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Adds Kajaria, "It is government initiatives that is bringing about a revolution in the lighting industry. GoI is spending on energy efficiency through EESL, utilities, PSUs and street lighting projects. The street lighting segment has highest growth as per the ESCO model, which enables energy efficiency savings in India."

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growth of infrastructure wherein the government is taking initiative in building housing societies, connecting cities by building more highways, improving and extending the metro services along with better facilities from the municipalities. This has enabled mass consumption of LED through awareness, besides allowing for price cuts. With the growing competitiveness of Indian products and focus on quality, exports of LED products are expected to rise in the coming years.

DRIVERS & MANUFACTURING

For commercial projects, RoI and energy saving become the most important aspects while taking the decision. LEDs have the fastest RoI and help reduce energy

consumption and light wastage. There is also a huge awareness campaign in the mass media involving celebrities from the leading players of the vertical along with government initiatives that will further propel the use of the this technology.

"EESL's remarkable initiatives to provide free LED lamps in the rural areas and subsidised lamps in urban areas are ensuring large scale adoption of this technology across India," points out Gupta.

Commenting on the manufacturing aspect, Kajaria shares, "We have a 60,000 sq ft manufacturing unit in West Bengal that undertakes driver, printed circuit boards and assembly of bulbs, tubes, street lights and floodlights."



"INDIAN LED LIGHTING MARKET IS EXPECTED TO REACH ₹31,010 CRORE BY 2022"

Gautam Seth | Joint Managing Director, HPL Electric & Power

What opportunities do you see in India in the next two years?

The Indian LED lighting market is expected to reach ₹31,010 crore, growing at a CAGR of 62 per cent between 2016-20. There has been increased focus by the government towards energy conservation and efficiency in the last few years. GoI has expressed increased interest in converting existing street lights into LED and this is expected to increase demand. Towards this end, they have announced the UJALA scheme to replace all inefficient bulbs with energy efficient lamps.

What are your plans for the segment?

HPL has an established presence in the market for CFLs,

with increasing focus on manufacturing and supply of LED lamps, and wires and cables. The company is the fifth largest market player and currently has a market share of 5 per cent in the LED category. Going forward, we aim to further strengthen our presence in the market through the positive reforms being undertaken by GoI.

What potential drivers will boost adoption of LED lighting?

India's LED lighting market is at a very promising stage. Though it has already been growing at a robust pace over the last few years, there are few factors that are expected to boost the market. There is an increased focus by GoI towards energy conservation and efficiency, boosting demand

for LED lights. It is more eco-friendly and up to 80 per cent more efficient than traditional lighting such as fluorescent and incandescent lights. Less energy use also reduces the demand from power plants and decreases greenhouse gas emission.

What are the challenges faced while doing business in India?

In India, consumer approach is a challenge. Consumers take time to accept new technology no matter how beneficial it is. In this segment, most users do not switch their entire lighting to LED, but only replace one or two bulbs in their homes. As such, the cost benefits of LED are not appropriately reflected in their electricity bills.

(For full interview, log on to www.powertoday.in)

At the manufacturing unit, an automated SMT section prepares all of the LED units and electronic drivers. Then, semi-automated assembly lines in our plant produce high quality bulbs, battens, tubes, street lights, panels and down-lights. Incorporating strict manufacturing disciplines into all production processes leading to fewer mistakes and variations, providing consistency across products. "Moreover, this helps us in delivering high quality products with optimum input costs. Our products are not just best-in-class, they are part of the national initiative to foster innovation and skill development and Make In India," he adds.

Gupta too spoke on their manufacturing base, "Our current

production capacity is 5 million of which we are currently utilising around 80 per cent of capacity. This capacity addition was necessitated to cope with the very aggressive procurement by EESL under UJALA scheme."

CHALLENGES

In India, consumer approach poses the major challenge. Avers Seth, "Consumers take time to accept new technology no matter how beneficial it is. In this segment, most users do not switch their entire lighting to LED, but only replace one or two bulbs in their homes. As such, the cost benefits are not appropriately reflected in their electricity bills."

Furthermore, India lacks the core LED lighting manufacturing

technology. Micro level technology is quite costly and is limited to certain countries and companies. Hence, production cost is always high, apart from which diodes and other key components are exported.

Adds Kajaria, "India-made products witnessed growth last year. However, we are dependent on imports which are still in excess of about 75 per cent. Things could change very soon with increase in sales and import duty going up. We have a huge opportunity to build capacity for chip manufacturing."

Gupta however had a different take, "Every organisation faces challenges related to industrial policy, industry specific issues, demographic issues, labour issues etc. but it is not insurmountable.

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LE(a)Ding forward

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Replacing incandescent bulbs with LED bulbs, increasing energy demand-supply gap, and declining prices are the factors driving the growth of LED lighting in India. Street light application accounts for majority of market revenues in the Indian market. Demand for LED lights from Government or Central bodies by 2018 is estimated to be 40 per cent, while the demand from industries is expected to touch 60 per cent. Demand from residential, commercial and automotive sections are also expected to steadily rise.

According to **Anirudh Kajaria, Business Head, Century LED**, 'The future of lighting will be built on smart, innovative, and semiconductor-based LEDs.' He states that several factors like the flourishing real estate sector, increased investment in green buildings, mandatory energy efficiency regulations for new buildings and facilities and government incentives.

Avers **Arun Gupta, MD, NTL Group**, 'Last year 20 per cent of our business came from LED lighting. We are now aiming for approx 60-65 per cent of the total group turnover to come from LED lighting business.'

Talking about the evolution in their segment, **Anirudh Kajaria, Business Head, Century LED** said, 'Consumer focus in this sector is shifting from dependency on trust and heritage and rationalising their purchase to making emotional decisions in favour of products that 'transform their space' with 'performance that delights'.'

Growth Opportunities

India's LED lighting market is at a very promising stage. Though it has already been growing at a robust pace over the last few years, there are few factors that are expected to boost the market. There is an increased focus by Gol towards energy conservation and efficiency, boosting the demand for LED lights. LED Lighting is much more eco-friendly and are up to 80 per cent more efficient than traditional lighting such as fluorescent and incandescent lights. Less energy use also reduces the demand from power plants and lowers greenhouse gas emissions.

In terms of demand, it is estimated that through support from government initiatives and changing consumer preferences, the LED market will constitute approximately 60 per cent of the lighting industry (Rs.37,600 crore) in 2020. Increased government focus on sustainable lighting solutions especially in the lamp category are expected to fuel the adoption of LED at the grass root level. Demand is likely to increase majorly in outdoor lighting, while the consumer segment is also starting to gain momentum as consumers become aware of the benefits that can accrue through adoption of this technology.

Commenting on their plans to take advantage of these prospects, **Gautam Seth, Joint Managing Director, HPL Electric & Power shares**, 'HPL has an established presence in the market for CFLs, with increasing focus on manufacturing and supply of LED lamps, and wires and cables. Going forward, we aim to further strengthen our presence in the market through the positive reforms being undertaken by GOI.' Adds Kajaria, 'It is government initiatives that is bringing about a revolution in the lighting industry. Govt is spending on energy efficiency through EESL, utilities, PSUs and street lighting projects. The street lighting segment has highest growth as per the ESCO model, which enables energy efficiency savings in India.'

There is immense scope for the growth of infrastructure wherein the government is taking initiative in building housing societies, connecting cities by building more highways, improving and extending the metro services along with better facilities from the municipalities. This has enabled mass consumption of LED through awareness, besides allowing for price cuts. With the growing competitiveness of Indian products and focus on quality, exports of LED products are expected to rise in the coming years.

Drivers & Manufacturing

For commercial projects, RoI and energy saving become the most important aspects while taking the decision. LEDs have the fastest RoI and help reduce energy consumption and light wastage. There is also a huge awareness campaign in the mass media involving celebrities from the leading players of the vertical along with government initiatives that will further propel the use of this technology.' EESL's remarkable initiatives to provide free LED lamps in the rural areas and subsidised lamps in urban areas are ensuring large scale adoption of this technology across India,' points out Gupta. Commenting on the manufacturing aspect, Kajaria shares, 'We have a 60,000 sq ft manufacturing unit in West Bengal that undertakes driver, printed circuit boards and assembly of bulbs, tubes, street lights and floodlights.'

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Challenges

In India, consumer approach poses the major challenge. Avers Seth, 'Consumers take time to accept new technology no matter how beneficial it is. In this segment, most users do not switch their entire lighting to LED, but only replace one or two bulbs in their homes. As such, the cost benefits are not appropriately reflected in their electricity bills.'

Furthermore, India lacks the core LED lighting manufacturing technology. Micro level technology is quite costly and is limited to certain countries and companies. Hence, production cost is always high, apart from which diodes and other key components are exported. Adds Kajaria, 'India-made products witnessed growth last year. However, we are dependent on imports which are still in

excess of about 75 per cent. Things could change very soon with increase in sales and import duty going up. We have a huge opportunity to build capacity for chip manufacturing.'

Gupta however had a different take, 'Every organisation faces challenges related to industrial policy, industry specific issues, demographic issues, labour issues etc. but it is not insurmountable. We have never had problems in doing business in the country. Today, across the globe, India is a preferred destination to do business in and with and the opportunities are immense.'

As far as the industry is concerned, the biggest challenge is the mushrooming of low quality production units. Chinese imports are another issue - more from the perspective of sub-standard quality and costing.

Government

Policies

Gol has announced policies such as the modified special incentive package scheme to encourage and subsidise investment in indigenous value addition. Also, BEE and EESL, working with electricity distribution companies, have developed a business model to sell subsidised LED lights to households at Rs.10 against the market retail price of approximately Rs.400. All existing government schemes to distribute CFL lamps are being modified for distribution of LED lamps.

The government has been making efforts to adopt LEDs for street lighting in key cities and also for architectural lighting applications for national monuments. MNRE and BEE have also been driving initiatives such as distribution of solar LED lanterns in villages for municipalities and local bodies to promote energy-efficient lighting. 'All these measures are likely to boost the market in India, and as a leading player in the industry for LED lights, we view this as a great opportunity for us for business growth,' said Seth.

Adds Gupta, 'The awareness in both commercial and residential segment has exponentially increased and inclinations amongst consumers to choose LEDs as a preferred mode of lighting is increasing. Today, the preference of moving from conventional lighting with LEDs presents a huge opportunity for us in terms of volume and maximising our assembly lines.'

It is also important to note that retrofitting for street lights is gaining momentum and increased popularity of LED lighting is encouraging adoption of new, more energy-efficient LEDs. Retrofitting involves some cost but just like investing in LED lighting for one's home, there is a long-term cost-savings to be realised.

Retrofitting has given implementing agencies leeway not only in cost saving but also huge energy savings. It is the only option that will work at a lower cost, improve lighting quality, reduce energy use and greenhouse gas emissions at a much faster pace.

EESL in its toolkit for street light energy efficiency has projected that retrofitting conventional streetlight with LED could result in potential savings of 4,300 million kWh of energy. Operating and maintaining the street lights comes under the jurisdiction of Urban Local Bodies (ULB). However, keeping in mind the huge number of street lights in India (35 million) and cash crunch situation of ULBs, it is an uphill task as most of these are not in a position to consume huge initial capital (for cables, poles, LEDs) required to replace conventional lights with the efficient LEDs, unless and until the government or local administration subsidises these hugely.

'Upgrading to LEDs will save energy costs, conserve electricity and help reduce the national power load. We view this as India's journey toward energy efficiency,' states Seth.

Adds Kajaria, 'The rapid changes in technology have given rise to an LED retrofit revolution as across the globe, municipalities are opting to switch out their older street lighting to new, more energy-efficient LEDs.'

If realized in practice, the less frequent need to service or replace LEDs will mean lower maintenance cost. Lighting demands 18 per cent of the electricity consumed in India. This is against a global average of just 13 per cent.

A large-scale LED adoption will bring the figure for India down to the global average, significantly cutting down the need to build more energy plants.

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