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A Commercial Feature

LED leads energy efficiency revolution in India

The incandescent light bulb, arguably Thomas Alva Edison's most famous invention, is on the verge of extinction. Branded as a culprit contributing towards global warming, the light bulb has been yielding ground to more energy efficient lighting systems across the world. India is no exception to this trend.

The role of lighting cannot be underestimated in today's world. Of the total electricity produced globally, 19% is consumed by lighting, according to the International Energy Agency. This translated into more electricity consumption than the output of all nuclear power stations put together. The Agency believes that over the next 25 years, as much as 16 billion tons of carbon could be prevented from getting added into the global atmosphere if energy efficient lighting was adopted.

However, despite the rapid strides made in the field of lighting technology, still 67-75 percent of the world's lighting is based on older and less efficient technology.

Amongst the fastest growing economies in the world, India is seeing a surge in investments in its infrastructure sector. The construction industry too is on a rapid expansion mode. Both the factors have contributed towards expansion of the lighting industry, which in turn has led to the rapid growth of energy efficient lighting systems.

Of late, the market has witnessed the entry of several new energy efficient lighting solutions. Although they are priced at a small premium over the normal incandescent light bulbs, their prices are gradually coming down. Besides, they also provide a better return on investment as they have a longer life.

For instance, a CFL (Compact Fluorescent Light), in addition to being four times more energy efficient (it has a 50-80 percent lower energy consumption compared to incandescent bulb), also lasts 10 times longer than an incandescent light bulb. A 22 watt CFL matches the light output provided by a 100 watt incandescent bulb. Traditional light bulbs, in fact, utilize just two percent of the energy in producing light, while the rest is dissipated as heat.

Yet another technology, called LED (Light Emitting Diodes), promises to transform the traditional energy-wasting lighting industry into an energy efficient one. While LEDs have been around for several years, their usage has been predominantly as beautification light. However, they are now slowing but surely finding their way into functional lighting.

A recent research conducted by Frost & Sullivan on the LED lighting market in India, believes that LEDs are on the brink of replacing conventional lighting in several key applications such as outdoor and indoor lighting, and street lighting, in addition to niche industrial applications. The automobile manufacturing industry has already increased adoption of LEDs because of its high lumen/watt ratio and small form factor.

LEDs are also finding favor in areas such as those of aviation lighting, and traffic signals. They are also being used to develop new video and text displays because of their compact size. Their high switching rates, meanwhile, have been leveraged in advanced communications technology. Infrared LEDs are being used in the manufacturing of remote controls for DVD players, televisions and other domestic appliances.

According to the research, the Indian LED market is expected to grow at a CAGR of 41.5 percent, achieving a size of Rs.1843.39 crore ($399.2 million) by 2015 from Rs.229.04 crore ($49.6 million) in 2009.

Based on semiconductor technology, LEDs promise to be the most advanced source of lighting. In contrast to conventional lighting, they have a long life of more than 30,000 hours, consume lesser energy and are more environment friendly as they don't have mercury (an issue which CFLs have to contend with). The technology holds even greater potential for India given the fact that commercial buildings in the country are poor in managing energy efficiency compared to buildings in other developed countries.

Buildings in India stand to significantly reduce energy loss, and at the same time improve productivity, if they designed proper lighting systems taking into account usage of better quality lights and considerations of task-based illumination. Improving a building's lighting can lead to the most visible and easiest energy efficiency gains.

For instance, almost 40 percent energy can be saved in a normal office building if one replaces the existing fixtures with efficient reflectors, lamps and ballasts. Even greater energy efficiency can be achieved if there is a complete redesigning of a building's lighting and control systems. As upgrading to more efficient lighting systems leads to lower heat release, optimum capacity air conditioning systems can be deployed. Incandescent light bulbs, for instance, convert 95 percent of their input power into heat, while the figure is 85 percent for metal halide lamps. High pressure sodium lamps convert 77 percent input into heat. In case of an LED, a very small amount of heat is released, and the light is cool to touch.

Even in residences, especially in tribal and rural homes, LEDs offer great potential. An LED avoids air pollution resulting from kerosene lights, and provides clean and reliable lighting. As a typical rural household spends 4 percent of its budget on kerosene, installing LEDs also leads to savings. According to industry estimates, using an LED as against kerosene saves about one ton of carbon emissions over the next 3-4 years. This translates into $30 of gold standard carbon credits. Ten million LED would therefore save 10 millions tons of carbon emissions or $300 million.

On its part, the government is taking several measures to promote efficient lighting, especially LEDs, in the country. To address issues relating to manufacturing, testing and standardization of LEDs, the Bureau of Energy Efficiency (BEE) has set up a panel under the auspices National Manufacturing Competitiveness Council (NMCC). Plans are also afoot to establish a national testing facility, in conjunction with the Central Power Research Institute, for LEDs with the current year.

That the government is serious in deploying energy efficient lighting can be gauged from the global tender that it has called for in the current financial year. The tender is for supplying one million LEDs. The government is also planning, as part of its Bachat Lamp Yojna, to replace 400 million incandescent light bulbs with CFLs, thereby saving 6000 Mw annually.

Lighting South Asia 2010: Lighting solutions and business opportunities

Come September 14 and the commercial capital of Mumbai would be in the spotlight for hosting 'Lighting South Asia 2010', - an exclusive three-day B2B event on lighting sector. This is the second edition of 'Lighting South Asia 2010'. The maiden tradeshow held in Mumbai last year was a huge success, which is expected to be replicated this year too. This exhibition-cum-conference being organized by Expomedia, provides a platform to those in the lighting business exchange views and to discuss ideas with the industry experts and learn about the latest development in the sector and carry out business deals. Hence, this event is a one stop shop for industry professionals, exhibitors and vendors along with helping people to reach out to new contacts in India and overseas besides networking to build new relationships.

This exclusive trade event presents a wide range of products, technologies and services. These are - architectural lighting, auto and miniature lamps, cables, decorative lighting, electronics in lighting, flood lighting, generators/inverters, home lighting, industrial and commercial lighting, intelligent lighting (software), LEDs, lifestyle products, light sources, lighting fittings and accessories, non-conventional energy sources, raw material, retail lighting, stage and studio lighting, street lighting, switches, testing, measuring and lab instruments.

The three-day event will also have international conference running parallel to the exhibition, which would entail discussions on the latest developments in the field of lighting along with providing a unique opportunity to visitors, delegates and exhibitors interact with the internationally renowned experts to update their knowledge in this rapidly changing field.

In addition, Lighting South Asia will hold various workshops, which would cover a wide range issues related to the lighting industry like energy conservation, sports lighting, outdoor lighting, retail lighting, city beautification, hospitality lighting, infrastructure lighting (airport, highways etc), electronics and controls.

It makes perfect sense for those have interest in the lighting business to attend this exhibition because this is an opportunity to meet the right people when they are looking to invest and all under one roof. It is the place to meet and do business with focused buyers besides reaching new markets within India as well as abroad. Here's companies can promote and build their brands, collect high-quality leads, demonstrate products and meet potential new customers face-to-face and entertain loyal customer, all in one place.

The amount if interest and curiosity this event generates can be seen from the resounding success of the last year when the exhibition attracted over 8000 trade visitors from India and overseas. The exhibition drew exhibitors from seven countries representing more than 100 companies.

This year, organizers are expecting that the number of participants would surpass the last year's number and so they have taken special initiatives to make this event a perfect business opportunity for the companies who would participate this time. For instance, there's a dedicated visitor promotion team to identify and invite the right buyers in the industry. A VIP Buyer Programme identifies the top buyers from across the country and invites them personally to attend the event. These select visitors are offered special treatment and personal service to maximise attendance by the visitors who really count.

Also, Expoconnections, the user-friendly web interface provides a platform from which one can organize their time better, for mutual benefit. Visitors can schedule meetings with exhibitors, manage their appointment schedule and arrange meeting points online, 24/7.

Companies will have the opportunity to meet the decision makers and specialists in the lighting industry, which would include: Architects, professionals and consultants, interior designers, procurement managers of office & retail developments, specifiers from residential projects, government utilities, Ministry of Power, CPWD, Electrical Utilities, non-conventional energy providers and ministry of railway, dealers, industry associations & trade delegations from India and overseas, policy makers, diplomats and foreign commercial and trade missions, entrepreneurs and investors, decision makers seeking innovative solutions, consumers from India and overseas, suppliers, traders and manufacturers etc.

The venue for this lighting tradeshow is Bombay Exhibition Centre (BEC) in Mumbai. BEC is the largest and permanent exhibition centre, in the private sector, in India. It has four halls occupying over 40,000 sq.mtrs of centrally air-conditioned space for conducting exhibitions. Utilities and infrastructure to meet demands of power, water supply and compressed air supply, telephone & internet lines are available within all exhibition halls to facilitate organization of major industrial trade fairs/exhibitions.

Currently, India imports lighting products for over $250 million annually and is growing at a rate of 25% - 30% per annum. The reduction in import duty is enabling international products to compete and sell on the same counter as domestic products. The Indian lighting Industry is over $ 1billion and it is expected to exceed the present 12% per annum growth in the years ahead, according to industry estimates.

HPL Electric & Power: Lighting the road ahead

With an aggressive approach to energy efficiency, HPL Electric & Power Private Ltd is working relentlessly towards a brighter future - literally

There are ways to get noticed. One way is to be the leader. For HPL, it comes easy, as it is the country's leading manufacturer of electrical equipment such as switchgear, electronic energy meters, energy management systems etc. The company has also made pioneering efforts in the lighting industry and introduced compact fluorescent lamps (CFL) and is one of the biggest market players in the same.


Mr Gautam Seth, Joint Managing Director, HPL Electric & Power Private Ltd

With all this, HPL's commitment on energy management and energy efficiency remains steadfast. As the company's top management believes, there's a difference between knowing the path and walking the path. So, while most companies in the sector will know it's importance and how one may go about it, HPL is doing something about it. HPL's foray into luminaires is one such attempt. The company now takes pleasure in introducing luminaires suitable for wide range of indoor applications.

Mr. Gautam Seth, JMD, HPL said " HPL has always delivered and lived upto its customers expectations. With that confidence and commitment, we have entered into a new product section of lighting and will be launching and supplying other range of energy efficient products across the country."

With a clear emphasis on energy saving as an initiative, the luminaire solutions can be played around with scientifically and imaginatively to create the desired lighting effect. By the end of the year, the company also hopes to have indoor & outdoor applications of luminaires too. State-of-the-art luminaires, which are suitable for energy efficient T5 tubular fluorescent lamps, CFLs and LED, the advanced light source. With a different combination of wattages, there luminaires can be used in a variation to use for interiors in commercial spaces, offices, shopping malls and plazas, conference rooms and so on. As of now, the company has offered wide range of luminaires. With more research and development initiatives by the company, the range is set to expand in the near future.

Here's a look at the lighting solutions offered by HPL Electric & Power:

Consumer lighting: Suitable for energy efficient T5 lamps of 14W and 28 W, CFL lamps up to 36W, 3D CFL of 25W and so on. Aesthetically designed and ideal for household applications and commercial spaces, which offer flicker-free starting and low wattage consumption.

LED lighting: One of the most advanced source of light, the light emitting diodes (LED) is based on the semi-conductor technology and has a life of (> 30,000 burning hours). Since there is no mercury, it is considered to be environment friendly and also has low energy consumption. Suitable for indoors, these LEDs range from 1W to 10W. Downlight: Used with retro fit and non-retro fit CFL of different wattages, the downlights are aesthetically built for interiors and different kinds of installation. For this, one can either use open construction low watt loss copper ballasts, or high frequency ballast.

Commercial lighting: These energy efficient mirror optics luminaires cover a wide range of applications and can be used with T5, T8/T12 and CFL lamps of different wattages. These are available in electronic ballast. These can be used with single, twin, three or even four lamp combinations.

Industrial luminaires: The application requirement of this sector is diverse in nature. For, one can't compromise on either the quality of lighting or the pricing of the same. HPL's offerings are suitable for use with a variety of reflectors such as power coats, aluminum as well as extruded aluminum.

New LED Décor: The latest energy saving lighting solutions from HPL , New LED Décor is high on energy saving and saves more than 90 per cent energy when compared with incandescent lamp. Available in primary colours and frosted, too, the range varies from 110-300V and has a life of upto 50,000 burning hours. It not only takes care of environment issues such as global warming and has no mercury content, there are no ultra-violet radiations either.

To scale-up capacity in its wires and cable division, HPL has recently set up an ultra-modern facility with world-class technology at Sonepat. With an advanced multiwire horizontal drawing machine - which is considered the benchmark in technology - will simultaneously produce multiple wires at the same diameter, tolerance and continuous resistance for multi-wire drawing line.

Having said this, however, HPL also has to make sure that it not only delivers when it comes to quality as well as the costs, too. After all, with an awareness among customers that is unparalleled in the past, there is a lot that customers are putting on quality and reliability. HPL's dedication of being aggressively competitive, there are enough research and development practices happening to improve volumes and technology. HPL not only has a complete mechanical design team but also its own ultra-modern tool room that is constantly working on being ahead in the race.