



# Energy

by Phil Sprague

## It's time to reexamine energy saving capital projects

*Another great article from The Rooms Chronicle, the #1 journal for hotel rooms management! \*\*\*Important notice: This article may not be reproduced without permission of the publisher or the author.\*\*\* College of Hospitality and Tourism Management, Niagara University, P.O. Box 2036, Niagara University, NY 14109-2036. Phone: 866-Read TRC. E-mail: editor@roomschronicle.com*

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At the time this article was written the cost of a barrel of oil had risen to an all-time high of \$42. In conjunction with this, the cost of automobile gasoline has risen to an average of \$2.25 per gallon in the United States and around \$5.50 per gallon in the United Kingdom. Current predictions are that the prices will continue to rise. As one might expect, the cost of crude oil has a direct effect on the cost of all other forms of energy, such as electricity, natural gas, propane and fuel oil. Cost increases are typically proportionate to the increased cost of crude oil. All of this information indicates that hotel managers can possibly expect up to a 25% cost increase in most of the energy they use to run their hotel by the end of the year.

The increased cost of energy, therefore, changes the economics of investing capital in energy saving projects. Projects that had a two to four-year return on investment would likely be reduced to a one to three-year return on investment. A two-year simple payback is the same as a 50% ROI, which by all standards is considered an extremely attractive investment. Under these circumstances, capital projects can be financed and pay for their cost out of the savings, while still providing cash flow to the owner/operator of the hotel.

The following information will provide suggestions and ideas on how to take advantage of the high cost of energy problem.

### Public space energy control systems

Digital computerized public space energy control systems typically cost in the range of \$30,000 to \$200,000, depending on the size of the hotel and the sophistication of the system. At PSA Consultants, we always recommend that a hotel operator start out with a basic system and expand it as they learn the value of it. For hotel managers who have not already done so, it is recommended that they contact three energy control system vendors and ask for a budget price proposal. Do not request engineering design, because this will likely require up-front capital. Evaluate the system with the vendor and fine tune the proposal to a minimum cost. And take the time to discuss financing options with the vendor. Also, ask the vendor to provide as much information as possible on potential energy savings. As with any product of this nature, there are good and bad suppliers. The following is a non-exclusive list of national and reputable vendors providing this product:

- Honeywell
- American Automatrix
- Barber Coleman
- Allerton
- Novar
- Automated Logic

Most managers will likely find that mechanical contractors in their community represent one of these suppliers. Information may also be obtained from each company's Internet site.

## **Guestroom energy control systems**

As discussed in previous Rooms Chronicle articles, guestroom energy control systems can be very cost-effective when applied properly. There are two basic types of systems available on the market today: hardwired and wireless. The hardwired systems are more expensive because they require installing wires inside the wall connecting the components. The newer wireless systems can be installed by in-house personnel in about thirty minutes per room. The cost of all these products runs in the range of \$200 to \$300 per room, installed. Typically, hotels with through-the-wall units are the most cost-effective. The following is a list of reputable vendors that can also provide hotel engineering managers with a detailed proposal and energy cost savings:

- Lodging Technology
- Sennercom
- Energy Eye
- Energex
- Inn Comm
- Energy IQ

We have worked with all these vendors and typically, they are willing to install a sample room at a very modest price to give management an opportunity to examine their product.

## **Co-generation and back-up electrical generators**

These two systems normally involve large diesel generators, which are capable of providing a hotel with total back-up electrical energy. These systems are also typically quite expensive, in the range of \$100,000 to \$200,000, depending on the total electrical load of the property. Most local utilities usually have a special discounted rate for properties that can run their generators during “peak demand” electrical periods.

Co-generation typically has an added feature where the water used to cool the engine is used to heat water for the laundry and domestic hot water. Co-generation requires a detailed analysis by a professional, since it is a very dynamic issue. Caterpillar is one of the nation’s largest providers of these systems and has a very good track record in terms of customer service.

## **Energy efficient boilers and chillers**

For those lodging properties that use a boiler and hot water to heat the space and a large central chiller to provide air conditioning, if the system is over ten years old, now is the time to look at the newer energy efficient type systems. New boilers and chillers are about 25% more energy efficient than older ones. These economic circumstances provide an excellent opportunity for management to consider the economics of replacing old inefficient mechanical equipment of this nature. Trane, York, Carrier and McQuay are extremely good national suppliers of air conditioning equipment. National companies such as Keewanee, Hydropulse, Bryan and Fulton are just a few of the very good national suppliers of boiler equipment. Remember that these types of projects are also typically associated with a generous utility company rebate.

## **Lighting and motors**

As discussed in this column on numerous occasions, energy efficient lighting and energy efficient motors almost always provide under a two-year return on investment and will provide an even better return under current energy circumstances. These projects also have very good utility rebates. The new energy efficient lighting systems help increase customer satisfaction with properties by providing better light levels. General Electric, Westinghouse and Sylvania are just a few of the national companies providing excellent quality energy efficient lighting products. Most electrical contractor can provide many different high quality energy efficient motors. Hint: Verify that the energy efficient motors are wound with solid copper to reduce loss of energy in the form of heat.

## **Conclusion**

Predicting the future cost of energy can be very difficult. While it is safe to assume that energy prices will constantly increase, it is just a matter of determining how much they will increase. Most experts are predicting at least a 20% to 30% increase in natural gas prices for the coming winter, much like last winter. With the increase in crude oil prices, this may be even more significant. So, it is imperative that engineering and maintenance managers examine the all-around benefits and quicker payback periods that can be realized by energy saving capital projects. ✧

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