To LEED or Not to LEED

By David Sturtz

There is more than one pathway to energy-efficiency and green technology. One of the most common pathways for builders and architects is LEED certification. The USGBC, a nonprofit organization that promotes sustainability in building design, unveiled the LEED certification program in 2000 to guide the design, construction, operation and maintenance of a new or renovated building toward sustainability.

Sturtz

LEED certification has become the primary indicator of energy and efficiency in civic consciousness. No one knows this better than a school district gearing up for renovation or new construction. Communities want their districts to be mindful of the environment, and they're likely to advocate for LEED certification.

School districts are also mindful of the environment, but they must justify return on investment. Working with local design professionals to determine the pros and cons of LEED certification supplies districts with information and data they can share with their communities.

If the decision is to certify, documentation should begin immediately to keep track of design decisions, quantities and forms required for certification. Beginning this process early affords time to integrate sustainability strategies efficiently.

If a district decides LEED certification doesn't provide the financial justification for the effort and cost involved, there are alternative pathways toward increased energy-efficiency and sustainability. To its credit, LEED certification has sparked important conversations about energy efficiency and sustainability. For example, the goal is energy efficiency, but what kind of energy?

There is conflicting research regarding site, source and total energy savings in LEED-certified buildings. That's because energy savings at the site level (school building) is easier to attain than energy savings at the source.

Site energy is how much energy a building uses — also what users see on a power bill.

Source energy is how much raw material is required to generate, store and transfer power from a power station to a site.

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Site energy is defined by how much energy a building uses, or what ends up on a power bill.

Total Energy

Site-to-source ratio is how many units of energy are used compared to how many units of energy are required to make energy at the source. A one to one ratio means there was no loss of energy between the creation of the power and its storage, transmission and use.

Sustainability is a journey, and regardless of whether a district takes the LEED pathway or a different one, journeys are always based on sound planning. Together, districts and communities can plan for sustainability both environmentally and economically.

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Green Scene,** from page **15

see detailed information about how and where energy is being used on campus.

With a building automation system (BAS) controller to manage the system, building operators gain ease of use and the ability to monitor performance and make changes remotely with a web-enabled device. With the click of a button, facility managers can make set-point changes and manage alarms. The system's dashboard screens allow for simple reporting and programming adjustments to help ensure building systems continue to perform as they should.

Money-Saving Results

Installing a thermal energy storage system in the new learning center enabled JCC to shift 150 kilowatts of peak energy demand to less expensive nighttime hours. This helped the college reduce energy costs by taking advantage of lower-cost, off-peak electricity, while also managing peak demand to help reduce strain on the power grid.

The system is also an educational investment opportunity for the college. The new chiller plant, located in the center of the 12-building campus, includes signage and information about the sustainability benefits of thermal energy solutions.

Progress

The project has helped JCC make progress toward its goals of improving campus facilities and infrastructure while focusing on energy reduction and sustainability. It's a mission requiring an ongoing commitment, strategic investments, and assessment of new opportunities and technologies.

"We are building momentum as we work toward our ACUPCC goals," said Bruce Alexander, facilities director for JCC. "As we continue to implement energy-efficiency improvements, we are also increasing environmental awareness among our students, and the success of one project is making it easier to get approval for the next one."

College leaders hope the Climate Action Plan will help guide the campus now and into the future as they work to become climate-neutral and provide further stewardship for sustainability.

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Safety Trends,** from page **17

collecting, correlating and analyzing. Any red flags could trigger alerts to be sent to the appropriate individuals for follow up and any necessary corrective actions. In many cases, predictive analysis can identify and isolate potential problems early enough to enable immediate action that can significantly mitigate an event or even prevent it from occurring in the first place. As an added benefit, predictive analysis solutions are capable of learning and improving over time, meaning they are often capable of identifying patterns that may never have been expected and most likely wouldn't have been uncovered without that level of contextual analysis.

By reducing the time, cost and potential for errors associated with manual processes and credentialing, PIAM solutions deliver improved security, enhanced situational awareness, greater efficiency and the ability to proactively identify potential risks. This combination makes PIAM solutions an ideal tool for allowing schools at all levels to overcome the many security challenges they face today while retaining the spirit of openness they embody.

Don Campbell is the vice president, product, at Quantum Secure of San Jose, Calif.

ad index