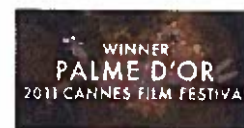


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Skyscraper Owners Learn ABCs of LEDs in Push to Save Energy

By NATHANIAL GRONEWOLD of

Part of an occasional series on the greening of New York City. [Click here](#) to view the series.

NEW YORK -- Switching all of a building's lighting to energy-sipping LEDs will save little electricity and money if it is not done properly, a lighting consultant warned about 2,000 commercial-building owners and managers at a packed forum here last week.

The new technology may not even work with older lighting ballasts, Greenlight Initiative President Nik Nikolakis said.

And some of the newest LED (light emitting diode) technology even features bulbs equipped with their own cooling fans, adding further complications.

Building owners also have to decide if they want to invest in new wireless controllers that allow users to dim an entire building after closing. Or whether to install motion sensors that shuts off lights when the room is empty.

"The energy savings are dramatic -- when it works," he said.

Nikolakis played professor at the Energy Efficiency Summit 2011, which the city's electric utility, Consolidated Edison, sponsored in hopes of providing additional momentum to an energy-efficiency movement that is transforming the city's real estate market (*Greenwire*, May 23).

"We wanted to do something that would make a big impact with our customers and really bring it to the front of mind for them," said David Pospisil, the utility's energy efficiency program manager. "We are back in this business, we have our own programs and we're designing them to be really easy to use."

The City Council is still considering a slew of recommendations offered last year by the Green Codes Task Force, a temporary alliance of building professionals charged by Mayor

Michael Bloomberg (I) to find ways to use building codes to force reductions in electricity use. But experts say the "green retrofitting" industry here is taking on a life of its own, independent of the expectations of the Bloomberg administration.

"It's definitely a growing trend," said Konkana Khaund, environment and buildings technology manager at Frost & Sullivan, a firm that offers consulting for property owners considering retrofits. "A key driver particularly being the energy aggregators and utilities who are encouraging innovators to make sure certain enhancements are done."

Paul Ramoino, New York and New Jersey project developer at equipment maker and retrofit project design firm Trane, gives credit primarily to Bloomberg and his focus on reducing power use by existing buildings.

"There are a lot of big buildings in this city and a lot of them haven't been paid attention to the way they should have for many years," Ramoino said. "Now Mayor Bloomberg is really putting a stamp on it."

Khaund and others say a number of factors are pushing the movement forward. Among them:

Falling commercial rents in the wake of the 2008 economic crisis forced building owners to scramble for ways to reduce costs, and cutting energy use was at the top of many to-do lists.

The city's buildings and their equipment are aging and due for refurbishment or replacement.

Commercial real estate transactions are down, so property companies are holding their buildings longer than at other times, encouraging them to make them more efficient.

Real estate professionals say their industry is also waking up to a new fact -- energy efficient buildings command better rents and are increasingly in demand.

Energy-hungry buildings

Office buildings consume 80 percent of the city's electricity.

About half of that power is used in tenant spaces and the other half in the common areas and basements that house boilers, chillers and electrical equipment, according to the Natural Resources Defense Council. Both areas offer inviting targets for netting energy savings.

Whether it is modern chiller equipment that uses ice to cool air conditioning, or specialized window coatings designed to keep rooms warmer in winter and cooler in summer, owners of

some of the city's largest and most famous structures are rapidly embracing new energy-cutting techniques as fast as companies can develop them.

New York boasts a handful of marquee skyscrapers that have earned the highest certification for energy efficiency given by the nonprofit U.S. Green Building Council. But insiders say projects that are becoming the most influential do not carry the council's Leadership in Energy and Environmental Design (LEED) seal.

Examples cited include Black Rock, CBS's 52nd Street home, which uses specialized window tinting to block 55 percent of heat radiation from sunlight. And owners of the 102-story Empire State Building have been working to make the 1931 landmark competitive with the newest skyscrapers.

More recently, Rockefeller Center won accolades and a \$500,000 check from Con Ed for switching out electric control units and aging heating, ventilation and air condition (HVAC) systems for the most modern available.

Officials at Tishman Speyer, which runs Rockefeller Center, said that though the work cost more than \$3 million to complete it has shaved \$1 million off the annual electricity bill, meaning that they can expect a full return on their investment by 2014.

Peer pressure is a driver of the greening of the city's skyscrapers, Ramoino said.

"Although it's a big city, this is a very small community of folks who talk amongst one another, so as these projects get notoriety I think there's a bit of 'keeping up with the Joneses,' so to speak," he said.

But proving the cost-benefit equation is key to convincing more building owners to jump on the bandwagon, said Michael Waite, a senior staffer at the engineering firm Simpson Gumpertz & Heger Inc.

"To make an investment, an owner wants proven technologies and some idea of the return on investment," Waite said. "The lack of confidence in some measures is understandable -- there is an investment required, the energy performance prediction tools are imperfect and every building responds differently."

Incentives

New York offers more favorable ground on that front as well, retrofitting firms say, because buildings must contend with some of the nation's highest daytime electricity costs -- 18 to 24 cents per kilowatt-hour on average, with much higher peak demand charges possible.

"Yes, it's bleeding into the consciousness of people everywhere, that energy is expensive, that energy efficiency is a good way to go about reducing those costs," said Todd Olinky-Paul, an energy policy analyst at Pace University's Energy & Climate Center. "Again, the question is always how do you get from that to making a real investment?"

Still, more properties are gradually joining the fray as their operators and owners come to realize that they do not necessarily need to aim for the highest standards in the green building movement, like with the Bank of America Tower and its LEED Platinum seal.

Rockefeller Center is not LEED-certified. Neither are the TIAA-CREF tower and other buildings that underwent similar retrofits. An apartment complex in Morningside Heights recently earned \$100,000 from a Con Ed program for updating water infrastructure and adding newer switches and controls.

Pospisil said his team had hoped to get at least a few hundred commercial real estate professionals to come to their one-day event in Midtown Manhattan. About 2,000 turned up instead, packing the LED lesson to a standing-room-only crowd and filling the gallery where 75 different energy efficiency equipment vendors were busy selling their wares.

Con Ed is seeing more activity building these days thanks to a change in an energy efficiency incentive program enacted about a year ago by the New York State Energy Research and Development Authority (NYSERDA).

Administration of a statewide "energy efficiency portfolio standard" program with a surcharge to ratepayers was decentralized from full NYSERDA control down to the utility companies, which were empowered to use the revenue to finance their own programs. Con Ed took advantage of the switch by setting up 13 separate energy efficiency programs and knocking on the doors of their biggest customers.

Catching wind of the changes in legislation and incentive structures, scores of other companies quickly followed.

Equipment makers and systems designers like Trane, Johnson Controls, Honeywell and Carrier Corp. have all been working overtime to make their products and services known to New York's large building owners. And those owners are increasingly receptive to their solicitations, executives say.

Variety

The packages the companies are selling vary wildly.

Waite specializes in designing, evaluating and rehabilitating entire building enclosures. He can help building owners assess their properties from top to bottom, calculating how heat, light, air and moisture travel through a building to pinpoint where modifications can be made to maximum benefit.

At least half a dozen buildings have swapped their old HVAC equipment for systems that generate ice during the night, to cool the air conditioning in daytime.

Other buildings seem to be taking things in stages, beginning first with changing entire lighting systems, then later looking at window films or replacements before considering the bigger ticket items.

Meanwhile, the city is doubling down on its energy efficiency bet as the green retrofitting movement gains popularity here.

Late last month the mayor's Office of Long-Term Planning and Sustainability gathered together experts from NRDC, the city's Department of Environmental Protection, Citigroup, Deutsche Bank and elsewhere to launch the New York City Energy Efficiency Corp.

The group plans to seek 501(c)(3) nonprofit status from the federal Internal Revenue Service and capital from the federal Department of Energy and philanthropic organizations to expand incentives to property owners that should encourage them to make their older existing structures as energy efficient as possible.

"It is a very exciting time and there is tremendous potential to reduce energy use in New York," Waite said. "It is also important for an owner to know that the specific package of measures that can benefit their building is unique and to take this opportunity to identify a package that works for them in the long term".

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