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Sustainable Energy Strategy That Improves Property Valuation

by Barry Sanders

Implementing and promoting green, sustainable energy initiatives is a proven strategy for marketing a hotel to environmentally-inclined guests and meeting planners. But do these efforts contribute to the property's value in the investor's portfolio?

The [U.S. Green Building Council](#) has found that "green" hotels enjoy a 6.8 percent to 10.9 percent property value premium. Hotel managers and owners are constantly looking to ensure that improvements and capital expenditures made to the property's energy infrastructure can make the hotel a more attractive asset, improve the cash flow and net income.

There is a growing opinion that properly selected and implemented energy efficient technologies can directly increase a property's value by improving four key metrics: occupancy, average daily rate, revenue per available room and profit per room.

An important step is to appraise the value of your hotel's current mechanical and energy systems. This may not be as straightforward at first glance, since the true energy efficiency of these systems is often more difficult to assess and many considerations come into play.

- Conventional evaluation methods provide a reliable analysis to take into account the wear and tear, physical deterioration, age, etc. of most physical plant equipment.
- The life, depreciation and replacement cost of equipment is well known and it is clear that a well maintained property suffers less loss in value.
- A deteriorating energy system that was neglected to avoid capital and operating expenditures may have a short term, temporary positive effect on cash flow, but a significant negative effect on the value of the property.

Even some new equipment that may be "in good shape" may fail to meet the energy efficiency expectations of property buyers. This is especially true since some technologies and business offerings can convert an equipment capital and operating expense into immediate positive cash flow. The return on asset of upgrading the mechanical plant with conventional technology is often poor and certainly does not add to the property valuation.

Proof is in Performance

"Companies with proactive environmental strategies have a 4 percent higher return on investment, 9 percent higher sales growth and 17 percent higher operating income growth than companies with poor environmental track records," according to a report by the Green Hotels Association.

There are specific, well known energy efficiency methods and technologies that provide significant cost savings and environmental benefits. For instance, combined heat and power (CHP or cogeneration) systems simultaneously produce heat, hot water and electricity from one fuel source, often natural gas. This two-for-one approach offers tremendous efficiency, often 90 percent, which translates into measurable cost savings and environmental benefits.

The heat that is produced from the generation of electricity is captured and applied in hotel property applications to warm rooms and heat domestic hot water for use in rooms, laundry, restaurants, swimming pools and spas. CHP also increases the lifespan of your existing mechanical equipment, such as boilers, as they do not need to run as often. CHP technology has been around for more than 100 years and has become an increasingly advantageous proposition.

According to the [EPA](#), "By capturing and utilizing heat that would otherwise be wasted from the production of electricity, CHP systems require less fuel than equivalent separate heat and power systems to produce the same amount of energy. Because less fuel is combusted, greenhouse gas emissions, such as carbon dioxide (CO₂), as well as criteria air pollutants like nitrogen oxides (NO_x) and sulfur dioxide (SO₂), are reduced."

A 300-room hotel utilizing a 300kW CHP can offset approximately 18,000 tons of CO₂ and may be able to save as much as \$2 to \$3 million over 15 years. The reduction in emissions is equivalent to preserving 162 acres of forest each year.

On-site Utility Solution

The economic and environmental benefits of installing a CHP system comes with added capital cost and operating responsibilities which may limit your goal of immediate return on investment. To avoid the capital and operating responsibilities of new equipment, many properties are taking advantage of an On-site utility solution as an alternative to the outright purchase of CHP equipment. On-site utility customers only pay for the energy produced by the system (heat, hot water and electricity) and receive a guaranteed discount rate on the price of the energy.

All system capital, installation, operating expenses, support and performance optimization are paid for and handled by the suppliers. This "no cost, no responsibility, no risk, just savings" approach allows hotels to enjoy all of the benefits of a CHP system, including efficiency, lower operating costs, significantly reduced energy costs and a decreased carbon footprint, while avoiding the drawbacks of ownership, which include an initial capital expenditure, operating and maintenance costs, and manpower requirements.

To understand if your property is a good candidate for a CHP installation, it is important to answer a few basic questions.

- Does your hotel have more than 120 rooms?
- Is natural gas available on site or nearby?
- Do you have a central boiler plant that supplies domestic hot water?
- Is there a need for hot water for an on-site laundry, banquet facility or heated swimming pool?
- Is your electricity bill more than \$10,000/month?

The more questions to which you can answer yes, the better the fit, meaning a CHP system could be right for you.

CHP with an On-Site Utility solution meets the criteria used to increase the valuation of a hotel property including green credits, no capital requirements, immediately cash flow positive, no additional labor requirements, and extended life on mechanical systems. A property will see both increased revenue and improved profit without increasing asset base. As the positive cash flow increases, the property values are certain to follow.

Barry J. Sanders is President and COO of [American DG Energy Inc.](#) and CEO of EuroSite Power, On-Site Utility offering clean electricity, heat, hot water and cooling solutions to hospitality, healthcare, housing and athletic facilities at lower costs than charged by local utilities - without any capital or start-up costs to the energy user. Sanders has held executive roles at MicroLogic, Inc., Andover Controls Corp. and Tecogen Inc. and managed R&D projects for the New York State Energy Research & Development Authority (NYSERDA).



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