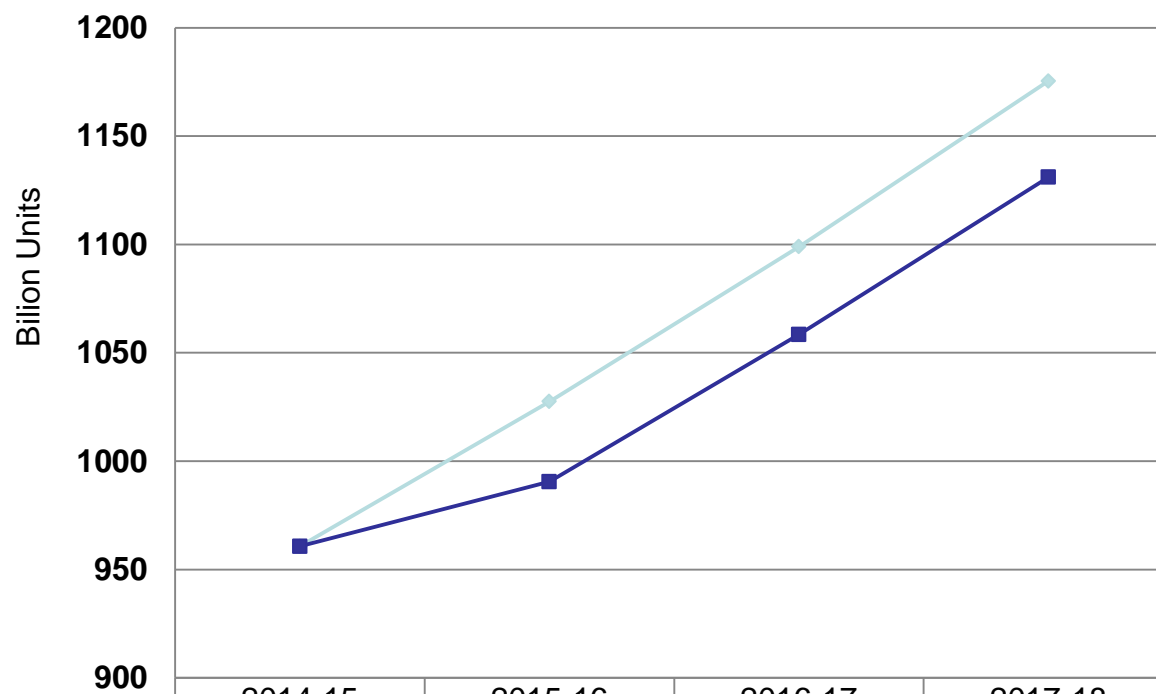

Scaling Up Energy Efficiency in India

Saurabh Kumar
Paris, COP 21
1st December, 2015

Energy Efficiency Services Limited
(A JV company of PSUs of Ministry of Power, Govt of India)

Energy efficiency measures in India offer the opportunity to reduce over 10% of India's energy consumption

All India Electricity Consumption in billion units



	2014-15	2015-16	2016-17	2017-18
Without Energy Efficiency Investments and Regulations	961	1028	1099	1175
With Energy Efficiency Investments and Regulations	961	990	1058	1131

The regulatory/ policy measures and the market based energy efficiency investments together can reduce the electricity consumption by 122 billion units

Investment Potential of €25 b



Market segment	Year	Scale of deployment (no.)	Tentative investment (in Million)	Annual Energy Savings (million kWh)	GHG Emission Reductions (tCO2)
LED Street Lighting	2015-16	1,740,000	€ 130.6	447	239,623
	2016-17	1,914,000	€ 143.6	492	263,586
	2017-18	2,105,400	€ 157.9	541	289,944
	2018-19	29,240,600	€ 2,194.1	7,519	4,026,851
LED self ballasted lamps for households	2015-16	99,250,000	€ 127.6	13,534	5,412,797
	2016-17	109,175,000	€ 140.4	14,887	5,954,077
	2017-18	120,092,500	€ 154.4	16,376	6,549,485
	2018-19	441,482,500	€ 567.4	60,202	24,077,130
BEE 5 star Ceiling Fans for Households	2015-16	1,000,000	€ 15.7	115	112,896
	2016-17	2,500,000	€ 39.3	288	282,240
	2017-18	5,000,000	€ 78.6	576	564,480
	2018-19	7,500,000	€ 117.9	862	846,720
LED self ballasted tubular lamps for households	2015-16	1,000,000	€ 13.6	26	25,725
	2016-17	2,500,000	€ 34.0	66	64,313
	2017-18	5,000,000	€ 67.9	131	128,625
	2018-19	7,500,000	€ 101.7	195	192,937
Solar agriculture pumping	2015-16	500,000	€ 2,142.9	2,238	2,193,240
	2016-17	1,000,000	€ 4,285.7	4,476	4,386,480
	2017-18	1,500,000	€ 6,428.6	6,714	6,579,720
	2018-19	2,000,000	€ 8,571.4	8,952	8,772,960
BEE 5 star air conditioners for households	2015-16	100,000	€ 14.3	79	77,162
	2016-17	200,000	€ 28.6	157	154,325
	2017-18	500,000	€ 71.4	394	385,811
	2018-19	10,00,000	€ 142.9	790	771,620
Total (Cumulative)			€ 25,770.3	140,057	72,352,747

Who we are..

- Promoted by Ministry of Power, Government of India
- 100% public owned company
- Governed by all rules and procedures of Government of India
- Board of Directors represented by Ministry of Power and Bureau of Energy Efficiency (BEE)
- Authorized share capital of 89 Million Euros
- Line of credit from KfW & AFD. In process: ADB, KfW, and JICA

What we do..

- Implement energy efficiency projects for Central and State Government
- Implement Demand Side Measures:
 - Domestic
 - Municipalities
 - Agriculture
 - Buildings
 - Industry
- Pipeline of 151 EE projects in Domestic Sector worth 151 mln Euros
- Pipeline of 240 projects in EE Street Light worth 755 mln Euros

Key Achievements

- Our projects have helped avoid capacity addition of 285 MW in 2014-15
- Implemented largest EE street lighting project in India – replaced 92,000 street lights in 6 weeks
- Implemented largest domestic efficient lighting project in India – replacement of 5 million conventional lamps in 4 months
- EESL's LED programmes adopted as national programmes that will cover 100 cities

- **Replacement of 10 mln street lights and 200 mln conventional domestic lamps over next 2 years across India**
- **Pipeline of €2.8 bln**

- Aggregating demand to bring economies of scale
- Strong Public Private Partnership (PPP) model
- Deemed savings approach – demonstration of energy savings upfront
- Third party investments in efficient equipments by EESL
- Monetization of energy savings
- Turnkey implementation by EESL including performance and warranties
- Awareness and outreach in project areas
- Risk mitigation – technical risk through back to back arrangement with suppliers.
- Financial risk – BG, ESCROW and Revolving LCs – Approval by regulatory bodies, State govt guarantees

National LED Lighting Programme



PM launches: Scheme for LED bulb distribution under Domestic Efficient Lighting Programme in Delhi

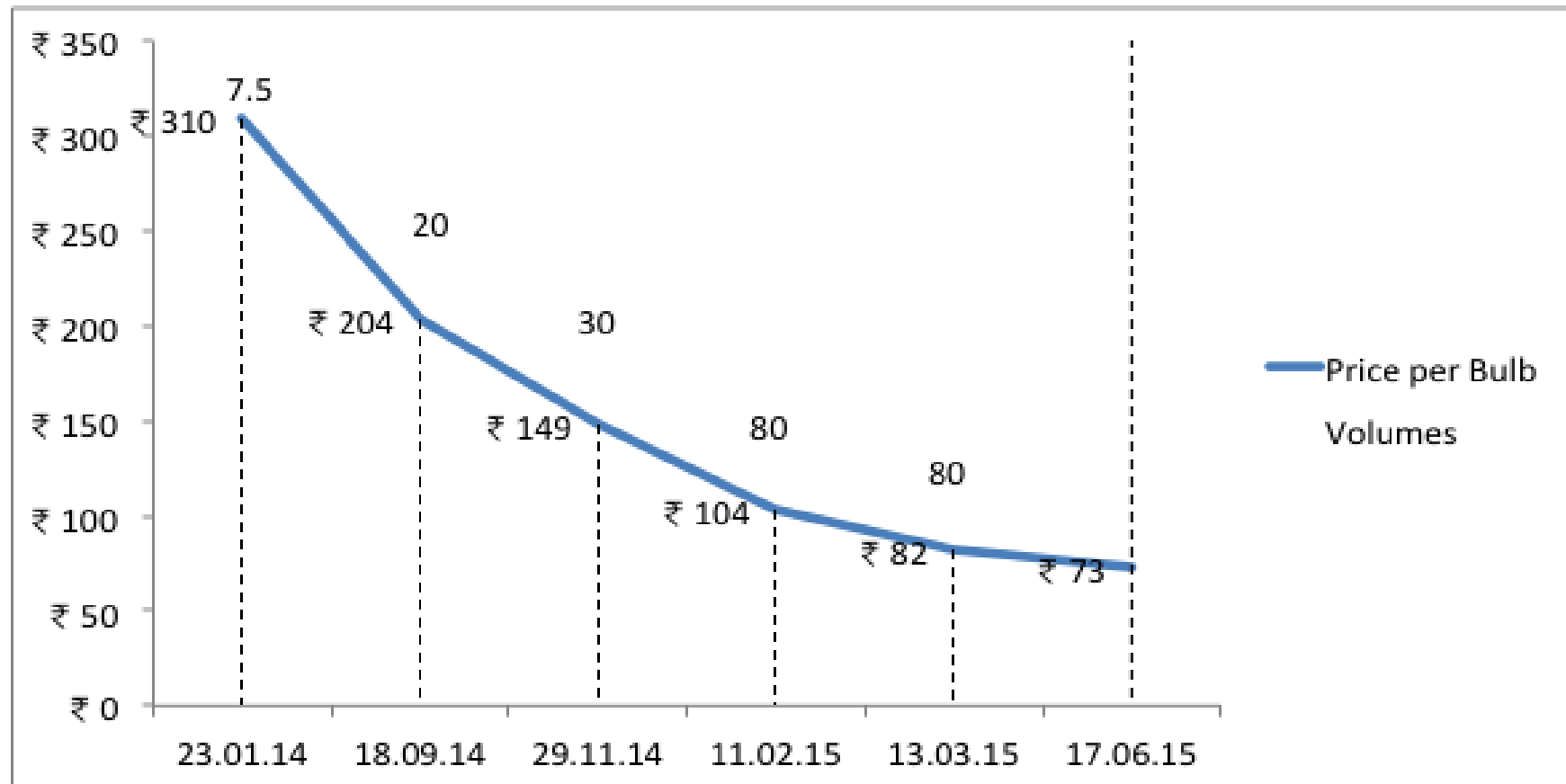
National LED Programmes – Ambitions & Achievements



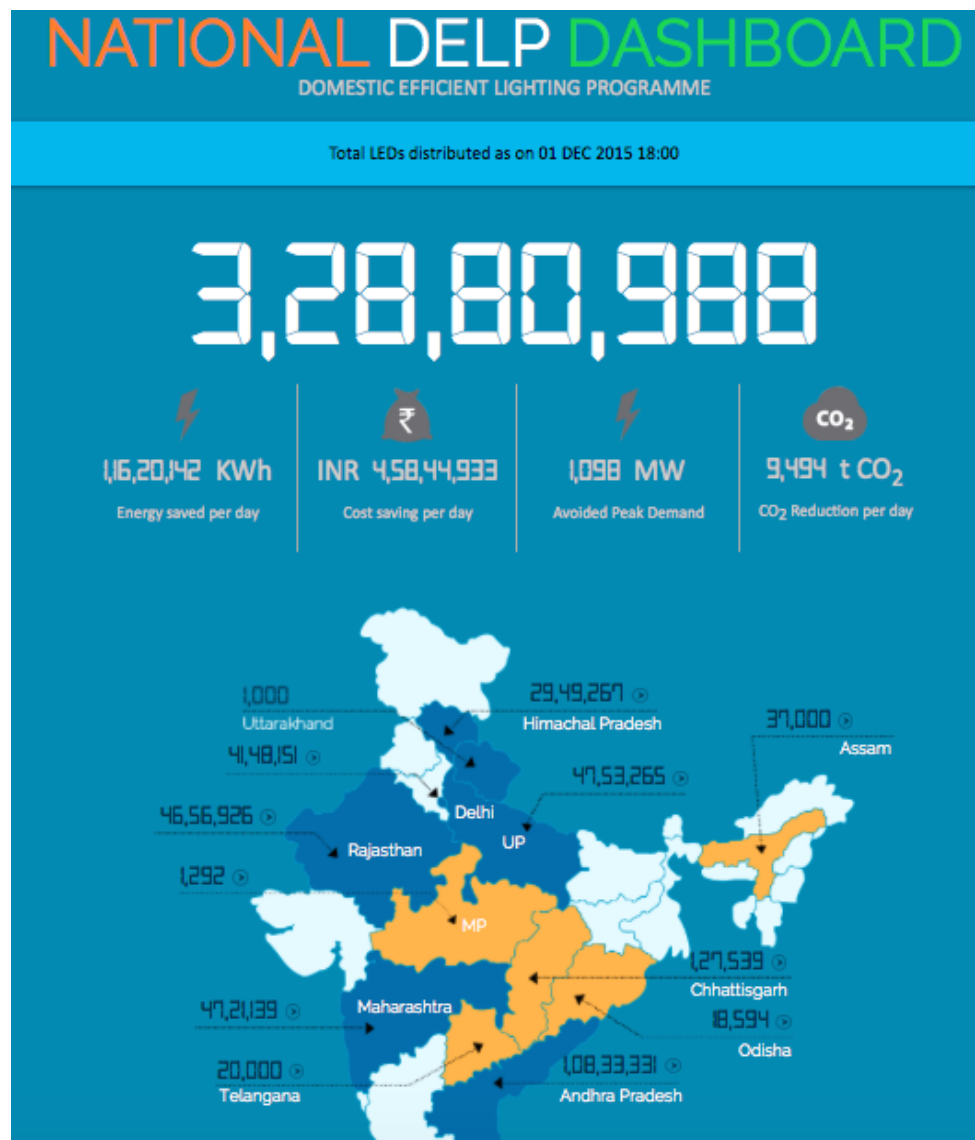
Domestic Efficient Lighting Programme (DELP)	Target	Achievement
No of LED bulbs to be replaced	770 million	27 m
No of towns where work in progress/ complete	Entire country	99/7 = 106
Estimated annual energy savings	105 b KWh	3.41 b KWh
Estimated reduction of peak load	20,000 MW	850 MW
Estimated cost reduction of bills of consumers	€ 6.3 b	€ 213 m
Estimated annual estimated GHG emission reductions	79 mt CO2	5.9 mt of CO2

Street Light National Programme (SLNP)	Target	Achievement
No of street lights to be replaced	35 million	0.44 m
No of towns where work in progress/ complete	Entire country	84/16 = 100
Estimated annual energy savings	9 b KWh	112 m KWh
Estimated reduction of peak load	1500 MW	18.6 MW
Estimated cost reduction of bills of municipalities	€ 755 m	€ 10.5m
Estimated annual estimated GHG emission reductions	6.2 m t CO2	100,000 t CO2

Reduction in price by 75% due to aggregation



National LED Programmes – Monitoring and Outreach



JOIN THE MOVEMENT TODAY! iLED THE WAY

HOME DELP SCHEME Delp DASHBOARD

HAVE YOU LED THE WAY TO A BRIGHTER AND SMARTER INDIA?

Join the nation's movement to switch to LED bulbs! #iLEDTHEWAY

From teachers, journalists, doctors, engineers, students, businessmen, housewives to practically anyone and everyone, India is now on a move to lower its monthly electricity bills! With one simple act to pledge to switch to more energy efficient LED bulbs, you too can do your bit to save money and make the entire nation more energy efficient, by helping to reduce India's greenhouse gas emissions.

Take the pledge and then visit the DELP Dashboard to discover which states & cities can avail of a special offer on 2 - 10 LED bulbs at lower than CFL rates today!

9,804,267

Pledges made

[TAKE THE PLEDGE](#)

ALL VIDEOS TWEETS FACTS

@India4Climate

"Our initiatives like #GiveItUp & #iLEDTheWay, promoting #energyefficiency have been very

LED bulbs are environmentally

@Dilip_Agar

"PIB India: RT India4Climate: Our initiatives like #GiveItUp & #iLEDTheWay, promoting

Real time monitoring of progress and impact at www.delp.in

Outreach to enhance awareness at www.iLEDtheway.in – more than 9.8 million Indians pledged to use LED lights

Snapshots from Vizag Street Light Project



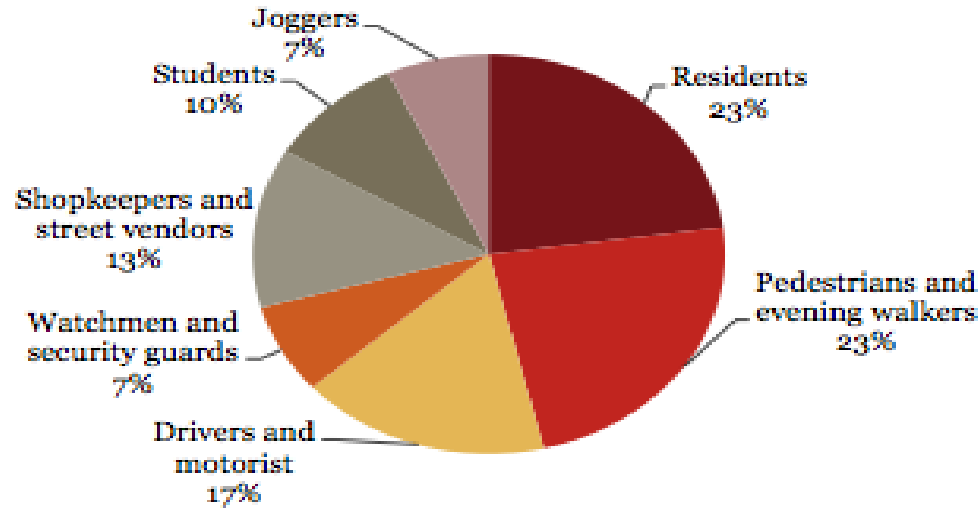
- Energy savings of about 55% - automatic controls being installed and savings to increase further
- Light level improvement by 70-100%
- High levels of public satisfaction

Social Audit Survey Results

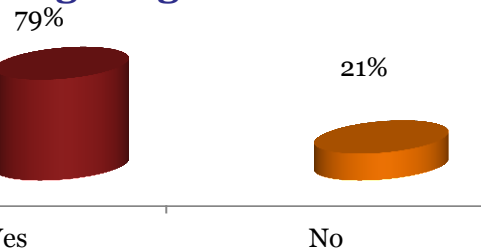
Marine Drive, Mumbai



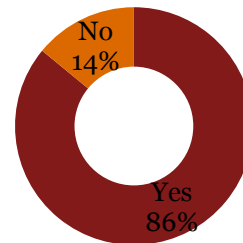
Profile of Respondents



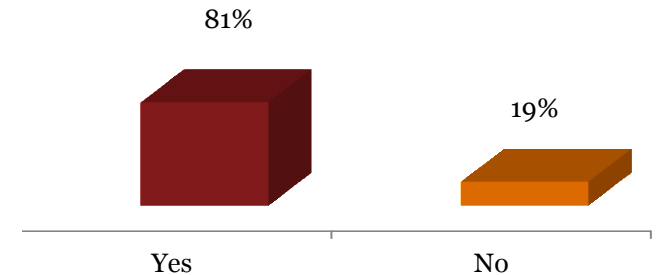
Satisfaction with Lighting Levels



Effect on Safety



Reduction of Dark Spots



DELP – Snapshots from project site



Thank You

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