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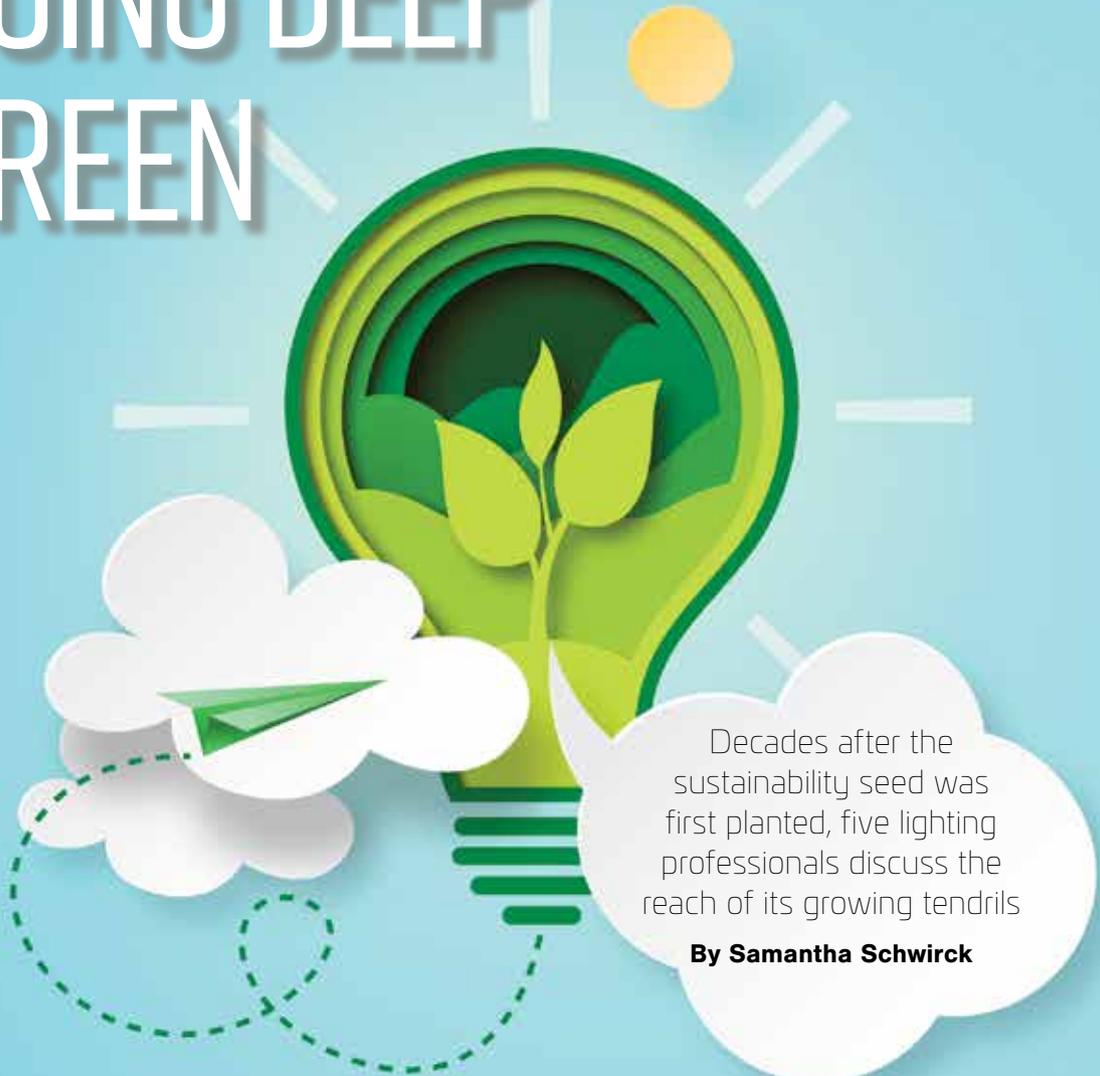
LIGHTING DESIGN and APPLICATION

Lighting's Next Revolution
In the Valley of the Suns
Green Messaging for Clients

Under a Full Moon

Hospitality Brings the Outdoors In

GOING DEEP GREEN



Decades after the sustainability seed was first planted, five lighting professionals discuss the reach of its growing tendrils

By Samantha Schwirck

Much like LEDs and light & health, sustainability in the lighting industry has, over the years, taken root, grown, evolved, been redefined—and redefined again. All the while, lighting and design professionals have attempted to grapple with the changes.

Today, at least one thing's for sure: "sustainability" is reaching its tendrils into new and unexpected areas of our lives—and everyone is talking about it. With that, both sides of our industry—manufacturers and specifiers—must be well-versed in the language of green and ready to share their sustainable bona fides when gathering around the conference table with clients.

That's just one of the resounding messages from the five lighting professionals—representing both design and manufacturing viewpoints—that we spoke to about current trends. The rest follow here.

THE MANUFACTURERS



Aaron Smith
*Vice President of Technology
 and R&D, Finelite*

Current sustainability efforts?

At a high level, there are four big items we are focusing on: (1) promoting diversity and inclusion, (2) reducing our carbon footprint, (3) developing a circular economy and (4) being a responsible company. Specifically, at the product/manufacturing level, we are focused on material transparency (Declare labels), environmental transparency (LCA and EPDs) and CO2 reductions (material and process innovations).

What's the demand?

Specifiers and design teams have been demanding sustainability for a long time. In the past, the focus was largely operational efficiency, but today there is an added focus on healthy buildings, embodied carbon emissions, and diversity and inclusion. The demand for products that can provide this information has increased significantly as more projects are being built to meet various sustainability and

social goals. Some projects are participating in programs like WELL, Living Building and LEED, while others simply want to meet their own corporate social responsibility goals.

Also, it is not just projects but organizations, like the AIA, who are supporting material pledges and have developed sustainability commitments. Leaders in the lighting design community like Sladen Feinstein have developed the Lighting Advocacy Letter to help get the support of the design community to ask lighting manufacturers to develop sustainable lighting products and, in turn, designers are committed to updating their specs and giving priority to these manufacturers.

Your take on sustainability buzzwords?

These buzzwords are some of the core sustainability requirements lighting designers and architects need and that's why they come up so often.

Material transparency is all about disclosing the ingredients that go into making a product. There are several ways to disclose this type of information, including in the form of a Declare label, which is a program run by the International Living Futures Institute (ILFI). This is the program we have been getting the most requests for and the one we participate in.

The next important buzzword is *environmental transparency*, and this is all about disclosing the energy that goes into

making, operating, maintaining, and recycling or disposing of a product and the impact that energy has on the environment such as carbon emissions. At Finelite, we are participating in research projects looking at the life-cycle cost analysis (LCA) of our products in order to assess the complete energy profile of the manufacturing process from the raw material production to the end-of-life and recycling phases. Life-cycle analysis is important because it allows us to create what's called an environmental

“In the past, the focus was largely operational efficiency, but today there is an added focus on healthy buildings”

product declaration (EPD), which details the environmental impacts of a product—and is what architects need in order to quantify the impacts of our product on their building projects.

The final two buzzwords I'd like to discuss are *CSR* (corporate social responsibility) and *ESG* (environmental social governance). Many companies today have documented CSR or ESG goals that publicly disclose a company's environmental, social and governance policy commitments to investors. Generally, these commitments are audited by a third party so that the companies are encouraged to act responsibly and meet their commitments. The impact of this is that these commitments

start influencing the companies' actions.

Marketing tactics?

We have introduced our sustainability efforts through educational training, industry collaborations, TV appearances,

e-blasts and our website. We incorporated specific material transparency options into our catalog code, so they are visible to specifiers.

We think that designing and manufacturing sustainability is one of the most innovative things

that we can do as a manufacturer today. We're going to continue to make it easier for specifiers to use healthy, sustainable products on their projects, and easier for them to have the data at their fingertips.



Eric Jerger

Vice President and General Manager, Cooper Lighting Solutions

Current sustainability efforts?

Signify, the parent company of Cooper Lighting Solutions (CLS), has embarked on a new, five-year journey to double our positive impact on the environment and society. With the United Nations' Sustainable Development Goals as our strategic compass, we are launching even more ambitious goals, developing solutions that use less energy over the life of the product, from production to end use. Additionally, each of our manufacturing sites are either zero-waste-to-landfill or nearing that goal—and, speaking of waste, we use 80% recycled paper for packaging and are working to phase out plastics from packaging.

“Each of our manufacturing sites are either zero-waste-to-landfill or nearing that goal”

What's the demand?

Sustainability is table stakes for our customers. Whether for new development or retrofit projects, sustainable solutions are a given. Not only are they environmentally friendly, but they are also more economically sound and help to future proof projects given evolving codes and mandates.

For customers who prioritize efficiency and productivity, retrofitting to LED can alone save customers a great deal in energy costs, but many of our solutions have an added sustainability benefit. For example, our controls products offer scalable and integrated lighting automation solutions that can control indoor and outdoor spaces while reducing energy costs, improving occupancy comfort and much more. A facilities manager may wish to explore advanced control systems to improve a building's occupant experience, then be pleasantly surprised by the positive fiscal and environmental impact.

Your take on sustainability buzzwords?

In terms of cradle-to-cradle, we are driving the development of products that can be reprinted, refurbished, reused or recycled by extending our circular portfolio. Signify's ambition is to double revenues coming from circular products, systems and services to reach 32% in 2025. CLS offers circular products across its portfolio, both indoor and outdoor. In addition, CLS is on the Industry Advisory Committee of the DesignLights Consortium.

Marketing tactics?

When it comes to sustainability, it's most important that we walk the talk. We must continuously gather insights and innovate to develop the most valuable and sustainable solutions for our customers.

One of the best ways we can market sustainability is to share customers' real-world stories. One great example is our Town of Pepperell case study, where CLS provided a Dark Sky

certified solution that met all the town's desires, replacing their 409 high-pressure sodium light

fixtures with LED light fixtures. These luminaires reduce the town's total system wattage by

over 80% while reducing glare, skyglow and light trespass.



Terence Yeo

*Founder and CEO, Fusion Optix
President, Xico Lighting*

Current sustainability efforts?

At Fusion Optix, we realized several years ago that we had a responsibility and duty to support our OEM customers as they pursued RoHS compliance, Red List Free material choices, and now, Declare listings. Our factory, just outside Boston, enables us to control all our material choices, production processes and methods in manufacturing and packaging, including recycling and reusing materials.

What's the demand?

There is no doubt that we are receiving significantly more requests for Declare labeling and/or for more information and transparency related to sustainable lighting and our manufacturing methods and supply chain. The Lighting Advocacy Letter and its framework is something that we have often turned to for

guidance and, fortunately, we have some great relationships that are open to discussion and communication. Having said this, it's not always clear on specific projects, or requests for proposals that might come, who is driving that demand and whether it is a direct result of a lighting specifier's input per se or whether it is originating at a more general interior-design, architectural or building-design level. It's not always easy for us to understand how important the sustainability requirement actually is relative to other factors such as overall cost. Additionally, it is often the case that different geographical regions and markets have varying levels of demand for sustainability.

Your take on sustainability buzzwords?

We made the decision when launching Xico Lighting to be "100% Declare" and Red List Free from the outset. This means that every single product series that we have developed has been individually listed and carries a Declare label. We have backed this up with an end-of-life, return-to-factory-to-recycle policy along the lines of "cradle-to-cradle." We also strive to use sustainable packaging and have invested in in-house equipment so we can produce custom packaging of an appropriate size, with minimal waste. We also believe in the viability of a

domestic, more local, supply chain with a lower carbon footprint in supply-chain shipping.

Marketing tactics?

Xico Lighting is a relatively new entrant into the lighting industry, which presents some unique challenges. At the same time that we are looking to promote our sustainability strategy, we are also trying to grow our revenues

"We want to be as transparent as we can be—partly because we know we can be, and partly because we know it's the right thing to do"

in a highly competitive market. Our goal is for these activities to go hand-in-hand so that as our brand recognition grows, so too does our sustainability. We also want to be as open and transparent as we can be—partly because we know we can be, and partly because we know it's the right thing to do. We often host members of the lighting designer and specifiers community at our factory. When they see the equipment that makes an LED engine, or an optical lens, there are always lots of questions about what goes into our products and how they are made. We would certainly like to do more and show more. We see sustainability as a team effort.



Dan Weissman

Senior Associate and Director of Lam Labs, Lam Partners

Current sustainability efforts?

In our design practice, we strongly adhere to perception-based lighting design. This allows us to minimize lighting hardware to the locations where it's perceptively required. We rely heavily on digital visualization tools and BIM to develop designs in a cohesive and immersive environment. We typically shoot for at least 10% below code to minimize our projects' operational carbon footprint.

Our most significant efforts at present are about education. How do we educate ourselves and our clients? We've produced a series of AIA-accredited Sustainable Lighting Design courses, and have monthly in-house presentations on sustainability topics. A number of individuals engage in committee work. We also have a number of LEED, WELL, CHPS and LBC lighting experts on staff and have a strong understanding of how to achieve the lighting credits in each rating system.

“We’re getting to a point where the embodied carbon footprint is going to outweigh the energy savings of marginally increased LPW”

What’s the demand?

Most clients are invested in sustainable design to some degree, but it's a spectrum. We are involved in many projects that seek LEED and/or WELL certification, and increasingly Living Building Challenge certification as well. Many of these projects go for the low-hanging fruit, for which some of the more demanding lighting-related credits are often excluded. Many others wish to achieve the spirit of the rating systems without going through the hoops. A handful of our projects are at the upper echelon of sustainable practice, while a majority remain in the category of “feasible as long as it doesn't cost more or hinder other decisions.”

Your take on sustainability buzzwords?

The practice of demanding material transparency is just beginning to be a part of our regular design process, and still requires a certain buy-in from clients. I worked on my first LBC project recently, which was quite a challenge to meet the criteria given how few lighting fixtures are Declare labeled or offer an HPD, particularly exterior products. That said, we were an early signer of the material

transparency Lighting Advocacy Letter and strongly support the industry's move toward transparent manufacturing practices and a circular economy. In particular, we'd like to see more companies offer cradle-to-cradle infrastructure, which in practical terms would mean takeback programs and used lighting hardware marketplaces. I think there's a huge potential for used LED lighting hardware now that we're a decade into quality LED architectural lighting. In the past, the argument against this has been the higher operational carbon footprint of old versus new hardware, but I think we're getting to a point where the embodied carbon footprint is going to outweigh the energy savings of marginally increased LPW.

Marketing tactics?

We believe that sustainability pervades the core of our business practices and as such we don't necessarily flaunt our efforts in day-to-day practice. However, we engage at a high level with building scientist researchers, participate on committees, and present at conferences on sustainability topics, all of which are presented through our marketing efforts.



Shahrzad Abtahi
 Director of Lighting Design,
 Lightcraft (a division of AKF
 Group)

Current sustainability efforts?

As we all know, daylight is the most sustainable light source. By providing daylight calculations, we evaluate visual comfort, daylight infiltration and energy consumption. For many new buildings we participate in choosing the orientation of the building to capture the most daylight, as well as aid in optimizing the heating and cooling loads.

We practice sustainability on all of our projects by finding the right balance between efficiency and visual comfort. In addition, our design team maximizes the energy savings by specifying smart control systems and sensors.

What's the demand?

We hear about [sustainability] all the time and it's not a surprise. Based on *The Global Sustainability Study 2021*, "More than a third of global consumers are willing to pay more for sustainability as demand grows for environmentally friendly

alternatives. About 55% of consumers in the U.S. have made some modest changes to their purchasing behavior or way of living to be more sustainable." We are lucky to work with architects and owners that care about the environment; most of our projects pursue LEED certification and a few projects pursue WELL certification as well. These efforts seem to be concentrated around our Northeast projects. In other markets, they are less requested, but everyone wants to save money and saving energy achieves both.

Your take on sustainability buzzwords?

Sustainable, safe and environmentally friendly materials were always big parts of sustainable design. We are relieved to see that the lighting industry is finally beginning to follow this path. We encourage all lighting manufacturers to provide Declare labels and we will support them by specifying their products.

Marketing tactics?

For several years we have offered a series of presentations to architectural firms and other clients with regard to sustainability. All architects are aware of the importance of energy savings and material transparency, but these are not the only factors that can contribute to sustainability. Our goal is to educate our clients about the important role lighting design plays in an overall balanced project. During our initial design meetings, we discuss the value of an integrated design—balancing aesthetics, energy

"We are relieved to see that the lighting industry is finally beginning to follow this path"

usage, glare control, visual comfort, lighting levels, etc.—and the importance of the interior design layout and finishes. We are part of a team and working together provides better outcomes for the project and the planet. ©

TAKEAWAYS & TRENDS

- ✓ Demand for material transparency is fast becoming table stakes.
- ✓ Cradle-to-cradle practices—such as takeback programs and used lighting hardware marketplaces—present new market opportunities.
- ✓ Data, research and education can help overcome barriers to adoption.
- ✓ Buy-in from building owners can vary based on geographic location and cost.