

## ENERGY &amp; GREEN BUILDING

## Going green by growing green

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In the current economy, few building managers or owners would turn down the opportunity to save money on costs and most would like to act in an environmentally-conscious fashion, as best they can.

The ideal situation would be one where building managers or owners could fix problems while doing something positive for the

environment in a manner that isn't terribly expensive or labor-intensive.

Does saving money, helping the environment and fixing a problem sound too good to be true? At Quality Conservation Services, Inc., we have developed a methodology around water, air infiltration and lighting that not only addresses cost issues for building managers and owners, but helps "green" the buildings.

As an added benefit, the work is done

without major disruption to the tenants or requiring extraordinary effort from managers and owners.

Taking the issues in order, there is good cause for concern about the Earth's water supply, as less than 2% is fresh water and only 1% is potable. Those facts are all the more alarming when one considers that a leaky faucet can waste 100 gallons of water a day and a continuously leaking toilet could lose more than 1,000 gallons of water a day.

Moreover, there is a significant cost associated with leaks. A unit with one continuously leaking faucet can cost as much as \$1,500 a year. In one mid-sized Queens Co-op, leaks comprised 37% of the water bill. A building manager or owner could cut nearly 40% of their water bill simply by addressing these leaks.

Building managers and owners also have to think about heat loss and insulation. Wisely, they would consider these a cost issue as a 100-unit building that is poorly insulated costs as much as \$100 per unit in heat loss alone due to air infiltration.

Again, there is an environmental issue that is closely tied to that cost as the same poorly insulated 100-unit building can release as much as 200,000 pounds of carbon dioxide (CO<sub>2</sub>).

Lighting is not, generally, high on the list of costs or environmentally unfriendly necessities, but it is a proven area for savings and



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greening a building. A standard light bulb will usually last around 700 to 1,000 hours and requires 20 to 25% more electricity than a Compact Fluorescent Lamp (CFL) which can last as long as 10,000 hours. That's ten fewer replacement bulbs. Unsurprisingly, the standard light bulb isn't environmentally friendly either. In one year, a bulb will emit upwards of 89 pounds of CO<sub>2</sub>.

If the problems of water, air infiltration and lighting are reasonably straight-forward, and the environmental impact is easy to identify, the big question for building managers and owners is whether the solution is cost effective and gets results.

In fact, QCS' GreenSmart Energy Reduction Program® can address all three of these issues in a comprehensive approach that reduces costs, lowers a buildings' carbon footprint and creates a more comfortable living space for tenants, which can help with retention.

By correcting leaky faucets, toilets and piping, QCS can stop the 100 gallons or 1,000 gallons of wasted water that these problems cause as well as provide a significant savings to the building. In one building for example, QCS' water measures saved the owner \$125,000 in annual recurring costs.

Heat loss from what is called "air infiltration" or the uncontrolled leakage of air in, and out, of a building can be dealt with but requires a more comprehensive solution. The problem areas seem easy to identify, windows and doors, but the less well-known ones — baseboards, moldings, sill plates, etc. — are equally important.

The GreenSmart Energy Reduction Program® is all-inclusive involving caulking, weather stripping, patching and sealing, fixing pipe penetration as well as other measures.

For example, a typical two-bedroom unit requires 190 linear feet of caulking and 40 linear feet of weather strip, and a standard 100-unit building needs more than 50,000 linear feet of caulking and over 10,000 linear feet of weather strip.

The benefits are equally impressive. Air infiltration reductions of approximately 15% translate into annual recurring energy savings of \$100 per unit. As an added benefit, weatherization reduces odors and noise pollution while increasing barriers to harmful pathogens, allergens and pests.

Finally, a full CFL lighting retrofit saves on energy and replacement bulbs as well as reduces CO<sub>2</sub> emissions by more than two-thirds. There is also a benefit visually. Fluorescent lighting technology produces a higher color rendering index. This makes colors appear brighter, truer and reduces eye strain commonly associated with standard bulbs.

Saving money and helping the environment is not only possible, it's practical and profitable, with the right team on your side.

## Crystal Windows joins government effort to reduce production costs

Crystal Window & Door Systems has submitted a formal proposal to the U.S. Department of Energy (DOE) to participate in their progressive "Highly Insulating R-5 Window and Low-E Storm Window Volume Purchase Program."

The DOE R-5 Program seeks to amass increased demand for leading edge, high-performance windows through the creation of an on-line virtual marketplace between qualified suppliers and qualified volume buyers.

The near-term goal of the DOE is that, through this jump-start pilot program, manufacturers will achieve needed volumes enabling them to reduce production costs for these ultra energy efficient windows.

Ultimately the objective is to substantively transform the window industry marketplace by making such advanced windows readily available at affordable prices.

"Several years ago I championed Crystal's entry into green technology," said Steve Chen, Crystal's executive vice president. "We've invested heavily in new production equipment, product testing and improving the energy efficiency of our windows. I am happy to say that the effort has positioned us amongst the top tier American window manufacturers participating in this ambitious project."

"We have high hopes for the DOE R-5 Program and the growth of the affordable high efficiency window market."