How's Your Green Improvement? Compared to What?

Nowhere is the multifamily owner's uncertainty greater than in green or energy conservation improvements. We've all been offered green roofs, electrochromic glass, and on-site wind turbines – all with vendor promises of future energy savings. Capital costs are high, and paybacks are uncertain.

Before investing in green or efficiency improvements, look at the *full* costs, and compare them the right way. Five things that you should keep in mind as you evaluate are:

1. **"Energy savings" is just the starting point.** An energy conservation improvement is nothing unless it cuts your monthly utility bill. The vendor will estimate your savings, but may overlook the following:

   - *Installation and hookup.* Some systems (e.g., light bulbs) are plug-and-play. Others (e.g., setback thermostats) may to be calibrated. Individually these costs are small; when you're paying them for each apartment, they add up.

   - *Ongoing maintenance.* A new system should need less maintenance, but may require someone with specialized training, and will most likely require accurate adjustment to run at advertised efficiency.

   - *Training the on-site staff.* Unless we build the fully automated building, the weakest link in a complex monitoring and performance value chain can be the people who use, respond to, and service it. Sending your people for two days of orientation is almost certainly a good investment, as is periodically giving them a refresher course … but again it adds costs.

2. **Keep your eyes on interactivity.** A building is an ecosystem that produces energy and heat, and then consumes/dissipates that energy or heat. Both production and consumption ecosystems are interactive among components; savings do not occur in isolation. Swapping out incandescent bulbs for compact fluorescent lamps (CFLs) will reduce your property's electric bills … but then your heating bills will rise, because all those hot filaments were adding a few degrees to the ambient temperature.

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Even more complicated is resident interactivity. Tenants open windows to clear bathroom fog, or prop open doors for cross-ventilation. Put in the wrong flow-flush toilet and the residents will flush it two or three times with each use, defeating your projected savings.

3. **Compare green upgrades against conventional replacements.** Existing properties have more than 150 different systems or elements. Normal replacement cycles for these differ: from fast turns for things like carpet and paint (replace on turnover?), to long-lived systems (e.g., roofs, intra-building plumbing). You may drool over the new high-pressure boiler with its touted 87% efficiency, but you already *have* a boiler, and while its 78% efficiency is well below current norms, it's already paid for and may have another 11 years of expected useful life. The best green improvements programs upgrade on a rolling basis, component by component, as they wear out and come up for their normal pit stops. Because of this, a meaningful energy audit or green improvements program must integrate and coordinate updates with the work done under the building's capital needs assessment schedule. You can't do G without CNA.

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4. **Normalize life cycles.** Two different components for the same system may have vastly different intrinsic useful lives. That stub period can be significant.

5. **Install a monitoring system.** When you undertake a green improvements program, take the opportunity to add a real-time monitoring and reporting system into your buildings. Data mining means money mining, because you can catch performance degradation and in some cases anticipate and hence head off system failure. Start tracking and logging that utility usage information as soon as the first new gadget goes in. (And don't forget to conform those resident leases to allow automated capture and aggregation of consumption data!)

The greening of your property in the near future is inevitable. The building pressures from consumer desires, government incentives, and environmental mandates make this a given. But before you go green, go green right.

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Enterprise, NHT Offer New Green Retrofit Loans

Enterprise and the National Housing Trust are offer a new "mini-loan" product that is available to nonprofit owners and developers to incorporate green retrofit improvements into preservation projects for older affordable rental properties. These loans can be used to help pay for pre-development activities, capital needs assessments, and energy audits. The below-market loans have a maximum size of $50,000 and maximum term of 30 years. *(http://www.enterprisecommunity.org/programs/documents/green_mini_loans_410.pdf)*