

TALKIN' GREEN

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Reducing energy use in the hospitality industry

There are 98,000 hotels in the United States and they are huge energy consumers. Lighting, space heating and cooling and water heating represent about 60% of energy use at a hotel. That usage is between 5-10% of a hotel's revenue so controlling energy costs is a big driver of profitability. On the good side, Hospitality is one of the major employers and economic drivers in the country and in Walworth County, so it makes sense that if the industry can save energy, it will increase profitability and also the opportunity for more jobs.

Here's some more good news; for every 1,000 kWh that can be saved, a hotel will prevent roughly 1,119 pounds of CO₂ from being emitted into the atmosphere from electricity generation. Even better, energy savings can help in the hotel's sustainability promotion which is increasingly more important to guests.

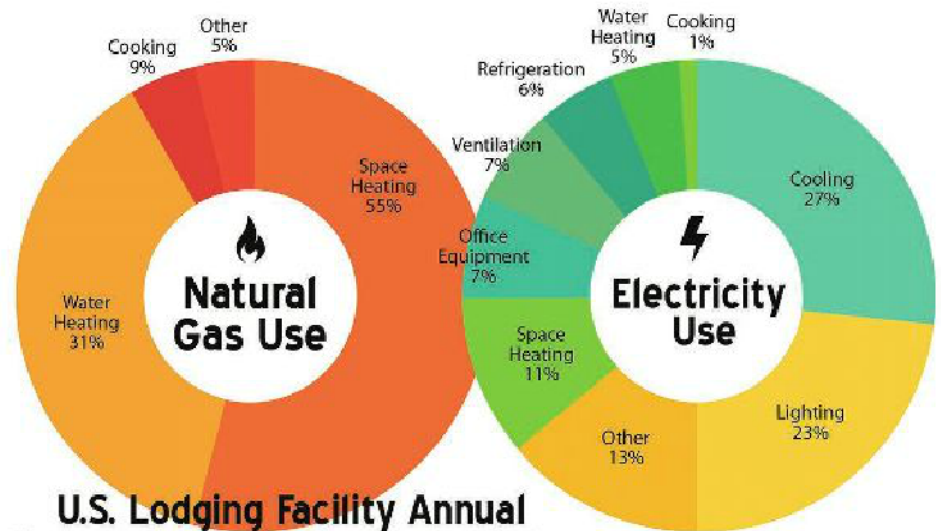
There are some common sense low-cost or no-cost solutions you can start with. Depending on the size of your hotel, you can simply turn things off or reduce the amount of energy used during slower times. Housekeeping can lend a hand by making sure lights and TVs are turned off as they finish with a room.

You can set laundry water temperature to 120 degrees, dim your lights wherever daylighting reduces the need, and rent rooms in clusters with special attention to avoiding energy intensive rooms facing west in the summer or North in the winter.

But sometimes these low cost methods fail because they are too difficult to stay on top of managing the process. However, hotels represent an excellent opportunity for reducing energy with automated systems all without impacting the guest experience. An energy audit is the place to start to assess all of the different energy uses and savings opportunities.

The following upgrades give excellent paybacks and many can be done with Pay out of savings with no investment.

1. Lighting- although CFLs have been used for years now to save money and energy, LEDs are taking over the marketplace. They last longer and save more so you get big savings in maintenance and energy. Keep in mind, LED bulbs come in good, better, and best categories and although you will pay more upfront, your experience in hours of operation makes the investment more than worthwhile. Focus first on common areas and hallways where lights run for extended periods of time. Your outdoor lighting on the building and parking lot is also good. Guest rooms offer a longer payback but the maintenance savings can definitely improve your bottom line.



U.S. Lodging Facility Annual Energy Consumption by End Use

Source: E SOURCE, data from U.S. Energy Information Administration and Natural Resources

2. Hotel room controls- Most of the time, hotel rooms are empty but the heating and air conditioning operate as if someone was there. Room controls determine when a room is vacant and then turn the temperature up or down to save energy. The latest are smart controls that are able to learn throughout the varying seasons how much the temperature can be changed but be able to return the room to the guest's desired temperature when they return. Typically these controls can reduce room HVAC run times by 40%. Payback is in the 1 to 3 year period.

3. Ozone Laundry Systems- Hotel laundries typically use a lot of hot water, electricity and chemicals. Ozone laundry systems use cold water, and less water and detergent. An ozone system can give a 1 to 3 year payback by just the reduction in the cost of the hot water.

4. Graywater heat recovery systems- Graywater is not the water from your toilet but rather from the shower, bath and sinks. Heat recovery systems capture the heat before it goes down the drain. Typically the waste heat is used to pre-heat the replacement water going into the water heater or in a storage tank. Typical payback is 1 to 2 years. Additional waste heat can also be captured from the cooling and refrigeration equipment. This improves the efficiency of that equip-

ment and helps it use less energy.

5. Upgrade your chillers and boilers- Proper sizing of replacement chillers and boilers requires a holistic view of energy consumption based on all of the energy improvements made. An oversized chiller can have a reduced run time that will not effectively remove humidity. New chillers are also 25% to 50% more efficient than a chiller that is 10 years older and new boilers can be at 99% efficient. Reduced maintenance costs are also part of the overall cost equation.

Hotels are revenue driven, and reducing energy costs as much as possible is the equivalent of renting more rooms making more of a profit. The old saying, a penny saved is a penny earned could never be truer.

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