

EnergyWatch



April 2016

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<http://energywatchnews.com/>

Jack Welch:

Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others.

If the rate of change on the outside is greater than the rate of change on the inside, the end is near.

Something to Think About... The Great Lighting Debate of 2016--How to successfully position your Company in Today (and Tomorrow's) Lighting Industry – IMARK Showcase 4/5/16

Presenters: Bill Attardi aka 'Captain Sunshine' vs. Chris Brown aka 'Chicken Little'

A debate on the Future of the Lighting Industry (and how you can win).

- ILLUMIGEDDON argues that we are approaching the end of the traditional lighting industry and suggests that many, if not most electrical distributors are NOT READY for the solid state lighting revolution
- FORTUITY is all about being in the right place at the right time, recognizing it as a potential opportunity and taking advantage of it for substantial growth.

The debate between Chris Brown (of IMARK member Wiedenbach-Brown) & Bill Attardi (publisher of the Energy Watch newsletter) is all about the question: FOR WHOM? Lighting is not just about illumination anymore, just like the phone is not just about a phone anymore, or a watch about telling time, or a TV or a car, on and on...

Smart Lighting will not only allow consumers to manipulate the timing, intensity, and quality of light but will internally interact and track and react and adapt to the users' living and working patterns. Manufacturers will continue to focus on what they do best: to innovate and make the most advanced high-tech products possible and market research the market to keep the progress going forward. The established distribution channels are in the best position to continue to serve the mainstream markets for the new high-tech lighting products and to satisfy the enormous growing need for the service demand that is always present when it comes to electronics. It is just too important a product category to abandon.



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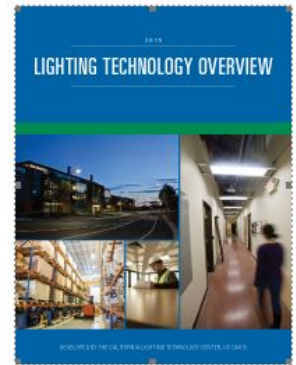
Chris & Bill will discuss that unless a business is already evolving to a 21st century business model, the influx of high-tech companies, and then the introduction of Smart / Intelligent Lighting absolutely demands innovation and evolution of business models. And this applies to everyone in the food chain.....specifiers, manufacturers, reps, distributors, contractors... and end users.

Finally, employee satisfaction is critical to survival and thriving in the face of Illumigeddon. The leap from employees considering their company a good place to work to becoming a great place to work is huge. How many companies actually have ways to gauge employee satisfaction, loyalty and enthusiasm for their job and their company? Great companies do. And good companies might, but for them, good might just be good enough. But not good enough to thrive and enjoy the fruits of Fortuity

LED Energy Watch...

1. ***LED A-Line Lamp Shipments Posted Another Strong Quarter to Close 2015*** - LED A-line lamps surged 226.7 percent during 2015Q4 on a year-over-year basis. Meanwhile, halogen A-line lamps posted a year-over-year increase of 8.7 percent, and incandescent A-line lamps increased by 7.8 percent while CFL dropped 56.0 percent. Halogen A-line lamps accounted for almost half of all consumer lamp shipments in 2015Q4, at 49.7 percent, followed by CFLs with a share of 23.4 percent and incandescent A-lines at 7.8 percent. LED A-line lamps increased their sales share by three percentage points between (time period) and the end of 2015, and now comprise 17.1 percent of the consumer lamp market. www.NEMA.org
2. ***The Connected Lighting Alliance Endorses ZigBee 3.0 for Residential Lighting*** - With ZigBee Light Link, previously endorsed by TCLA, being merged in to the new ZigBee 3.0 standard, the TCLA member companies studied and evaluated the new proposition. The conclusion was that ZigBee 3.0 exceeds the benefits of ZigBee Light Link and that therefore the new ZigBee 3.0 better meets the requirements of the lighting industry in the residential market, simplifying choices for both lighting companies and consumers. ZigBee 3.0 simplifies the choice for the lighting industry and consumers, because it enhances interoperability between connected lamps and controls from different suppliers, providing a single solution for smart lighting in the home. <http://www.theconnectedlightingalliance.org/home/>
3. ***ZigBee Alliance Will Show the Way to Smarter Buildings, Lighting Systems at Light + Building 2016 Conference*** - The conference, March 13-18 in Frankfurt, Germany, is a trade fair for lighting and building-services technology and presents solutions that cut the energy consumption of a building at the same time as increasing the level of comfort. At the fair, everything is represented, from LED technology, via photovoltaic and electro-mobility, to intelligent electricity usages with smart metering and smart grids. ZigBee Alliance members will showcase a broad range of interoperable solutions for home and building automation and lighting. The alliance will also highlight its ZigBee 3.0 solution that unifies the IoT through standardization and interoperability at all layers of the network, and will soon bring the most widely deployed energy-harvesting technology to the 2.4GHz global consumer frequency band through a collaboration with the EnOcean Alliance. <http://www.zigbee.org/the-latest/>





4. **CLTC Publishes 2015 Lighting Technology Overview** - The California Lighting Technology Center has published the 2015 Lighting Technology Overview (LTO), which covers a broad range of energy-saving commercial and residential lighting technologies. The publication provides guidance on comparing products, sample products, expected energy savings and case studies. Order at no charge at: <http://cltc.ucdavis.edu/sites/default/files/files/publication/2015-lighting-technology-overview-nov-2015.pdf>

5. **Lighting Controls Association Launches New Course on Centralized Intelligent Lighting Control** - EE302: Centralized Intelligent Lighting Control. Education Express provides in-depth education about lighting controls and controllable ballast technology, application, system design and commissioning. Intelligent lighting controls represent the ultimate in lighting control. As energy codes and owner requirements become more complex, intelligent control solutions are becoming increasingly common in new construction while becoming more adaptable to existing construction. Intelligent lighting control is also ideally suited to LED lighting. Though solutions vary, a fully realized intelligent lighting control offers the benefits of addressable luminaires and/or groups of luminaires, layered and complex control strategies, software-based zoning and rezoning, elegant wired or wireless connections, and energy measurement and monitoring. <http://aboutlightingcontrols.org/EducationExpress/>

6. **Why Acuity Reminds Me of Dell by Tom Quinn** - By disintermediating distribution, Dell traded the extended reach and leveraged “feet on the street” typically offered by a distribution partner for a direct relationship with the end customer. Eliminating the ~40% gross margin that the distributors were enjoying, Dell managed to offer an unbelievably low price for a product that was fundamentally identical to what was being offered by the top PC brands via a network of large and powerful distributors. The other PC brands could only stand by and watch as they were so invested in their distributors, any attempt to abandon the channel approach and replicate Dell’s much more efficient direct model would result in their Channel partners abandoning them. Eventually, Dell’s direct sales model, high-velocity supply chain focus, and “win with the lowest price” approach ran out of steam as all of the efficiencies of the model played out, and their differentiation was no longer so powerful. So that brings me to Acuity, who decided to embrace the newest lighting technology and invest heavily in converting their existing light fixture line over to LED. Acuity took a page out of Dell’s book and got hyper focused on operations, supply-chain, production efficiency, and cost. <http://www.lunera.com/why-acuity-reminds-me-of-dell/>

7. **Acuity's Bytelight in Deal with Qualcomm** - Qualcomm Atheros, Inc., is working closely with Acuity Brands in the commercial deployment of LED lighting fixtures/services (marketed by Acuity Brands as Bytelight™ Services) that use Qualcomm® Lumicast™ technology to bring indoor positioning capabilities and services to retailers. Unlike RF-based technologies, Lumicast uses visible-light signals transmitted from LED fixtures to deliver indoor positioning. A regular smartphone, using apps enabled by Lumicast software, receives the light signals through the front camera to determine its position and orientation with exceptional precision and speed. Lumicast has already been deployed in more than 100 store locations by two of North America's top 25 retailers. The technology is designed to deliver precise indoor location services to improve operational efficiencies in environments such as retail stores, malls, museums, airports, factories, warehouses, educational and healthcare institutions, and enterprises. 3/14 PRNewswire



8. ***Are You Ready for the Era of Smart Lighting?*** - Maturation of LED lighting technology has driven LED manufacturers to highlight smart lighting and control systems at Light+Building 2016, which takes place this week at Frankfurt Fair and Exhibition Center in Germany. Below is a summary of major manufacturers new smart lighting products, and trends we've observed:
http://www.ledinside.com/showreport/2016/3/are_you_ready_for_the_era_of_smart_lighting
9. ***Power Over Ethernet Lighting Picks Up Pace with Cisco Partners*** - Hardware vendor Molex — anointed two weeks ago by networking giant Cisco as a connected lighting partner — teamed with UK software firm amBX to offer Power over Ethernet (PoE) lighting for commercial buildings, and Cisco hinted at new gear that will soon lower the cost for Ethernet lighting projects. Power over Ethernet lighting runs both electricity and data over standard Ethernet networking cable to LED lights, which serve as vital nodes in information hubs. It is beginning to take hold in the way that office phones began moving toward Ethernet-powered voice over IP (VoIP) telephony about two decades ago. As low energy devices, LEDs do not require the 120V and 240V electrical wires that are standard — and pricey to install — around the world. Proponents say PoE lighting augurs huge costs reductions in new lighting installations because it eliminates expensive electricians and traditional wiring; that it provides significantly greater energy savings than those already associated with LEDs; that it portends huge improvements in lighting by tailoring it more to human and individual needs and thus increasing workforce productivity and morale; and that it vastly increases the value of a lighting system by making it an integral part of a company's data network in which it helps to collect, analyze, and act on information. <http://www.ledsmagazine.com>
10. ***Cree Demonstrates 134-Lm/W Packaged LED with Incandescent Quality*** - Cree has announced the results of laboratory tests of a single high-power packaged LED that delivered almost 1600 lm with light quality that matches the incandescent lamp. The company said the 134-lm/W realized efficacy is 25% better than other LEDs that can yield similar light quality. Generally, when Cree has publicized laboratory demonstrations, the company has delivered similar technology commercially about two years later. Cree said the demonstration was based on a packaged LED that could deliver 90 CRI or better and also 90 or better for the R9 saturated-red color sample that is so important in applications such as retail lighting. Moreover, the CCT target is the 2700K warm hue of the legacy incandescent. Cree's demonstrated ability to deliver commercially on lab products in two years would synchronize nicely with the California Energy Commission (CEC) Title 20 ruling.
<http://www.ledsmagazine.com>
11. ***GE Lighting Recalls High-Intensity LED Replacement Lamps Due to Impact Hazard*** – This recall involves GE Lighting high intensity discharge (HID) LED lamps. The lamps are used in lighting fixtures for warehouses, schools and gymnasiums. The lamps are 5 1/2 inches in diameter by 11 1/2 inches long and weigh about 3 pounds. The lamps were sold in a blue and white carton with “ED37/EX39 base” on the front and “PC:21259” on the back above the bar code. Recalled lamps have the GE logo and the following information on the white plastic base of the lamp: LED165/M400/740, 165W, 4000K, 20000 Lumens, China and date code K213 or K245.
<https://www.cpsc.gov/en/Recalls/2016/GE-Lighting-Recalls-High-Intensity-LED-Replacement-Lamps/>



12. The Coming LiFi Opportunity? - The advantages of LiFi is that it is faster than WiFi, up to 100x faster (224 Gbps is the fastest recorded to date in a lab setting), it is more secure and it is more energy efficient and you can (theoretically) embed any LED light with a LiFi system. However, your current WiFi enabled phone/laptop/desktop can't just switch to LiFi. For your gadget to use LiFi it needs a photo-receptor and the code in the OS to allow it work. (sounds like an opportunity for all phone companies to get us to upgrade, hence generating opportunities for Apple, Samsung, LG, Motorola, etc). The systems have downsides too. You can't use LiFi (yet?). But, the Apple code is clear evidence that this technology is coming, and possibly faster than expected. It could also signal Apple's entrance into the lighting business. <http://www.electricaltrends.com/2016/03/the-coming-lifi-opportunity.html>

13. DOE Seeking Feedback on General Service Lamps - A Request for Information (RFI) on regulatory actions, mainly the coming 2020 mandate of 45 lumen/Watt minimum efficiency as created by Congress. The focus is on decorative and small directional lamps. This is not an activity of the SSL Program. The purpose of this RFI is to gather feedback from stakeholders prior to DOE potentially issuing a Funding Opportunity Announcement (FOA). This RFI is not a FOA; therefore, DOE is not accepting applications at this time. Submit feedback: **Response Deadline:** April 4, 2016, 5:00 PM ET. <https://eere-exchange.energy.gov/default.aspx#FoaId83d1d0fe-0268-4c9c-a8ea-dd1cc377c37a>

14. DOE Publishes CALiPER Report on Chromaticity Shift Modes of LED PAR38 Lamps - The U.S. Department of Energy's CALiPER program has released Report 20.5, which is part of a series of investigations on LED PAR38 lamps. The new report builds on CALiPER Report 20.4 by providing a tear-down analysis of its 32 LED PAR38 lamp models and also performing additional analyses on the spectroradiometric data obtained using a specially developed automated long-term test apparatus. The focus of the new report is to investigate causes of color shift and parametric failures within these lamps. <http://energy.gov/eere/ssl/downloads/report-205-chromaticity-shift-modes-led-par38-lamps-operated-steady-state>



15. Psychology and Physiology Color Ford's Choice of Interior and Exterior Lighting for Autos - The latest solution a LED lighting innovation Ford calls Crystal Diamond Light which the company first debuted in the F150 pickup. Now the Ford Fusion features Crystal Diamond Light LED-headlights. Ford says that the new lighting is about 62 percent more efficient than the previous lighting. Ford wanted interior and exterior lighting that would appear largely the same to both men and women and would provide a very high level of color discernment and differentiation (high CRI). The company also wanted dashboard lighting that would tend to have a calming effect. Ford designers looked to human physiology to decide on the lighting for both the interior and exterior of its vehicles. <http://www.solidstatelighting.net>

16. Philips Ramps Up IoT Push with Vodafone - Fresh into a partnership with IT giant Cisco, Philips pushed lighting further into digital connectivity today, announcing more alliances with non-lighting stalwarts such as Vodafone, and launching a Dubai trial with a retail chain using LED lights that track and guide shoppers in physical stores. In the case of Vodafone, Philips will outfit individual streetlamps with M2M SIM technology that will enable cities to remotely monitor performance and check for faults within the Philips CityTouch management system. <http://www.ledsmagazine.com>



Global LED EnergyWatch...

- 17. Chinese Investor GO Scale Said to Bid for Philips Lighting** - The private equity firm, which previously tried to buy Philips's Lumileds business, is bidding for the Dutch company's other lighting division. The unit could fetch about \$5.4 billion. The Committee on Foreign Investment in the U.S., the regulator that blocked the GO Scale-led consortium's \$2.8 billion offer for Lumileds, has been vocal about stopping acquisitions that would put technology important to the American government under Chinese ownership. Still, the lighting unit, which makes end products such as street lights, may be considered less politically sensitive than Lumileds. The new bid puts GO Scale in competition with U.K. investment company Melrose Industries Plc, as well as buyout firms Blackstone Group LP, Onex Corp. and Apollo Global Management LLC.
<http://www.bloomberg.com/news/articles/2016-02-29/chinese-investor-go-scale-said-to-bid-for-philips-lighting>
- 18. Blackstone and Onex Team Up to Bid for Philips Lighting** - Blackstone Group LP and Onex Corp. have teamed up to bid for the lighting unit of Royal Philips NV, according to people familiar with the situation. The business could be worth between €4.5 billion (\$4.9 billion) and €5 billion. The two North American private-equity firms are competing with New York-based rival Apollo Global Management LLC and U.K. investment company Melrose Industries PLC. They are teaming up to share the large equity commitment that a successful bid would require.
<http://www.wsj.com/articles/blackstone-and-onex-team-up-to-bid-for-philips-lighting-1457028188>
- 19. OPPLE Lighting Ranked No.1 on China's Top 100 LED Enterprises List 2015** - In 2015, OPPLE Lighting became the first Chinese enterprise providing lighting solutions to the high-end hotels in the Middle East. With the increasingly intensive competition in the LED lighting market, China's lighting manufacturers have to face a transformation of the whole industry. It is reported that the gross product value of China's LED lighting market will reach \$33.1 billion in 2015, up 18.5% year-on-year. Apart from LED lighting products sales, China's LED packaging service providers also faced various challenges last year. Under such fierce circumstances, OPPLE Lighting still concentrated on pursuing high-quality products and steady development to keep its competition edge in the whole lighting industry. <http://www.businesswire.com/news/home/20160301007218/en/>
- 20. Gooee in Tech Deal with EnOcean** - Gooee, the IoT platform provider for lighting, has partnered with EnOcean, the specialist in energy harvesting wireless technology, to integrate Bluetooth based self-powered wall switch modules into the Bluetooth Smart Mesh stack, the primary communication protocol in Gooee's platform for lighting. The collaboration will result in the first EnOcean-powered wall switch device integrated into the new Bluetooth Smart Mesh protocol, the next evolution of the low power communication protocol that becomes available at the end of 2016. With Gooee adopting Bluetooth Smart Mesh as its principal on-premise networking protocol, the integration of a wall-switch further enhances the full-stack offering to lighting and switch manufacturers and provides a maintenance-free control solution that delivers versatility and simplicity in its installation.
<http://luxreview.com/article/2016/03/gooee-in-tech-deal-with-enocean->
- 21. The 10 Best Innovations at Light + Building** - With over 2,500 exhibitors, it's easy to miss the really innovative lighting products at Light + Building. Which is why a team of expert journalists from Lux Review – ably assisted by wide network of expert spotters – scoured the halls all week in Frankfurt, searching for those stand-out ideas, new form factors and brilliant engineering to bring you our ultimate top ten innovations.... <http://luxreview.com/article/2016/03/the-10-best-innovations-at-light-building>

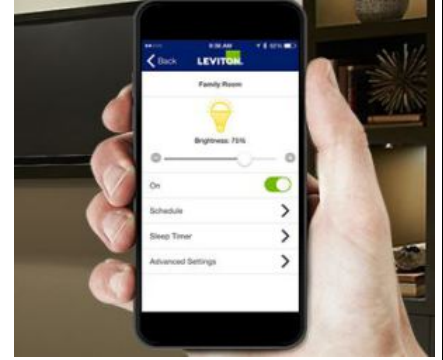


LED Technology Watch...

22. *Leviton Introduces Decora Digital Controls with Bluetooth Technology*

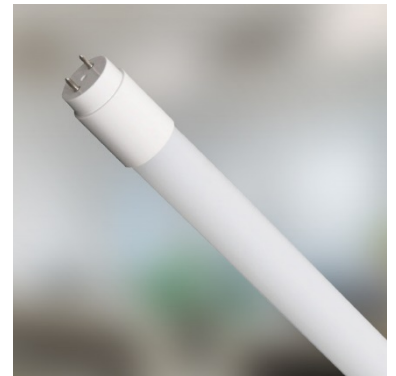
Leviton recently unveiled its new Decora Digital Controls with Bluetooth technology. These powerful lighting controls provide the ability to dim and time lighting without the need of a hub, gateway or internet connection. Users simply pair the device with the Leviton Decora Digital Dimmer & Timer App and use on-screen menu options to control lights with Apple or Android smartphones or tablets within a 30-foot range. Decora Digital Controls are available in dimmer and switch models. The Decora Digital Dimmer is a powerful device combining the best of Leviton dimmer and timer functions with today's technology.

http://www.leviton.com/OA_HTML/SectionDisplay.jsp?section=76089&minisite=10251



23. *Ushio America Introduces the Next Generation of Direct Replacement LED T8 Lamps* – It's the

Ubiquity™ 2 Direct Replacement LED T8 Lamps. These lamps offer an easy and safe energy-saving retrofit solution for F32T8 fluorescent lamps on most instant-start and programmed start electronic ballasts. With Ubiquity 2 LED tubes there's no need to rewire fixtures or disconnect ballasts. By not tampering with the fixture wiring or bypassing the ballast the original UL Listing on every fixture is preserved. These DLC qualified lamps are available in 2 different wattages, 15W and 18W, and have the form, fit and function of traditional T8 fluorescent lamps. The Ubiquity 2 LED T8 lamps are made with a shatterproof glass tube that is frosted to prevent glare and allow the 240 degree wide beam angle (325 degree visible light area) to create a quality lighted environment. Ubiquity 2 LED T8 lamps are available in 3500K, 4000K and 5000K color temperatures and 50,000 hour rated life LED lamps with a 5-year warranty. www.ushio.com



24. *pureLifi to Launch LiFi Dongle* - pureLiFi, an Edinburg University spin-off co-founded by Prof. Harald Haas, plans to launch its latest LiFi-X. Haas has made several public demonstrations of LiFi technology, one at a TED conference revealed the transmission of full HD video using LiFi. The company will introduce a LiFi dongle, which can use any LED light to transmit data through a secure wireless, 5G technology, light-based communication technology. The dongle can be operated from any USB 2.0 enabled mobile device. The company asserts that LiFi-X offers a user experience that is comparable and more secure than existing wireless technologies such as Wi-Fi. According to the company, LiFi-X can enable dense 5G and beyond indoor and outdoor wireless networks, and is the key to giving future mobile users 100 times higher data rates.

<http://www.solidstatelighting.net/purelifi-to-launch-lifi-dongle-at-mobile-world-congress-2016/>



25. *Electrical Wholesaling's Top 10 LED Picks for March 2016 are in* - Congratulations to the following companies for being featured: Osram Sylvania, Acclaim Lighting, Architectural Lighting Works, Cree, Griplock, Soraa, Hubbell Industrial, Luxul, Nora Lighting and Pure Lighting.

http://ewweb.com/gallery/ews-top-10-leds-march-2016#slide-0-field_images-31321



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26. Terralux SR12LED Retrofit Kit - The bigger the light fixture, the more maintenance it needs on lamps and ballasts. Of course those fixtures are always on the highest ceilings making them inconvenient to access and service. Terralux has created the solution with its new circular SR12LED retrofit kit. The kit quickly upgrades any flush, semi-flush, or pendant mount ceiling fixture in one of four different lumen packages. With over 108 LEDs spaced across the surface of the lamp, the SR12 provides a consistent even glow instead of one or three harsh light source points. Using under half the power of CFL for the same light, it delivers up to 135 lm/W with a lifetime beyond 60,000 hours for beautiful, maintenance free light. UL and Energy Star certified. <http://terralux.com/sr12-led-retrofit-kit/>



11. C by GE Life and Sleep LED Starter Pack - Smart lighting is a common starting point for the connected home, but with a lot of your options, you'll need to keep a control hub plugged into your router or understand what ZigBee is. GE wanted to lower that barrier of entry with its C by GE LED Starter Pack. For \$50, you'll get four smart LED bulbs that need no hub, and instead, connect directly with your phone over Bluetooth. Two of these four bulbs -- the C by GE "Sleep" LEDs -- will even change color temperatures automatically throughout the day, going from a hot, bluish, get-the-hell-out-of-bed tone in the morning to a warm, orangey, you-are-getting-sleepy shade in the evening. The other two bulbs, the C by GE "Life" LEDs, are more basic, offering remote smartphone dimming control at a fixed color temperature in between those two extremes. <http://www.cnet.com/products/c-by-ge-led-starter-pack/>

National Energy Watch...

27. New DOE Resources on Understanding IES TM-30 - Created by an Illuminating Engineering Society (IES) task group to address the widely acknowledged limitations of CRI, which is simpler to use but less accurate, TM-30 encompasses several individual measures and graphics that complement one another and, together, provide a comprehensive characterization of how the light will affect the color appearance of objects. TM-30 uses 99 color samples that come in all hues, both saturated and unsaturated, and were chosen to cover the range found in common consumer goods and natural objects. The three highest-level components of TM-30 are the Fidelity Index (R_f), the Gamut Index (R_g), and the Color Vector Graphic. Numerous sub-indices can provide more-detailed information about such things as the color fidelity of reds, the chroma shift of reds, and the fidelity of skin tones. <http://energy.gov/eere/ssl/tm-30-frequently-asked-questions>

28. NEMA's Roadway and Area Lighting Equipment—Luminaire Field Identification - ANSI Accredited Standards Committee C136 Revises ANSI C136.15-2015. This standard provides a simple, uniform method for identifying the type and wattage rating of luminaires used for roadway and area lighting. Types include high-intensity discharge, fluorescent, compact fluorescent, light-emitting diode/solid state lighting, induction, and plasma technologies and covers outdoor lighting equipment such as poles, arms, luminaires and control devices. <http://www.nema.org>



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City & State Energy Watch...

29. USGBC Releases the 2015 Top 10 States for LEED - Within the top 10 U.S. states, 1,633 commercial and institutional projects were LEED-certified in 2015 — representing 274.9 million square feet of space. These states were responsible for an 8 percent increase in the amount of certified space over last year. The top 10 ranking is as follows:

Rank	State	Gross Square Footage	Per Capita
1.	IL	43,979,595	3.43
2.	MD	17,659,881	3.06
3.	MA	19,850,624	3.03
4.	WA	17,450,321	2.60
5.	CO	12,218,992	2.43
6.	NV	6,534,960	2.42
7.	CA	87,358,563	2.34
8.	TX	52,445,321	2.09
9.	VA	13,005,968	1.63
10.	UT	4,494,301	1.63

<http://www.usgbc.org/articles/usgbc-releases-2015-top-10-states-lead-green-building-capita-us>

30. US Mayors Say LED Lighting Top Priority for Their Cities - US mayors rank energy efficient LED lighting as the most promising technology for city managers to reduce their energy use and carbon emissions over the coming two years, according to a survey held at the United States Conference of Mayors (USCM) in Washington DC earlier this year. In the survey, entitled ‘How energy Technologies are Reshaping America’s cities’, LED lighting surpassed 17 other clean technologies and low carbon solutions as the technology of choice for mayors. The USCM is an official non-partisan organization of representatives from 1,400 US cities larger than 30,000 inhabitants.

<http://www.theclimategroup.org/what-we-do/news-and-blogs/us-mayors-say-led-lighting-top-priority-for-their-cities/?platform=hootsuite>

31. \$4M System to Light Up Niagara Falls - The bi-national Niagara Falls Illumination Board has agreed to invest \$4 million to upgrade the nightly lighting system, this time using state-of-the-art LED systems that have a 25-year life cycle, have less maintenance requirements than the current lights and use 82 percent less power than the zeon lights being used on the falls. Work will begin this spring and the new system should be in place by mid-fall, in time for the annual Niagara Falls (Ont.) Winter Festival of Lights that begins in November and also serve as a backdrop for Canada’s 150th anniversary celebration next year. New York State Office of Parks, Recreation and Historic Preservation has invested \$64 million in various upgrades and should help attract more visitors.

<http://www.bizjournals.com/buffalo/news/2016/02/26/4m-system-to-light-up-niagara-falls.html>

32. Minnesota to Convert 100,000 Streetlights to LEDs - Xcel Energy, the largest electric company in Minnesota, intends to replace all of its 100,000 streetlights across the state with energy-efficient LEDs -- part of a proposed \$100 million, five-year streetlight upgrade in all eight states it serves. In Minneapolis, Xcel owns and maintains 28,000 streetlights and charges the city a monthly rate for each one. Another 20,000 streetlights in Minneapolis are owned by the city, which pays Xcel for the electricity. The new lights are being installed mainly on bridges and roadways, but other areas, such



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as weigh stations, rest areas, tunnels and maintenance facilities, are also being considered.
<http://www.govtech.com/fs/Minnesota-to-Convert-Streetlights-to-LEDs.html>

12. JEA Installing Energy Efficient LED Streetlights Throughout Jacksonville - The LED streetlights are more expensive than the current high-pressure sodium ones used now but are brighter, designed to last longer and promise an ultimate saving of at least \$1 million annually in electricity costs to the city once all are installed. The average JEA customer won't see any change in their electric bill because of the switch to LED. By the numbers, here's an overview of JEA's street light replacement project: 3/21 The Florida Times-Union

- About 130,000 -- Number of JEA street lights in the city of Jacksonville
- \$210 -- Cost for one 40-watt Cobra Head LED street light which is equivalent in brightness to a 70-watt high pressure sodium light
- At least 100,000 hours -- Average life span of LED streetlight.

33. Xcel Energy Switching to LED Streetlights in Grand Forks - Xcel Energy started installing LED lights in the North Dakota cities of Minot, Berthold, Burlington and Des Lacs earlier this month and hope to convert streetlights in Fargo in April. In all, nearly 3,500 streetlights will be upgraded in North Dakota. Xcel Energy will pay for all of the costs associated with the retrofits, including the removal and salvaging of old lights and installation of the LED fixtures. There are no costs to communities for this replacement. The city is also working to use LED lights in all city-owned buildings and facilities. 3/24 Grand Forks Herald

34. Houston Astros to be Lit with Musco's LED Lighting System - When Major League Baseball's Houston Astros take the field on April 11 against the Kansas City Royals at Minute Maid Park, it will be under Musco's cutting-edge SportsCluster Green™ LED system. As part of a significant renovation to Minute Maid Park, the new lighting system will provide unprecedented levels of energy efficiency and enhance the spectator experience at the ballpark. The new system replaces the original metal halide lighting equipment that was installed when the 40,000-seat stadium opened in 2000. <http://www.ledinside.com>

35. California's 2016 Building Energy Efficiency Standards - The 2016 Title 24, Part 6 Code Standards take effect on January 1, 2017:

- Residential Lighting: The 2016 Standards focus on several key areas to improve the energy efficiency of newly constructed buildings, additions and alterations to existing buildings. The most significant efficiency improvements address attics, walls, water heating and lighting. <http://cltc.ucdavis.edu/publication/2016-title-24-code-changes-residential>
- Nonresidential Lighting: The 2016 Standards focus on several key areas to improve the energy efficiency of newly constructed buildings, additions and alterations to existing buildings. California's Standards now align with ASHRAE 90.1 2013 standards and include more stringent lighting power density limits for many indoor and outdoor spaces. Updates enhance and simplify many aspects of the 2013 requirements including indoor lighting control requirements for new construction and alterations contained in the 2016 nonresidential lighting energy efficiency standards. <http://cltc.ucdavis.edu/publication/2016-title-24-code-changes-nonresidential>



Monthly Special Feature... Tracking lamp sales.....

<u>dollars</u> <u>millions</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
LED	137	338	600	1100	1700
Fluorescent	789	819	815	740	630
CFL	589	659	660	610	460
Halogen	273	274	350	475	480
Incandescent	578	505	480	375	320
HID	<u>355</u>	<u>336</u>	<u>315</u>	<u>280</u>	<u>245</u>
Total	\$2,721	\$2,931	\$3,220	\$3,580	\$3,835

<u>units</u> <u>millions</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Incandescent	1316	1130	1030	690	480
Fluorescent	476	400	405	385	330
CFL	242	410	360	355	250
Halogen	121	127	186	360	400
LED	11	23	40	105	290
HID	<u>29</u>	<u>27</u>	<u>26</u>	<u>23</u>	<u>21</u>
Total	2195	2117	2047	1918	1771

<u>millions</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
T12					
Units	61	67	79	74	37
Dollars	99	130	140	155	97
AUP	\$ 1.62	\$ 1.94	\$ 1.77	\$ 2.09	\$ 2.62

<u>millions</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
T8					
Units	272	230	245	230	190
Dollars	370	400	395	350	290
AUP	\$ 1.36	\$ 1.74	\$ 1.61	\$ 1.52	\$ 1.53

<u>millions</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
T5					
Units	37	34	37	34	30
Dollars	124	122	125	110	95
AUP	\$ 3.35	\$ 3.59	\$ 3.38	\$ 3.24	\$ 3.17

