

MAN N REPORT



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Shedding Some Light on LEDs: A Bright Way for New York City Buildings to Reduce Energy Consumption and Cost

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Buildings are responsible for nearly 40% of electricity consumption across the country, with lighting comprising roughly a quarter of that figure.

About 80% of the CO2 produced in New York City is the direct result of the energy consumed by its one million-plus buildings.

While these figures are daunting, there is good news. Rapid improvements in lighting technology have made it possible to radically reduce a building's consumption levels – and thereby reduce carbon emissions and cost – by installing more efficient lighting systems.

Commitment to Conservation

As the managing agent for more than 400 residential buildings in New York City, Cooper Square Realty is committed to actively promoting energy efficiency in our properties. Last year we formed FS Energy, a subsidiary devoted exclusively to reducing energy consumption and cost in our properties by 25%.

Lighting in the common spaces and individual units of New York City apartments – which can comprise 30-40%

of a building's total energy costs – presents one of the largest opportunities for conservation.

Advances in Lighting Technology

Many buildings have already traded in traditional incandescent light bulbs for more energy-efficient compact fluorescent lights (CFLs). With more than six times the life expectancy of incandescent bulbs – 10,000 hours versus 1,500 hours – CFL technology has caught on quickly. Replacing a single incandescent bulb with a CFL keeps half a ton of CO2 out of the atmosphere over the bulb's lifetime.

But CFLs are a transition technology. Light emitting diodes (LEDs) are the next generation in lighting. Since being invented in the early 1960s, LED efficiency and light output have doubled every two to three years, with even more rapid

rates of improvement in recent years. ***The LED equivalent of a 40-watt incandescent bulb can operate for more than 60,000 hours!***

Many LED products are now clearly competitive with incumbent technologies regarding light output levels, light distribution, and efficiency.

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The U.S. Department of Energy predicts that LEDs will comprise 70% of the lighting market by 2020, up from less than 1% today. This massive growth has the potential to *reduce lighting energy by 50% by 2025 while eliminating 258 metric tons of carbon emissions.*

On the Bright Side

LEDs are small, long-lasting, consume little energy, and are highly robust and reliable. Even though the fixture costs are higher, the expense is recouped quickly, since LEDs use about one third less energy.

In environments where lighting needs to be switched on or off in quick succession – such as in basements, storage rooms and hallways – LEDs perform well since lighting is instantaneous. Many CFLs take time to ‘warm up.’

With LED technology, failure is seldom instantaneous. Instead, the light output gradually dims before the unit finally fails. And, unlike CFLs which contain small traces of harmful mercury, LEDs are non-toxic.

Powerful Incentives

Utility companies continue to offer significant rebates and financial incentives that reduce the cost of lighting upgrades. In addition, the New York State Energy

Research and Development Authority (NYSERDA) is expected to introduce a new incentive plan this fall. Plans such as these play a vital role in persuading buildings to move ahead with lighting retrofits, since they can often significantly shorten the payback period.

It is in every building’s best interest to find ways to reduce energy consumption and cost. When considering lighting projects, the first step is to have an energy efficiency survey conducted by an experienced, professional firm with a broad knowledge of lighting systems. The resulting report will deliver concrete numbers to show you dollar cost savings and the time required to see a return on your investment.

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There are myriad lighting solutions available in today’s market. While LED may not be right for every building, it is a proven tool in the pursuit of reducing energy consumption and costs. Not to mention the profound positive impact this next generation in lighting will have on our environment.

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