Two popular methods for lowering the carbon footprint...

Three types of prevalent energy saving strategies in lighting...

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Outdoor Lighting Segment to witness a CAGR of 20%
Outdoor Lighting
In India To Grow By Over 17% In The Next Five Years
A recent survey by the Ministry of Urban Development and the Bureau of Energy Efficiency (BEE) concluded that nearly 80% of the street lights in India had been installed in a haphazard manner, with no consideration for the type of lamps, height of lamp posts, distance between two lamp posts, etc., for different types of streets in different areas. The survey suggested that not only did the lighting have to change, but every aspect of street lights needed a complete overhaul. The government has appointed Energy Efficiency Services Limited (EESL) to undertake the project of supporting, financing and installing street lights in the entire country. All the street lights in India will be changed in a phased manner to make them more effective and efficient.

**Current and future size of the outdoor lighting market in India**

The outdoor lighting market in India currently stands at around INR 2,500 crores, and is expected to grow at a CAGR of ~17% over the next five years to reach INR 5,500 crores. The key drivers for this growth include increasing government investment in infrastructure and rural electrification, and the development of new industrial projects that will require outdoor illumination.

![Graph showing growth of the outdoor lighting market in India](image)

Outdoor lighting is deployed mainly by the government sector, particularly for street lighting which accounts for nearly 70% of the total outdoor lighting market. Other major users of outdoor lighting include industries, organized retail, sports bodies and hospitality. Bajaj Electrical and Crompton Greaves, the two major Indian players in the outdoor segment, currently account for nearly 50% of the outdoor lighting market share.

**Street lighting accounts for nearly 70% of the outdoor lighting market in India**

Outdoor technical lighting (street lighting) will continue to be the most dominant and fastest growing category in the outdoor segment and is expected to grow at a CAGR of ~20% over the next five years. Growth will be driven by the construction of new highways, four-laning of the existing national and state highways, and rural electrification.

Floodlights are the second fastest growing category and are expected to grow at a CAGR of ~15% over the next five years. The construction and revamp of stadiums, border areas in the defense sector, outdoor areas of petrochemical industries, upcoming power plants, outdoor advertisements, as well as the beautification of city projects are expected to drive this segment.

The decorative outdoor segment is expected to witness a CAGR of ~13% over the next five years. The demand is being driven by outdoor areas of hotels, malls, offices and illumination of popular sightseeing monuments. This segment is mainly driven by the entry of foreign players in the retail and hospitality sectors. These players have a consistent pattern of architecture across the world and generally have beautiful exteriors. This is prompting the Indian players to also focus on exterior beautification by using decorative lighting in order to stay competitive.

**Segmentation of the outdoor lighting market in India for FY 2015 (INR crores)**

![Segmentation chart](image)

The government is the largest contributor for technical lighting, flood lights and outdoor decorative lighting, and accounts for around 75%, 50% and 35% demand, respectively. Retail, hospitality and offices are the three largest end user segments for decorative luminaires accounting for around 20%, 35% and 15% demand, respectively.

**Less than 30% of the street lights in India are currently powered by LED lamps**

In most Indian cities, street lights are fitted and maintained by the local municipality. In a majority of cases, dated and energy inefficient lighting technologies are used - such as fluorescent, high pressure sodium lamps or metal halide bulbs - which do not meet area-wise lighting needs. Barely any research or planning has gone into illuminating the streets or addressing the requirements of pedestrians and vehicular traffic. A one-size-fits-all method to address street lighting can result in wasteful deployment of power and inefficient use of electricity that could have been better used somewhere else.
Examples of successful implementation of LED street lighting in India

- Haldia Development Authority in West Bengal is saving around 70,000 kilowatt hours of electricity and over USD 9,000 in energy bills each month since installing LED street lights.
- The Thane Municipal Corporation in Maharashtra reported electricity savings of 47% from LED retrofitting.
- Kolkata Municipal Corporation undertook a pilot project of replacing 276 street lights with LEDs. It saved 54kw energy resulting in savings of INR 11 lakh in electricity bills. Now, KMC is considering replacing all its 180,000 streetlights that could result in a saving of more than INR 75cr annually. The project is expected to be undertaken over the next 12 years.
- Bhatinda government installed 3,500 LED street lights. With an average saving of INR 1,500 for each luminaire per year, the government could save about INR 80 lakh per annum.

municipalities are enjoying the cost savings that are arising from the reduction in both energy consumption and maintenance costs.

The BEE is providing grants to municipalities to commence pilot trials for LED street lights, as street lighting in India requires nearly 4,500 MW of connected load. Pilot trials have already been carried out in Andhra Pradesh, Maharashtra and Assam. Given that, there are more than 3,500 urban local bodies in India that have insufficient and inefficient street lighting - and spend enormous amounts of money on operating and maintaining them - the potential for saving energy by switching to LED technology is tremendous.

Recently a survey was conducted by LightSavers in 15 separate trials across 12 global cities - including New York, London, Kolkata and Sydney - to study the effect of LED street lighting. Key findings from the report indicated that 68% to 90% of respondents preferred LED lighting and recommended a city-wide rollout of the technology. Among the benefits that were highlighted in this survey, were a greater sense of safety and better visibility. In India, the union ministry of urban development has mandated all state governments and municipalities to change the street lighting in India to LED lights. This modification is expected to save more than 5,000 MW of power consumption over the next three years.

The road ahead

Street lighting definitely offers lighting manufacturers a fantastic opportunity in India for the next five to ten years, as the government continues to invest in infrastructure heavily.

Attracted by the enormous opportunity, global lighting companies such as Philips, Bridgelux and GE, as well as local companies like NTL Electronics, are trying to influence the state governments and municipalities to convert conventional
street lighting to LEDs. However, this is not likely to be an easy task as the initial cost of implementation for LED street lighting is much higher than conventional lighting. But lighting companies are banking on the energy savings and environmental benefits, such as minimum emission of carbon dioxide and no radiated heat, to bag government LED lighting projects.

Going forward, we will see a lot of innovative and interesting energy efficient designs for outdoor lighting. Lighting companies will also have to localize their products to cope with the Indian climate. Municipal trials, like the ones in Kolkata and Thane, are providing practical experience to national policy makers as they decide what new technologies and standards are required to enable India to join the LED revolution. But the initiatives of the current government have already paved the belief that LED street lighting is definitely the answer for India’s power woes.

Schréder illuminates Palacio De Las Cortes in Madrid

The Palacio de las Cortes was built in 1843 as the seat of the Cortes, the Spanish parliament. As part of an initiative of the IBERDROLA foundation, this prestigious edifice benefits from a new lighting scheme since December 2014. The new energy efficient lighting had to highlight the beauty of the magnificent architecture and create a strong identity. Schréder, in collaboration with the architects, José Sánchez Álvarez and Carlos Salas Gutierrez delivered an illumination, exclusively with LEDs, worthy of this majestic landmark. Discreet and very compact, the SCULPdot, SCULPline and Enyo floodlights provide a gentle and precise white light to accentuate the architectural details of the façade while creating a harmonious atmosphere with the surrounding buildings.

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