



Buildings Energy Sustainability Management from Basement to Rooftop

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As new building put into place the latest green build technology, many of the buildings built within the past twenty or even ten years are consuming energy with now outdated technology.

In today's rapidly expanding green-build marketplace it is imperative building owners and sustainability managers stay abreast of developing technologies.

By taking a "whole building approach" energy consumption can be diagnosed on a micro level then combined as one system that assesses the energy consumption and provides solutions from basement to rooftop.

Good sustainability management begins with an energy audit. In viewing the building systems together, a whole building assessment can be made, going from floor to floor to track all kilowatt usage. Energy conservation can be expedited by reducing energy distribution losses found throughout the building.

In the GCC region, 50 to 60 percent (or higher) of the cost of electricity is to power the extension air conditioning needed for today's lifestyle. The building system that consumes the most energy is the air conditioning system. Its efficiency is paramount in any sustainability program. Properly functioning chillers, system controllers and a well-sealed building envelope will go a long way toward ensuring efficient usage.

The second highest energy usage, building wide, is the lighting system. Even older lighting systems can be made more efficient by replacing bulbs, adding controllers, sensors and low wattage ballasts to lower kilowatt consumption of the overall lighting system.



The third focus for sustainability management should be lowering the amount of energy used by the motors that run the building's systems: lifts, chilled water pumps and booster water pumps all require large motors (especially in tall buildings where these motors must overcome gravity). Additionally there are numerous motors and controllers that operate continuously in temperature sensitive rooms such as IT rooms, communications rooms and LV equipment rooms. Tracking and reducing kilowatt usage in these large motor systems holds huge potential for lowering energy costs and consumption. As a final note, for these and all electrical systems, making sure the power (voltage) is consistent and free of distortion will also aid in savings from basement to rooftop.

In the world of green building and green building management the new, more efficient approach of viewing the facility whether new or existing as a whole system has the potential to uncover any hidden kilowatt waste. Through this "whole building approach" from basement to rooftop, conservation elements can be added and modified as new energy conservation products come onto the market to continuously aid the goal of overall energy conservation.