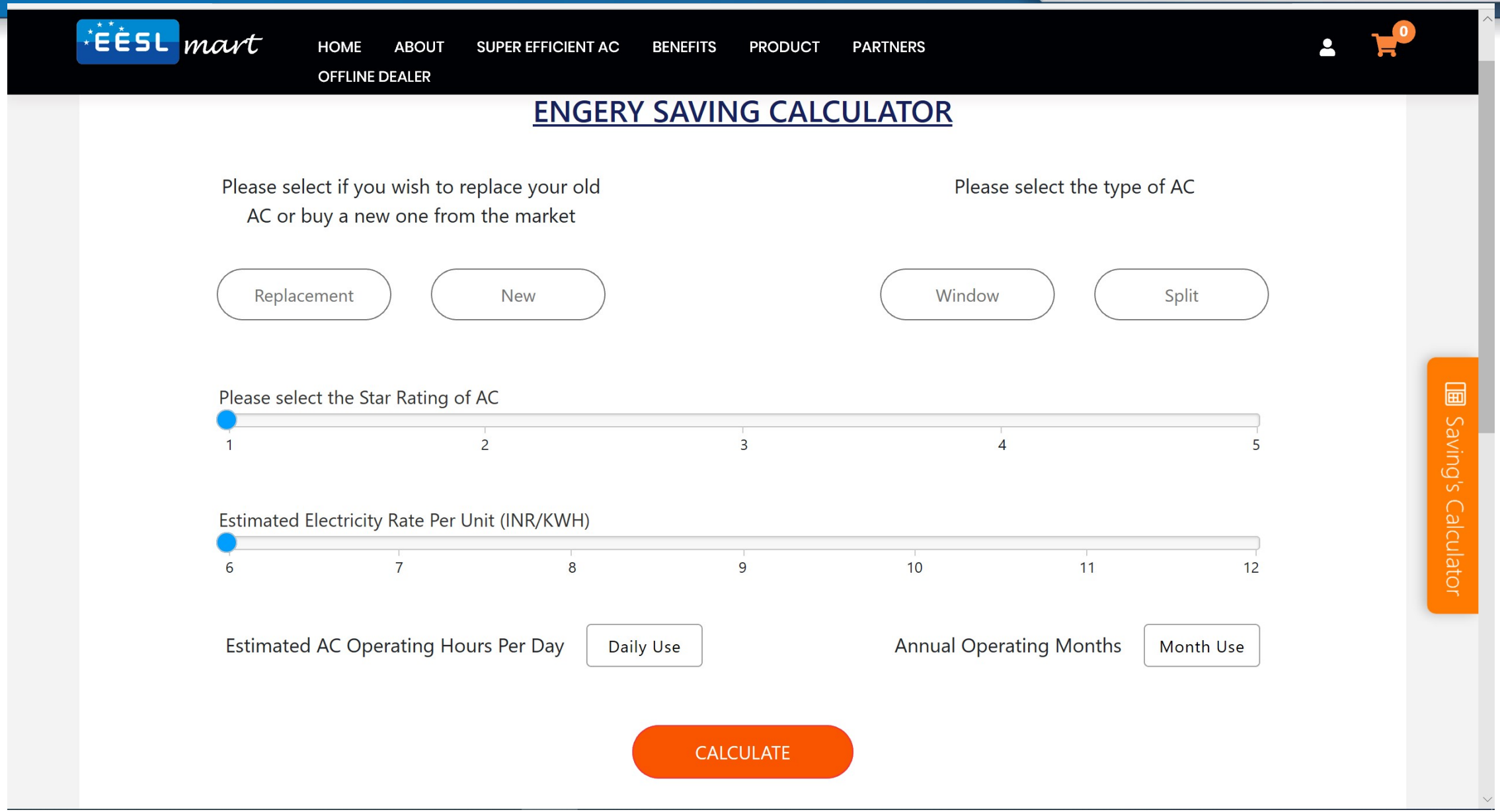
CHECKOUT

Saving's Calculator

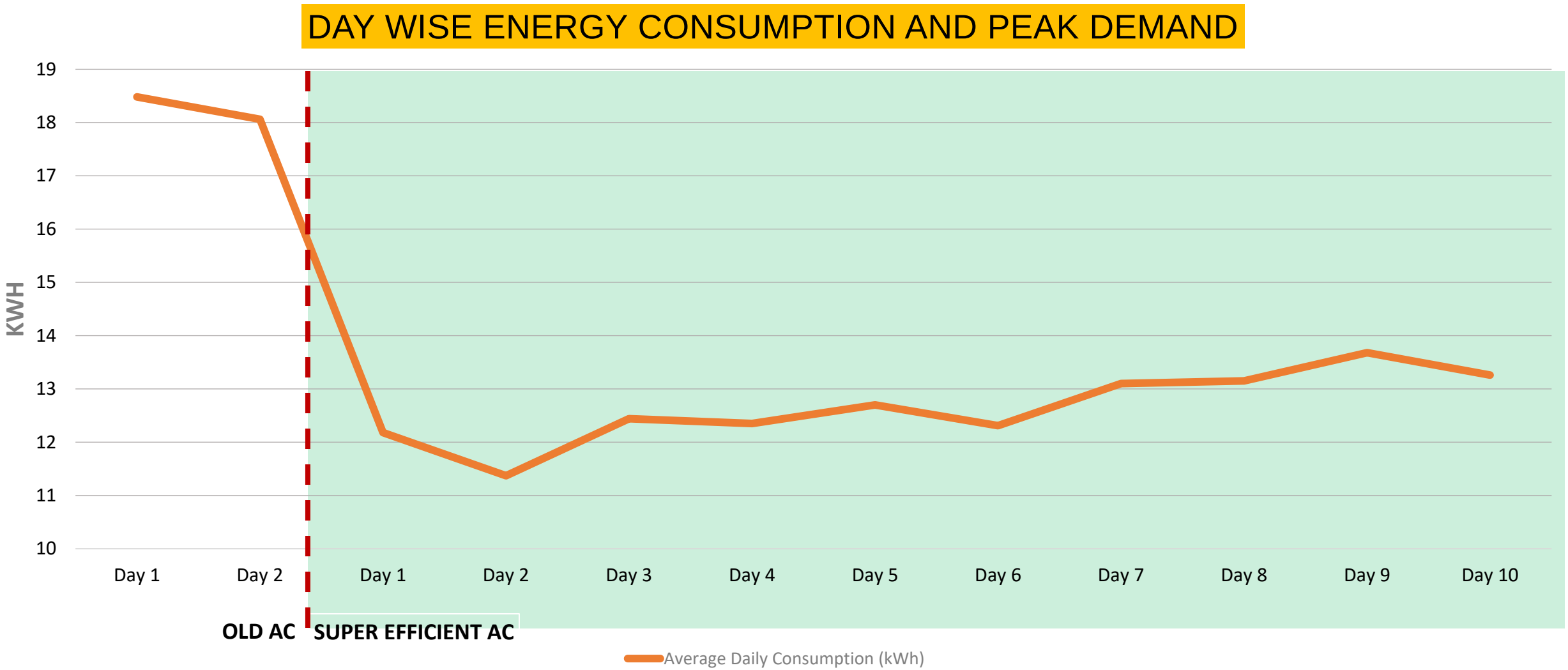
Technical Specifications

Star Rating	Cooling Capacity Full Load (100%)	Cooling Capacity Half Load (50%)	Cooling Power Full Load (100%)
5 Star	5280w	2640w	1310w
Cooling Power Half Load (50%)	**ISEER**	**Power Supply**	**Air Flow Volume - Indoor**
433w	5.4	230 / 50 / 1 Phase V/Hz/Ph	950 CMH

Awareness raising through savings calculator



Case Study: 5 Star AC at an ATM in Mumbai



Source: Study conducted by EESL under USAID-MAITREE programme

Business models of EESL

Based on clients needs two models are offered by EESL:

1. Project Management Consultancy (PMC)

The upfront investment for the project borne by client

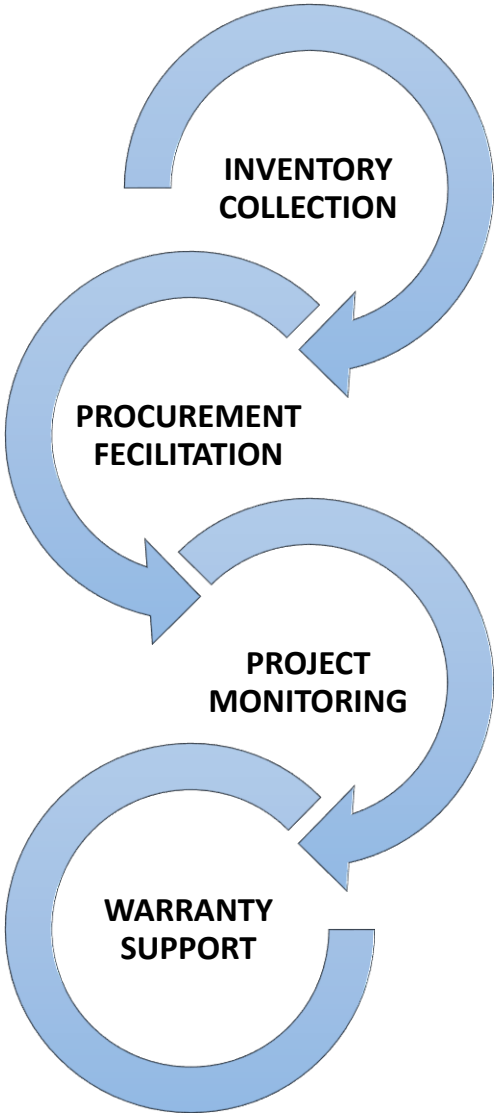
One time payment cost of services

2. Energy Service Company (ESCO)

Entire upfront investment for the project is borne by EESL

The investment is recovered through periodical instalments

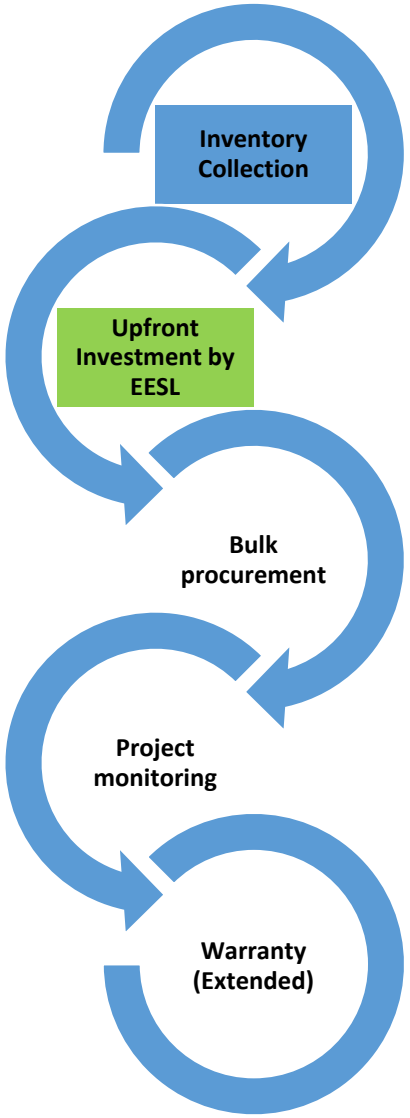
Project Management Consultancy (PMC) model



100% investment is made by the building owner

A one time project management fee to EESL

Energy Service Company (ESCO) model



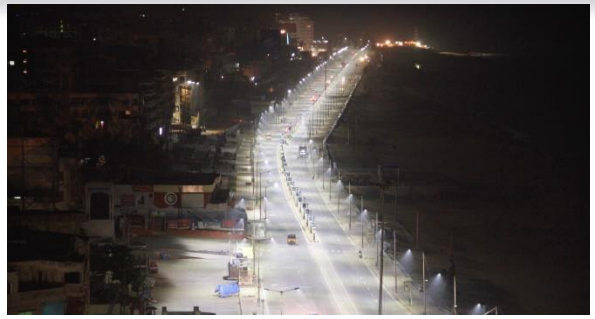
100% Upfront Investment by EESL (Preferred Model)

Project Cost = Upfront Investment + PMC Fees + Interest on Debt + Return on Equity

EESL Programmes and Initiatives



LED bulbs (UJALA)



Street Lighting



E-Mobility



Smart Meter



Building Energy Efficiency



Agricultural DSM



Decentralized Solar PV



Solar Lamps



National Motor Replacement



Super-Efficient Air Conditioner



Trigeneration



International Operations

Conclusion and Way Forward

- Successfully driving transition towards higher **Energy Efficient appliances;** at **affordable prices**
- Super ESCO taking over **risk and challenges on behalf of clients/market** and implementing projects successfully - setting examples to promote energy efficiency globally
- Developing **National Energy Efficient Chiller** programme
- **Trigeneration**, providing power, cooling and heating simultaneously
- **District Energy System,** Energy Service Company (ESCO) plays an important role

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