

REAL ESTATE WEEKLY

Building efficiency, profitability go hand in hand

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Going green is not just about saving the planet. There is a strong business case for increasing energy efficiency and reducing emissions. This is especially true in the real estate sector.

Residential and commercial buildings make up about 40 percent of US energy usage and 39 percent of the nation's carbon dioxide emissions, according to the U.S. Environmental Protection Agency. Commercial buildings run up energy bills totaling about \$100 billion per year.

The upside is that this opens major opportunities to create high-performance buildings that use less energy, cost less to operate and maintain, and achieve desired financial results.

In fact, more and more building owners around the country are realizing the business benefits of implementing energy conservation measures.

According to the U.S. Green Buildings Council, green building outcomes include: Reduced operating costs, improved occupant productivity and satisfaction, optimized life-cycle economic performance, sustainable performance outcomes, enhanced building asset value.

Energy conservation measures range from renewable energy technologies to relatively simple upgrades. Some key energy conservation technologies include:

Solar Photovoltaic, devices that use semiconducting materials to convert sunlight directly into electricity. The price of solar technologies is decreasing, making it a more viable renewable energy solution;

Geothermal systems transfer heat stored in the Earth or in ground water into the building during the winter, and transfer it out of the building, back into the ground during the summer;

Cogeneration makes use of the excess heat, usually in the form of relatively low-temperature steam exhausted from power generation. It is a highly efficient means of generating heat and electric power from the same energy source;

Thermal energy storage solutions that generate ice during the night to cool buildings during the day.

It is also possible to significantly boost efficiency through HVAC retrofits, lighting upgrades and building envelope improvements.

The industry benchmark for building green is USBGC's Leadership in Energy and Environmental Design (LEED[R]). LEED certified buildings use only 20 to 50 percent of the energy that typical buildings use, and emit 40 percent fewer carbon emissions. All 50 states now have LEED projects completed or in progress, including several in New York.

Building owners often believe there are high additional costs associated with green construction. However, developments in technology, energy services and government incentives make it a very cost-effective way to achieve better building performance, particularly on a life-cycle basis. The USGBC estimates that an upfront investment of 2% in green-design elements will net, over 20 years, a 20% return on total costs.

Some measures, such as renewable energy systems, require additional investment. However, a number of financing options and incentives are available to offset those costs.

The Database of State Incentives for Renewables and Efficiency (DSIRE) offers a comprehensive list of state incentive programs, as well as rules, regulations and policies. This includes funding opportunities through the New York State Energy Research and Development Authority (NY SERDA). These incentives are meant to slow down the disturbing climb in energy use.

New York expects electricity demand to outpace current capacity by 2012. A major part of that demand comes from buildings, which emit 79% of the global warming gases in the city.

Mayor Bloomberg has set ambitious targets to reduce the City's emissions. Local Law 86 went into effect at the beginning of the year, requiring that most new, nonresidential developments using at least \$10 million of city financing reduce energy costs by between 20 and 35 percent, along with additional environmental requirements.

New York is also among the first wave of cities in the Clinton Climate Initiative's Energy Efficiency Retrofit program, which aims to improve efficiency and lower emissions for buildings in the world's largest cities. The project provides building owners with access to energy audits and funding for energy efficiency improvements.

Building owners who embrace the green movement and make energy efficiency improvements will reap financial benefits as they do the right thing.

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