



## Creating an energy effective building system

August 19, 2011 - Green Buildings

When creating energy effective systems you have to look into many variables, such as operating costs, maintenance costs and environmental impact. Those variables should be able to be measured, managed and controlled. LED lighting or T5 lighting reduces the amount of energy used in your lighting systems. Lighting control systems insure your building is being illuminated when necessary. To reduce a buildings baseload, consider renewable energy technologies. When grouped together, you can better understand and manage your buildings resources, as well as save a great deal of money.

### Lighting Systems

When inquiring about LED lights, one has to look at the entire life cycle, rather than the just upfront costs. LEDs are better than fluorescents in all aspects of performance including reducing demand. LEDs produce nearly half the amount of wattage a conventional fluorescent luminary produces. What makes LEDs a perfect fit for future applications, is the ability to control them.

Occupancy and Photo sensors can increase the effectiveness of the system. An occupancy sensor turns on when the sensor recognizes motion. A photo cell turns itself on and off depending on how much natural light is present. With lighting controls, lighting becomes an on demand utility instead of an all day expense.

### Solar Photovoltaic

Solar PV is harvesting electricity through panels directed at the sun. This is very prominent in the west coast where many municipalities have installed large solar farms which create a substantial portion of power for the cities. New York City has an opportunity to put panels on the roofs of the building and create some power. This option is more functional than the current trend of putting green roofs up. Solar has an important tactical opportunity in the future.

With nuclear plants possibly being shut down in the next several years, the rate of electricity will rise at a higher rate than it already has. It will become important that private energy producers make a portion of the energy needed to power the city during the day.

Taking the building as a system approach, building owners and managers can use some of these ideas to improve quality of life, operating cost and reduction in carbon footprint. When a property can be measured, it can be managed, and finally controlled. Attacking energy usage from both the top and bottom helps stabilize your energy usage. Using these tactics, managers can use these systems as a tool to better understand the building they manage.

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