

LED Lighting: -- Markets Reach \$63.1 Billion By 2020

LEXINGTON, Massachusetts (January 9, 2015) – WinterGreen Research announces that it has published a new study LED Lighting: Market Shares, Strategy, and Forecasts, Worldwide, 2015 to 2020. Next generation lighting achieves a complete replacement of incandescent filament bulbs with LED lighting that is more energy efficient, lasts longer and has a significantly lower cost of operation.

Philips is to sell its lighting business. The Dutch electronics group Philips has attracted bids from several private equity groups for the majority of its lighting components business, up for sale as it focuses on higher-margin activities. Philips, the market leader has been the first casualty as the profit margin on the individual LEDs is eroded because of overproduction in China. The achievement in price declines is because of economies of scale, and general competitive pressure have drastically affected the market. Philips is set to sell its lighting business soon.

Epistar is working on 200mm technology. Philips, OSRAM, and Samsung have been actively exploring GaN on silicon technology. Market shifts provide entry points for new competitors. They create significant opportunities for participants to achieve rapid increase in market share. Shifts in market share are anticipated as vendors move up the value chain to increase returns on investment.

There is a move by vendors to provide more pieces of the LED light. In this way they seek to control their margins. Vendors primarily compete with other providers of LED lighting on the basis of product performance, as measured by efficacy, light quality, increased lumen output and reliability. Product cost combined with an acceptable level of quality is always a competitive issue.

LED vendors seek to offer LED lighting products that achieve a lower total cost of ownership and enhanced product quality. The channel looks for a broad product portfolio. Those vendors with a broad product portfolio have access to strong retail channels. Channel strategy is further impacted by OEM relationships. A differentiated product design approach, proprietary technology and deep understanding of lighting applications aids the ability to compete in LED lighting markets.



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LED lighting decreases labor costs of replacing bulbs in commercial situations. The LED bulbs are implementing new semiconductor technology. The 2015 study has 973 pages, 406 tables and figures. Worldwide LED lighting markets are poised to achieve significant growth as buildings and communities lead the way in implementing the more cost efficient systems. In some cases, the utility plants are providing funding and financing so that lighting users can make the shift to LED lighting.

LED lamps lower the overall cost of lighting. LED lighting costs are less than costs with incandescent lights. LED lamps offer up to 50,000 hours of illumination with a fraction of the energy used by traditional incandescent bulbs. LED bulbs generate 90% less heat than incandescent bulbs. LED bulbs extend time between bulb replacements. The bulbs are used to achieve a near zero-maintenance lighting system.

LED lighting products are coming to market rapidly. Suppliers carry up to 150 different LED bulb and lamp styles to fit the various needs of consumers and businesses.

LED PAR lamps dominate the ENERGY STAR qualified product list, so back in 2012 IEE partnered with TopTen USA and Ecova to develop recommendations for top performing PAR38 and PAR30 LED lamps. The team developed an evaluation protocol that starts with the lamps found in ENERGY STAR's list, to which we applied product criteria screens and testing to a subset of lamps to determine the 10 top performers. Efficiency along with aesthetics, payback period, and dimming performance were key criteria to the ranking.

LED lighting products compete with traditional lighting technologies on the basis of the numerous benefits of LED lighting relative to such technology including greater energy efficiency, longer lifetime, improved durability, increased environmental friendliness, digital controllability, smaller size, directionality and lower heat output. LED lighting products face competition in the general lighting market from both traditional lighting technologies provided by numerous vendors as well as from LED-based lighting products provided by a growing roster of industry specialized participants.



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The emergence of cost-competitive LEDs has caused a "paradigm shift" in the lighting industry that has changed everything. The LED lighting industry rapid technological change has been brought by enormous changes in the regulations affecting lighting. Short product lifecycles are a result of new manufacturing and materials science that are the result of companies trying to improve the economies of scale to make price points more attractive to customers.

According to Susan Eustis, leader of the team that prepared the study, "Frequent product introductions have characterized the LED lighting industry. There is a highly competitive pricing environment with the current price point of \$6 per light in 2015 about to decline further, creating competitive changes in the lighting markets. Technology innovation creates market characteristics that increase the need for continuous investment in research and development. Partners remain core to vendor positioning."

Sales of LEDs that outpace incandescent bulbs in North America are expected to soon completely eliminate incandescent bulbs. The LED lighting market is anticipated to grow 45% per year through 2020 LED lights at \$13.6 billion in 2014, are anticipated to reach \$63.1 billion by 2020. Market forecasts are based on indications that LEDs are leveraging economies of scale to achieve price points attractive to users. Markets appear to be moving toward 100% LED replacement of existing technology including incandescent bulbs. The reason is the declining price points, the increased interest by the channel in pushing LEDs to consumers. LEDs provide the best lighting solution. The phase out of incandescent lights has begun, the onset of LED command of the market is upon us.

This LED lighting shipment analysis is based on consideration of the metrics for the total number of lights installed with a likely penetration analysis. Interviews with distributors, vendors, and users provide means for triangulation of data to achieve an accurate look at the market. Interviews include contact with distributors and analysts worldwide,

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WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

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