



Unnat Jyoti by Affordable LEDs for All – Conserve Electricity, Conserve Energy

Key Features of UJALA

- Unnat Jyoti by Affordable LEDs for All (UJALA) scheme was launched on May 1, 2015 to promote efficient use of energy at residential level and enhance consumer awareness on using efficient equipment to reduce electricity bills and help preserve the environment.
- The scheme promotes the use of LED bulbs as a substitute to incandescent bulbs, tube lights and CFL bulbs.
- LED bulbs under UJALA are distributed at subsidized rates through special counters only set up at designated places in different cities across the country.




“I was not aware of the monetary benefits associated with the LED bulb till the awareness camp. After using the LED bulb for two months, I have saved 30% on my electricity bill.”

- Ram Prakash Mishra, Kalika GP, Balasore, Odisha

The primary energy demand in India has grown from about 450 million tonnes of oil equivalent in 2000 to about 770 million tonnes in 2012. This is estimated to increase to about 1500 (as per the Integrated Energy Policy Report) million tonnes in 2030. As per data released by the Central Electricity Authority, in 2013-14, the electricity consumption growth rate in India was close to 8.5 percent. Apart from depleting natural resources, the increasing energy demand has greatly added to the increasing pollution, which in turn has necessitated proper energy planning and optimum use of resources to achieve energy security. As part of Intended Nationally Determined Contributions (INDC), a key commitment following the Conference of Parties 21, India has to reduce carbon emissions by 30-35 percent. The country has recognized energy efficiency as a key mitigation strategy. Accordingly, the Ministry of Power launched the **UJALA Yojana** in May 2015 to incentivise people to use LED bulbs in place of incandescent or CFL bulbs. The aim of this brief is to present the current implementation status of the UJALA scheme and the potential energy advantage with the use of LED bulbs.

The Need for UJALA Yojana – A Brief Background

Domestic consumers account for almost 24 percent of the total electricity demand in India. As per a study conducted by the Ministry of Environment and Forest in 2011, **lighting consumption constituted about 30 percent of overall residential energy consumption**. The main lighting options in Indian households comprised of **Incandescent Light (ICLs) bulbs, Tube-lights** (Fluorescent lamps) and **CFLs**. The Electric Lamp and Component Manufacturers Association of India (ELCOMA) estimated that in 2012, **more than 75.8 crore ICLs and 40.8 crore CFLs were sold in India**. A decade earlier, in 2002, the count of CFLs was only about 2 crore. However, with latest technical advancements, the Light Emitting Diode (LED) bulbs have started gaining prominence in the Indian market. The replacement of these 78.5 crore ICLs with LED bulbs, which use 85 percent less electricity for delivering the same output, **could result in reduction of 50 billion KWh of electricity**. A cross comparative between LED, CFL and ICL is presented below:

Lamp Equivalent	 Light Emitting Diode (LED)	 Compact Fluorescent (CFL)	 Incandescent Light (ICL)
Life Expectancy	50,000 hours	8,000 hours	1,200 hours
Power used	7 Watts	13-15 Watts	60 Watts
Electricity used in 50,000 hours	263 Kwh	700 Kwh	3000 Kwh
Energy Efficiency	85%	50%	0%
Annual Cost Saving	INR 162	INR 85.5	NIL
CO ₂ Emissions	X	2X	10X
Cost per bulb	INR 400	INR 100	INR 10

While LEDs would help reduce electricity bill and pollution in long run, the key barrier to using efficient lighting in the household sector is its high initial cost and lack of consumer awareness regarding benefits of LED. In light of the above situation, the **Ministry of Power launched the UJALA scheme**, earlier announced as **the Domestic Efficient Lighting Program (DELP)**, in May 2015 to **reduce high initial costs of LED bulbs and promote the use of the same in households** in place of ICLs, Tube-lights and CFLs. The consumers availing bulbs under UJALA can save nearly INR 336 every year on their electricity bills per LED bulb.

UJALA – ‘A Way to Light’

Under the scheme, the Government’s target is to replace all 77 crore inefficient bulbs in the country with LED bulbs by 2019, which would result in an annual reduction of 20,000 MW load and Green House Gas reduction of 80 million tonnes every year. The Energy Efficiency Services Limited (EESL), a joint venture of four state-run power companies viz. NTPC, PFC, REC, and Power Grid Corporation under the Ministry of Power, implements the scheme. State Governments are voluntarily adopting the UJALA scheme and the scheme is active in 26 States and 6 Union Territories, as on 18.11.2016. The 3 states yet to adopt the scheme are **Arunachal Pradesh, Tripura and Manipur**. The details of UJALA LED bulbs are stated below.

Eligibility

Any household having a metered electricity connection from the respective Electricity DISCOM is a beneficiary. In case of an upfront payment, the consumer needs to present only Government authorized ID proof (AADHAR card, Voter ID or Passport) whereas for EMI payment, a copy of latest electricity bill is additionally required.

Price

UJALA LED bulbs are 9 W and can be purchased at a price between **INR 75 – INR 95 per bulb** with slight variation from state to state due to difference in applicable taxes, distribution costs, etc. The consumer can purchase the LED bulb either by paying the entire amount upfront or through monthly/bi-monthly instalments in the electricity bill. **Example: In Gujarat, one can pay an upfront amount of INR 70 per bulb or they can choose an EMI option, where consumers will pay INR 75 in total and approximately INR 20 will be added to their bi-monthly electricity bill for 4 bill cycles.**

Distribution

UJALA LED bulbs are **distributed through DISCOM offices, Electricity bill cash counters, designated EESL kiosks, and weekly ‘haat’ markets**, the location details of which are available on the UJALA web portal (www.ujala.gov.in). A consumer is allowed to purchase a maximum of 10 bulbs under UJALA.

Complaint

EESL provides a free of cost replacement of UJALA LED bulbs for a period of 3 years in case of a technical defect. Customer complaints are being handled at Distribution kiosks, Customer Care Service Centre and on social media/web platform of UJALA. **The total failure rate of UJALA bulbs recorded till August 2016 was only 0.3%, highest being in Delhi (0.97%).** Given the very low defect rate, EESL has decided to replace all bulbs as and when the complaints are received.

Current Status of Implementation

As of 17.11.2016, more than **17.85 crore** LED bulbs were distributed across the country leading to 18.7 million tonnes reduction of Carbon Dioxide and INR 9,271 crore cost savings per year. The state-wise data, in descending order, of bulbs distributed and the amount of energy saved is annexed.

Gujarat became the first state in India to distribute more than 2 crore LED bulbs in only 96 days. The progress of this scheme is continuously being monitored in a transparent manner through a national dashboard on UJALA web portal. It should also be noted that in 6 states – **Telangana, Assam, West Bengal, Tamil Nadu, Punjab and Sikkim** – the scheme is still in the process of implementation and the LED bulbs are distributed only through certain institutions rather than distribution kiosks. In Meghalaya, the North – Eastern Electric Power Corporation Limited (NEEPCO) has also been distributing the LED bulbs.

State	Institution
Telangana	Indian Railways, DISCOM
Assam	AHECL (Assam Hydrocarbon & Energy Company Limited), APDCL (Assam Power Distribution Company Limited)
West Bengal	Indian Railways, Damodar Valley Corporation
Tamil Nadu	Indian Railways
Punjab	Indian Railways
Sikkim	Sikkim

The UJALA scheme has played a significant role in creating awareness about energy efficient lighting. In 2014-15, the total number of LED bulbs that were distributed was mere 30 lakhs. The number of LED bulbs distributed in 2015-16 crossed 15 crore, where 9 crore LED bulbs were distributed under UJALA and the remaining by the industry. For 2016-17, the Government of India is confident of distributing an additional 20 crore LED bulbs. Sustained efforts under UJALA, coupled with industry support, will help the government achieve its objective of replacing 77 crore inefficient bulbs by March 2019.

Creating Awareness about UJALA Scheme in Kalika GP, Balasore – the Swaniti Experience

In Kalika GP, the Swaniti team has worked towards strengthening the delivery of UJALA to ensure energy saving at the domestic and community level. While 69 percent households in Kalika had electricity connection, most of them used only CFLs and ICLs. On further inquiry, the team realized that **Kalika residents had very little or no knowledge about the scheme but seemed eager to purchase the LED bulbs when informed about the same.** Accordingly, the team worked with PRI members and the North Eastern Electricity Supply Company of Odisha Limited (NESCO) office in Hatigarh to spread information about the scheme in each ward and also reached out to the local UJALA distributor for organizing a one-day camp in the GP. The camp was successfully held where individuals and several other institutions such as schools and Hatigarh CHC came out in large numbers to purchase UJALA LED bulbs.

Annexure I – State wise status of implementation of UJALA Yojana

State	LED Bulbs distributed	Energy saved per year (MWh)	Cost saving per year (crore)	Avoided Peak demand (MW)	CO ₂ Reduction per year (Ton)
Gujarat	27,263,176	3,540,587	1,416	709	2,867,875
Maharashtra	19,978,385	2,594,533	1,038	519	21,015,727
Andhra Pradesh	19,024,988	2,470,718	988	495	2,001,282
Karnataka	13,389,323	1,738,831	696	348	1,408,453
Rajasthan	11,823,048	1,535,424	614	307	1,243,693
Uttar Pradesh	11,145,357	1,447,414	579	290	1,172,405
Madhya Pradesh	8,750,316	1,136,377	455	228	920,466
Kerala	7,750,299	1,006,508	403	202	815,272
Bihar	7,528,173	977,661	391	196	791,906
Jharkhand	7,515,953	976,074	390	195	790,620
Delhi	7,466,923	969,707	388	194	785,463
Haryana	7,227,794	938,652	375	188	760,308
Odisha	7,223,751	938,127	375	188	759,883
Himachal Pradesh	6,749,562	876,544	351	175	710,002
Chhattisgarh	5,636,412	731,984	293	147	592,907
Uttarakhand	3,378,682	438,779	176	88	355,411
J&K	3,294,388	427,832	171	86	346,544
Goa	717,425	93,170	37	19	75,468
Puducherry	609,251	79,122	32	16	64,088
Telangana	560,485	72,789	29	15	58,959
Assam	439,000	57,012	23	11	46,179
Andaman Nicobar	400,000	51,947	21	10	42,077
West Bengal	340,853	44,266	18	9	35,855
Lakshadweep	100,000	12,987	5	3	10,519
Daman & Diu	95,010	12,339	5	2	9,994
D&NH	81,177	10,542	4	2	8,539
Tamil Nadu	61,018	7,924	3	2	6,419
Nagaland	58,238	7,563	3	2	6,126
Punjab	57,679	7,491	3	1	6,067
Meghalaya	48,444	6,291	3	1	5,096
Mizoram	5,005	650	-	-	526
Sikkim	1,397	181	-	-	147

