



Sustainability action · Project Renewable Energy and Energy Efficiency

Energy Efficient Lighting Program, India

Lowering emissions and electricity bills for low-income households

In India, lighting accounts for around one fifth of the national electricity demand, contributing to a heavier peak load and thus electricity shortages. Inefficient light bulbs are widely spread and low-income households spend a considerable part of their budget on lighting. The Indian government has set up some programme schemes (Bachat Lamp Yojana (BYL), in 2015 replaced by Unnat Jyoti by Affordable LEDs for All (UJALA)) distributing more efficient light bulbs, reducing electricity consumption and providing economic benefits for the local population.

Project

Access to lighting improves the living standard of the low-income population significantly. However, most of the 400 million lamps in Indian households use highly inefficient incandescent light bulbs (ICLs), which waste over 90% of electricity on heat. Low-income

families relying on ICLs spend approximately 10% of their income on electricity.

To combat this, the Indian government initiated a programme scheme promoting the distribution of efficient lighting sources. This project distributes quality long-life compact fluorescent lamps (CFLs) to Indian households. CFLs reduce electricity consumption by 80%, saving households enough to recover the cost of the bulbs within 6-10 weeks and reducing their energy bills over the long term. When the bulbs have reached their lifespan, they will be collected by the Indian Pollution Control Association and will be disposed at appropriate landfills or via a recycling scheme.

The project is verified under the Clean Development Mechanism (CDM). Revenues generated through carbon credits allow to supply energy efficient bulbs at less than 10% of the retail price.

Checklist	Additionality and permanence	3 rd party verified	Transparency	Annual CO ₂ -reduction	Social and environmental benefits	Marketing material
Project 301 627	According to the rules of the UNFCCC	By TÜV SÜD	Provided by the UNFCCC Registry	34,892 tCO ₂ e	As documented in our database	High resolution pictures available



Location

The Indian Bureau of Energy Efficiency (BEE) implemented the project as part of their CDM programme. So far CFLs have been distributed in the states of Andhra Pradesh, Delhi, Punjab, Karnataka and Kerala.

Project achievements

- In total, the lamps have contributed to the saving of the equivalent of 200 MW of energy demand.
- In some households where lighting makes up a major portion of electricity consumption, significant savings have been experienced with the introduction of only 3 to 4 CFLs per household.
- The average extra money saved per household from the installation of the energy efficient lamps is enough for a household's groceries for a week.

Environmental impact

- Energy efficient light bulbs avoid the emission of greenhouse gases that otherwise would have been produced by India's fossil fuel-dominated electricity generation systems.
- The project contributes to the implementation of an appropriate recycling scheme, avoiding the contamination of soils and groundwater resources through irregular disposal.
- Consumer awareness for energy efficiency measures is raised.

Socio-economic impact

- Low-income families benefit from average cost savings of 78% on energy bills and the longer life cycle of high quality CFLs.
- Creation of local skilled jobs due to the cooperation with distribution and manufacturing companies based in India.
- Reduced demand during peak hours saves costs and avoids shortages, providing a more stable electricity supply.

