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### Merry Christmas Everybody



Love is patient, love is kind. It does not envy, it does not boast, it is not proud. It is not rude, it is not self-seeking, it is not easily angered, it keeps no record of wrongs. Love does not delight in evil but rejoices with the truth. It always protects, always trusts, always hopes, and always perseveres. ~ 1 Corinthians 13:4-7 ~

### Something to Think About...



Many, all over the globe celebrate Christmas Day. Most Protestants and Roman Catholics and Orthodox Christians celebrate the birth of Jesus on December 25. Before the 19th century, many Americans worked on Christmas, but in the industrial era the holiday began also to honor universal values, such as home, children and family life, and to incorporate secular customs like exchanging gifts and cards, and

the decoration and display of evergreen Christmas Trees. Congress proclaimed Christmas one of the first federal holidays in 1870. In 1999, a federal court acknowledged these secular aspects in rejecting a claim that the holiday impermissibly endorsed and furthered a particular religious belief.

During the Great Depression in the 1930s, President Franklin D. Roosevelt proposed moving the Thanksgiving holiday to extend the shopping period between that holiday and Christmas. Seasonal "Christmas shopping" began to assume economic importance. This extended Christmas season is about far more than shopping. For many Americans, it is a period of general good will and an occasion for charitable and volunteer work. To some extent, non-Christian holidays celebrated at roughly the same time of year -- most prominently the African-American Kwanzaa and the Jewish Hanukkah -- blend into a broader "holiday season." As with so many aspects of U.S. cultural life, Christmas in the United States reflects the values of a giving, free and diverse people. Merry Christmas to you all...



# National LED EnergyWatch...

- Legendary Coach Bob Knight Passed Away at 83 The news of Bob Knight's passing broke on Wednesday night, leaving the sports world crushed at the loss of a legendary figure. Often undone by his temper, Bob Knight might've been the best basketball coach ever. Knight helped innovate the sport and drew the attention of millions through his brash style and on-court success. The sports world reflects on his career highs, including the last undefeated season in college basketball, his 902 career wins and the impact he had on the state of Indiana. This Bobby Knight story about coaching Michael Jordan in the 1984 Olympics is fantastic. God bless him and his family and may he rest in peace. <u>https://x.com/claytravis/status/1719895460310102345?s=42&t=HIcqLU1u2ISqGI3yLM6LtA</u>
- 2. ENERGY STAR Rebate Finder Find rebates and special offers near you on ENERGY STAR certified products. Products that earn the ENERGY STAR label meet strict energy-efficiency specifications set by the U.S. EPA helping you save energy and money while protecting the environment. Enter your zip code at: Special Offers and Rebates from ENERGY STAR Partners EPA ENERGY STAR
- 3. U.S. Offshore Wind Sector 'Fundamentally Broken' BP Exec BP's renewables boss said the U.S. offshore wind industry is "fundamentally broken" as BP and its partner Equinor study options to develop huge projects off the coast of New York after \$840 million of their value. The offshore wind industry, one of the fastest growing energy sectors, has recently suffered a string of major setbacks due to equipment reliability issues, supply chain problems and sharp cost increases. Orsted, the world's largest offshore wind developer, flagged writedowns of up to \$5.6 billion after halting the development of U.S. offshore wind projects. Anja-Isabel Dotzenrath, BP's head of gas and low carbon, said that problems in the United States included permitting, the time lag between signing power purchase agreements and projects being built and a lack of inflationary adjustment mechanisms. U.S. offshore wind sector 'fundamentally broken' BP exec | Reuters
- 4. Lighting Controls Association's "Introduction to Lighting Controls" Now Available on YouTube Authored by Craig DiLouie, LC, CLCP, education director for the Lighting Controls Association, EE101: Introduction to Lighting Control provides an overview of the basic functionality of today's lighting controls, benefits and the basic questions to ask when identifying an appropriate lighting control strategy. The written course at Education Express is registered with the American Institute of Architects (AIA) Continuing Education System (CES) and recognized by the National Council on Quality in the Lighting Professions (NCQLP). It is also required reading to prepare for NALMCO's Certified Lighting Controls Professional (CLCP) exam. The Lighting Controls Association is recognized by the State of California as a continuing education provider. https://www.youtube.com/watch?v=xnMySo\_Nwi8
- 5. Mark Your Calendar for 2024 & 2025 -
  - <u>Registration LEDucation</u> LEDucation Trade Show and Conference at the New York Hilton Midtown. Virtual Sessions March 14-15, 2024; In-Person Sessions March 19-20, 2024
  - ArchLIGHT Summit 2024 ArchLIGHT Summit | Dallas Market Center, 2100 Stemmons Fwy, Dallas, TX 75207 September 17 &18, 2024
  - <u>The Future Illuminated | LightFair Commercial Lighting Tradeshow</u> Lightfair Trade Show and Conference <u>at the Las Vegas Convention Center</u>. **May 4 8, 2025**



6. EPA's ENERGY STAR Program Celebrates Lighting Efficiency Achievements - Since the ENERGY STAR label for lighting and lightbulbs was first introduced in 1997 to improve market uptake of energy efficient lighting, well over three billion ENERGY STAR certified light bulbs have been sold in the United States. These sales have helped transform the lighting market and deliver electric energy



savings of over one trillion kWh—equivalent to the annual carbon sequestration of over 800 million acres of forest in the United States— emphasizing that energy choices count and our collective decisions as consumers can have a big impact on the environment. In May 2022, the Department of Energy formalized a policy that enforces a 45 lumen-per-watt limit and ushers in a new era for lighting. As a result of this new standard and widespread market penetration of energy efficient lighting, the ENERGY STAR label will be phased out from most lighting options effective at the end of 2024. ENERGY STAR Celebrates Lighting Efficiency Achievements (facilityexecutive.com)

- 7. Li-Fi Is Finding a Killer App: Gaming & Esports Li-Fi utilizes light (typically infrared), instead of WiFi radio waves, to provide blazing fast, secure, wireless connectivity. There has been some Li-Fi adoption by military organizations around the world, but generally, overall adoption has been very slow. That may be about to change. The Consumer Electronics Show (CES) has been writing about a new Li-Fi application that is likely to take off, namely gaming and esports. One startup, <u>PhotonFi</u>, has developed gaming platforms powered by Li-Fi. Li-Fi's use of light to transmit data minimizes interference in ways that far surpass Wi-Fi. Among its advantages, Li-Fi functions well in areas with a high density of users, it significantly reduces latency, and even operates through water. Li-Fi Is Finding A Killer App: Gaming & Esports | LightNOW (lightnowblog.com)
- 8. The Hassle of Approved Product Lists for EV Charger Rebates In the rapidly advancing realm of electric vehicles (EVs), the road to adoption is often paved with promising incentives, one of the most notable being EV charger rebates. 74% of the country boasts a rebate for EV chargers, but navigating the landscape to get these incentives can be both rewarding and, at times, challenging. The relatively high incentive amounts can help cover a significant portion of the installation cost. BriteSwitch's RebatePro for EV Chargers makes it easy to determine which rebate and incentive programs have an Approved Product List or Approved Network List. Quickly research where you need to get your equipment on an approved rebate program list or make sure you're using the right rebate-eligible charger in your area. RebatePro for EV Chargers

Average EV Charger Rebate in North America	
Level 2 Charger Residential	\$544 per charger
Level 2 Charger Commercial	\$3,128 per charger
Level 3 / DCFC Charger Commercial	\$24,379 per charger
Source: BriteSwitch RebatePro fo	or EV Chargers Nov 2023

Our business is changing your future...

- 9. Electrification Opens New Avenues for Lighting Industry Growth As electric vehicle (EV) adoption accelerates across the U.S., the EV charging market is powering up with a projected annual compounded growth rate of 29.1% between 2023 and 2030. Leveraging their business experience and industry partnerships, some lighting and controls companies are expanding their product lines to capitalize on the opportunity. While the EV charging sector offers a lot of opportunity, success is not guaranteed. The market is continuously evolving and major competitors, such as Tesla, are known to announce new advancements that can cause significant disruption overnight. Electrification opens new avenues for lighting industry growth | LEDs Magazine
- 10. Waiver of Buy America Requirements for EV Chargers The Federal Highway Administration (FHWA) established a temporary public interest waiver to waive Buy America requirements for steel, iron, manufactured products, and construction materials in electric vehicle (EV) chargers. This short-term, temporary waiver enables EV charger acquisition and installation to proceed while also ensuring the application of Buy America to EV chargers by the phasing out of the waiver over time. Beginning with EV chargers manufactured on July 1, 2024, FHWA will phase out coverage under this waiver for those previously covered EV chargers where the cost of components manufactured in the United States does not exceed 55 percent of the cost of all components. Complete information for the FHWA temporary waiver for EV chargers at: Federal Register :: Waiver of Buy America Requirements for Electric Vehicle Chargers
- 11. Steps to Conducting a Commercial Building Energy Audit Fundamental energy audit steps:
  - *Gather Utility Bills:* Start by collecting your commercial building's utility bills for the past year. These bills will provide valuable insights into your energy consumption patterns and help establish a baseline for comparison.
  - *Inspect Your Commercial Building:* Conduct a thorough visual inspection of your commercial building, both inside and outside. Look for signs of energy inefficiency such as drafts, leaks, and inadequate insulation.
  - *Identify Energy Sources:* Make a list of all the energy sources and systems in your commercial building, including lighting, HVAC, appliances, and machinery. This will help you focus your audit efforts.
  - Assess Lighting and HVAC Systems: Evaluate the energy efficiency of your lighting and HVAC systems. Consider upgrading to energy-efficient solutions and optimizing HVAC controls.
  - *Conduct an Energy Assessment:* Use energy auditing tools or software to input your data and generate a comprehensive energy assessment report. This report will highlight areas for improvement and offer recommendations. Energy Auditing 101: Rebounding From Extreme Weather (facilityexecutive.com)
- 12. Networked Lighting Controls Offer Deep Well of Energy Savings by CRAIG DILOUIE As firstgeneration LED lighting systems begin to be replaced, a significant opportunity to maximize energy savings by incorporating networked lighting controls is emerging, particularly when HVAC integration is included. Networked lighting controls have been demonstrated in research to reduce LED energy consumption by 50+ percent. By integrating HVAC control via lighting system-based occupancy sensors, total commercial building energy consumption can be reduced by up to 5-10 percent. Networked Lighting Controls Offer Deep Well of Energy Savings (lightingcontrolsassociation.org)



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- 13. Green Rebates to Give Away More Than \$100,000 in Cash and Horticulture Prizes at MJBizCon Green Rebates, the only rebate and incentive management company primarily serving the horticulture industry, announced today it will give away more than \$100,000 in cash and prizes to attendees at MJBizCon, the world's largest cannabis conference and expo, taking place Nov. 28 to Dec. 1 in Las Vegas. Conference attendees must acquire an "Emerald Ticket," available on Green Rebates' social media channels and distributed among partners, to enter Green Rebates' cash machine (located at booth No. 29006). Inside the cash machine, participants can win vouchers for thousands of dollars worth of cultivation equipment as well as cash. Now in its 12th year, MJBizCon is the leading global cannabis business conference and trade show held annually at the Las Vegas Convention Center. Green Rebates to Give Away More Than \$100,000 in Cash and Horticulture Prizes at MJBizCon LEDinside
- 14. Fluence Announces Major Presence at MJBizCon 2023 Fluence announced it will have a major presence at MJBizCon, the leading cannabis industry conference. Fluence Cannabis Solutions Architect Casey Rivero will join a panel alongside Fluence customers to discuss how growers can maximize crop quality. In addition, the company is investing in connecting the cannabis community at this year's conference, providing product demonstrations from Fluence's line of leading LED lighting solutions as well as hosting a series of Grower Talks with Fluence experts at the company's booth. Fluence Announces Major Presence at MJBizCon 2023, Including Panel of Industry-Leading Growers, Educational Series and Product Demos LEDinside
- 15. Acuity Acquires Horticulture Products from Current Lighting Acuity Brands, Inc. announced today that it has reached an agreement to acquire the Arize® family of horticulture lighting products from Current Lighting Solutions. The Company has also reached an agreement with Hort Americas, LLC for it to remain as the exclusive distributor of these horticulture lighting products throughout the U.S., Canada, and Mexico. The transaction with Current Lighting is expected to close by the end of January 2024 when the Arize products will join the Verjure<sup>™</sup> series of horticulture lighting products from Acuity Brands. The Hort Americas agreement will go into effect upon the closing of the transaction with Current. Acuity Acquires Horticulture Products From Current Lighting lightED (lightedmag.com)
- 16. Is AI an Energy Efficiency Game Changer for Older Buildings? From a smart building perspective, <u>AI is being integrated</u> into many occupant-facing technologies to help improve the safety, health, and functionality of buildings and campuses. While "smart" electrical, lighting, and HVAC systems have existed for a while, their intelligence remains largely static and relies on input by system operators. However, with the advent of AI/ML, these technologies can evolve to the next level by identifying consumption patterns at a far more granular level and can more quickly adapt to these changes, lowering electricity and heating/cooling draw to dramatically low levels. So much so that operators of older buildings who opted to pass on early-generation smart building infrastructure technologies may not be able to ignore them. While the technologies are not yet ready for commercial use and will likely be expensive for the first few years on the market, now's the time to start researching and planning. AI will eventually be a game changer when it comes to smart building operators that have yet to move to smart technologies, this is the time to get on board. Is AI an energy efficiency game changer for older buildings? | Smart Buildings Technology



17. MDM Virtual Data Analytics Summit on December 6<sup>th</sup> - A virtual summit specifically designed for wholesale distribution executives. The <u>virtual Data Analytics Summit on December 6th</u> will cover the three building blocks of sales & marketing data analytics:

**Customer Stratification**: Transform your customer base into actionable categories, to identify highvalue opportunities, assess their unique needs and tailor your sales strategy and services to maximize ROI. Learn how to uncover the true cost associated with serving different customer segments. **Channel Analytics**: Learn techniques distribution and manufacturing leaders are using to identify, assess and optimize channel partnerships to maximize efficiency, target revenue opportunities and execute win-win plans.

**Market Profiling, Market & Wallet Share**: This session outlines best-practice growth tools for market segmentation and profiling, prospecting, Recency-Frequency-Monetary (RFM) analysis, market-share tracking and advanced wallet-share optimization techniques.

<u>Registration is open now.</u> I hope you'll join me to tap into the best practices, leading methodologies and peer panel discussions of data analytics leaders. Tom Gale, CEO of Modern Distribution Management

- 18. ArchLIGHT Summit 2024 Call for Speakers The fourth annual ArchLIGHT Summit held at the Dallas Market Center is looking for our 2024 Speakers! The next event, taking place Tuesday, Sept. 17 and Wednesday, Sept. 18, 2024, will welcome lighting designers, architects, interior designers, specifiers, and students to review new products, network, and attend a wide range of seminars. The most sought-after sessions will be those that break the mold of traditional presentations and panels, in favor of more experiential learning and honest discussions. We are looking for sessions to discuss the latest and greatest in the industry, covering topics such as innovative technology, design practices, business acumen and more. ArchLIGHT Summit 2024
- 19. Streetlighting the Way to 5G Technologies such as 5G cellular communications need a place to land, as do all the sensors being developed to detect and transmit roadway information. Streetlights are ubiquitous and offer direct access to electrical power, especially in urban and suburban locations, so they are a critical component in cities' digital infrastructure. From monitoring weather and safety conditions to aiding the deployment of autonomous vehicles, devices added to streetlights are set to become more numerous and important over the next decade. What's new is that the move to 5G cellular systems is providing the speed and bandwidth needed to enable new applications, including aiding the development of autonomous vehicles, which will be using 5G to communicate with other vehicles and the environment. Additionally, cities could use smarter streetlights to monitor real-time traffic and roadway conditions more easily. Electrical Contractor Streetlighting the Way to 5G (ecmagdigital.com)
- 20. ENERGY STAR Finalizes New Downlight Spec The ENERGY STAR Downlights Specification Version 1.0 was finalized on November 16, 2023, is effective immediately, and takes full effect on January 1, 2025 with the sunset of the Luminaires spec. Downlights don't have to be recessed to qualify for the program. For example, flushmount downlights and even wall mounted downlights can qualify. The new program includes downlight retrofit kits that convert legacy light source downlights to LED. No empty socket downlights are permitted in the program, only dedicated LED downlights. On Tuesday, December 5, 2023, at 2:00 PM EST, EPA will host a webinar, providing an overview of the major changes from Luminaires V2.2 to Downlights V1.0. Register here to attend. ENERGY STAR Finalizes New Downlight Spec | LightNOW (lightnowblog.com)



## **Global LED EnergyWatch...**

- 21. Fluence and Cannabis Business Times' Annual "State of the Cannabis Lighting Market" Report Today Fluence, in partnership with Cannabis Business Times, released the eighth-annual State of the Cannabis Lighting Market Report. A survey of more than 125 industry insiders, this report provides unique insights into the actions of cannabis growers in the midst of an uncertain and fast-changing landscape. Some of the key takeaways from this year's report include:
  - For the second year in a row, at least 70% of study participants used LEDs in vegetation and/or flowering.
  - 62% of respondents ranked "crop quality" as the most important factor for using LEDs in cannabis production.
  - Growers' top three challenges in 2023: Energy costs, consistency of lighting and lighting's impact on plant growth.
  - LED adoption has increased more than 50% across veg, flower and propagation since the start of the report in 2016.

Full report on the Fluence website or in Cannabis Business Times' November/December 2023 issue

- 22. Signify Gets No Pain Relief in the Second Quarter CEO Rondolat describes a "missed season" for horticulture, while indoor commercial and home markets continue to slump. Interest rates are now a factor, while outdoor lighting and supply chain offers bright spots in the financials. Being a lighting all-rounder can be hazardous to the bottom line. Ask Signify, where net income crashed 82% in the second quarter as the company's solid performance in the outdoor sector couldn't stave off difficulties in the indoor professional and home markets, as well as in the horticultural lighting segment. Signify gets no relief from economic slump in its second quarter financials | LEDs Magazine
- 23. Signify Accelerates the Transition to Energy Efficient Lighting with New Ultraefficient Lamps -Signify continues to lead the transition to energy efficient lighting, helping municipalities, communities and businesses reduce their energy consumption by replacing legacy conventional lamps with the new Philips MASTER LED SON-T UltraEfficient (UE). The new products meet the highest energy label, 'A', under the EU's Ecodesign Regulation, and the Energy Labelling Regulation. As A-class products, these new bulbs, spots, and lamps consume at least 43% less power to achieve the same output as standard alternative products. In the E.U.'s September 2021 reconfigured labeling scheme, the top rating of A requires 210 lumens per watt (lm/W), B means 185 lm/W, and C 160 lm/W. https://www.ledinside.com/news/2023/11/2023\_11\_06\_03
- 24. Zumtobel Comes Back to the IoT Table A resurgence is afoot in the LED industry's efforts to market IoT lighting, and no company exemplifies the renewal more than Zumtobel. Zumtobel's rekindled interest emerged a few months ago, when the Dornbirn-based company announced a set of technologies that turns its Tecton batten-style LED luminaires into a tracking system to help users keep tabs on physical assets and to monitor the movement of people within a facility. The "High Accuracy Positioning" (HAP) system attaches sensors and Bluetooth transceivers to the Tecton fittings and to goods. It collects data which it can analyze with software called Zumtobel Industry Analytics. The intent is to provide insights on how to improve operations like logistics, inventory, and workflow. Zumtobel comes back to the IoT table | LEDs Magazine



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## LED TechnologyWatch...

25. Introducing Amerlux FINCH 1" Collection of Cylinders and Downlights - Offering exceptional output, flexibility and a broad range of configurations, the Amerlux FINCH collection delivers soft,



high-quality illumination in various solutions: fixed downlight, wall mount, exterior ground mount, downlight and adjustable with a patentpending 50-degree aiming angle. FINCH is designed to be used as accent or general illumination inside and outside high-end hospitality, commercial, residential and retail applications, or where a slat or smaller ceiling is required. **Interior Lighting:** Whether installed on ceilings or walls, FINCH is a versatile design tool. Use it to complement any design or as a decorative element with stand-out flair. **Exterior Lighting:** Emphasize or mask your surroundings using one product family and size. Do it from the ground up or along the walls. Available

in 3" to 18" lengths, delivers over 1000 lumens and offers beveled door options for extra shielding. <u>bestlight.amerlux.com/finch/</u>

26. EarthTronics Offers NEMA 4X-Rated Color and Wattage Selectable Vapor Tight LED -EarthTronics now offers 2-, 4- and 8-foot NFS, NEMA 4X and IP66 wet location rated Color and



processing areas, commercial kitchens, cold storage, parking garages, walkways, stairwells, utility areas, under canopy, outdoor retail and other wet, dusty, and dirty environments, the Color and Wattage
Selectable Vapor Tight LEDs are available in multiple color and watt combinations. The new Vapor Tight LEDs offer the choice of three temperatures (3500K, 4000K and 5000K) and feature a high 80+
CRI. Both the light color temperature and the lumen level can be set at the time of installation with a switch located on the LED module holder plate to ensure the proper lighting for improved visual acuity

Wattage Selectable Vapor Tight LEDs designed for faster installation in commercial and industrial lighting applications. Ideal for food

and application requirements. Rebates can easily be found through the EarthTronics web site at <u>Rebate Finder - EarthTronics (https://www.earthtronics.com/rebate-finder/)</u>. For more information about all EarthTronics products, visit <u>https://www.earthtronics.com/</u>

27. TCP's LED Horticulture Vapor-Tight Luminaire - The TCP LED HVT Series Horticulture Vapor Tight is a low cost option for mid-level to commercial horticulture applications. Benefits include high efficiency, up to 289 μmol/s of photosynthetic photon flux, long life, instant on, and a simple 4FT vapor tight design that can be used in a variety of horticulture lighting applications. TCP's green spectrum LED horticulture vapor-tight luminaire is designed for working in grow rooms at night without disrupting plants. It is IP65 wet-location-rated, available in 2- or 4-ft. lengths and in a 10W, 20W or 40W power package. <u>HORT 4FT 100W</u> FLOWER SPECTRUM | LED Horticulture Luminaires | TCP Lighting (tcpi.com)



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### Monthly Special Feature...

*Here Comes the Lighting–HVAC Integration Tsunami by David Shiller* - Before a tsunami, the ocean withdraws out to sea. Similarly, the signs are growing that a new tsunami is about to hit the lighting industry. That is the integration of lighting controls with HVAC controls.

#### Why?

It's well known that LED "socket saturation" as well as diminishing returns when LEDs are combined with advanced lighting controls are quickly eliminating significant ROI for lighting retrofits and control installations. Utilities are abandoning residential lighting rebates completely by the end of this year, and many utilities are struggling to figure out how to replace energy savings from commercial lighting retrofits. In short, much of the energy saving potential from LED lighting is already being saved and the "energy efficiency – industrial complex" (in which the lighting industry has played a major role) is in desperate need of a new **large** source of cost-effective energy savings.

#### **HVAC** integration

Advances in networked lighting controls (NLC), LLLC, wireless technology, sensors, and building management systems, have all laid the groundwork for the integration of lighting controls with HVAC control. This will **not** try to squeeze more blood (energy savings) out of the lighting stone. Rather, it will utilize lighting sensors and control systems to inform HVAC control systems of opportunities to better schedule and control HVAC systems to significantly reduce HVAC energy usage. According to the US Energy Information Administration (EIA), HVAC consumes 52% of commercial building energy use in the US (space heating + cooling + ventilation in the chart below). Meanwhile, lighting has declined to only 10% of commercial building energy use, and only 10 years ago it was 17%. Well done LED lighting industry! A quick look at the EIA chart below will show that HVAC is by far the only building system in which to find double digit percentage savings of commercial building energy use. All other systems (except lighting) are less than 10%). For example, if lighting integration with HVAC could save 20% of HVAC energy use, those savings would equal all the energy used in commercial lighting today! Therefore, HVAC potential savings dwarfs the energy savings potential from lighting energy use.

#### **Climate Action**

As if these weren't enough reasons to pursue lighting-HVAC control integration, there are enormous new pressures coming to commercial buildings. Climate action is resulting in:

- Electrification of vehicles with enormous new EV charger electricity demands on commercial buildings.
- Electrification of HVAC with heat pumps has high initial costs and greater electricity demand (to replace fuel oil and natural gas use).
- Municipal and state commercial building performance standards to reduce building energy use & carbon emissions. Many of these standards now have fines on building owners for non-compliance.
- At the same time, some municipalities are instituting financial incentives to building owners to electrify and reduce energy use. Carrots and sticks!
- Rapidly rising electricity rates due to the Russia-Ukraine war, chaotic growth in electricity demand from electrification, price inflation and some shortages in critical electricity grid supplies, such as transformers, poles, substation components, etc.
- Projected shortages and price spikes in critical metals needed for electrification, such as copper, aluminum, cadmium, rare earths, and others.



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All of the electrification stresses above can be reduced through significant energy savings in commercial buildings. But where to save significant building energy? Lighting – HVAC integration.

Once you start looking for them, you'll find plenty of signs that the lighting – HVAC integration tsunami is coming. Here are some that I see:

- 1. LiteTrace merged with Autani, last month. One driver was to combine their respective lighting controls with building automation systems, to provide lighting-HVAC integration.
- 2. Last week's DLC Controls Summit had a large focus on lighting-HVAC integration. See Randy Reid's recap of the event <u>here</u>. There was a conference session devoted to lighting-HVAC integration.
- 3. I'm aware of large Chinese factories that are already building their product development strategy around lighting-HVAC integration, such as making EVERY fixture sensor-ready (containing a sensor receptacle). These factories in China have heard that utility rebates will be shifting to lighting-HVAC integration, and they want to be positioned to get sales lift from those anticipated future rebates.
- 4. Trane has expanded from HVAC to lighting and is actively discussing the arrival of lighting-HVAC integration, and their unique position to facilitate it. See <u>here</u>. Here Comes The Lighting-HVAC Integration Tsunami | LightNOW (lightnowblog.com)



