

THE HOTEL ENGINEER



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In-room Energy Savings

Energy Management Systems save resources and revenue

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As any good hotelier will tell you, despite being one of the world's oldest industries, the hospitality business is one of the most dynamic industries. With so many external factors affecting the operation of a hotel it is often difficult, confusing and time-consuming to keep pace with the changes. As the world changes, hoteliers are forced to face the many aspects of their operations that are affected by forces completely outside the realm of their business. In this case, we are talking about expenses. Expenses that were once fixed and predictable expenses are now increasing at a rapid pace. However, with some planning and forethought, one expense can be reduced and at the least controlled. That expense is energy consumption in the guestroom. Although, utility costs are typically regarded as a fixed expense, today they are increasing at a staggering rate and as a percentage they are consuming a large portion of hotels' expenditures. In fact, energy costs are the second highest operating expense of a typical hotel property.

Energy consumption and costs have reached nearly crisis proportions, thus in Australia there has been a significant focus on conservation and energy reduction across most industries, especially in the hospitality industry. Some utility companies have offered incentive programs to help hoteliers implement energy savings plans. For example, studies have shown that restroom lighting is the most commonly abused and that an overall energy savings of more than five percent is achievable by switching from high wattage incandescent light bulbs to modern compact fluorescents. Because of the simplicity of simply changing out a light bulb and utility incentive programs this has been a logical and easy method for energy savings. Most hotels have been using compact fluorescents for some time now and are looking for ideas that deliver even greater savings.

Fortunately, there is a solution that is widely gaining popularity and will help save a significant amount of energy. The solution is utilizing an energy management

occupancy-based control system (EMS) to efficiently monitor and control high-efficiency heating and air conditioners (HVAC). The HVAC units in a hotel can account for more than 60 percent of the entire electricity usage and in many cases can be reduced by over half simply by utilizing occupancy sensors in conjunction with the high-efficiency units. Guests usually do not spend a significant amount of time in their rooms, however, they leave the HVAC running, wasting precious energy and a hotelier's revenue. Because of this typical scenario, EMSs can have the most significant impact on energy usage compared to nearly every method of energy saving. Historical experience shows that by using an occupancy sensor system in conjunction with the HVAC unit, the run-time of the unit can be reduced between 25 percent and 55 percent depending on the type of hotel. As a hotel operator, you know that hotel expenses are an unavoidable part of your business, so it is very important to research the options available for energy management to find the one that best suits your property. There is a wide range of products offered by EMS vendors. These products range from the very simple keycard systems that simply shut off all power in the room to highly complex control systems that are integrated with Property Management Systems (PMS) to operate everything from reservations to mini-bars. When Energy Eye first decided to design their EMS, they took a close look at the needs of every hotelier. Because the hotel industry is so segmented, it was important to develop a system that could accommodate many different property types. For example, some suppliers fail to adapt to the unique needs of the economy (limited-service) and mid-scale properties, especially those using PTAC-type HVAC units. If a property has retrofit applications, it can be very difficult to run new wiring in the guestrooms, which can disturb guests and often take rooms off the market for several days during installation, thus taking away valuable revenue. This situation adds to labor costs and multiplies the true "total" cost of installing an EMS several times over that of the raw equipment. Naturally, this will result in an unreasonably

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long ROI and effectively creates an unrealistic project. Because of circumstance such as these, they designed the Energy Eye products on a wireless platform. Although; the parts are initially more expensive, the convenience of installation and the cost-effective ROI make it more feasible and attractive for limited-service hotels.

However, since no two hotels, and in particular, hotel

and mid-level service properties. Most vendors will do a demo install or send you samples for a small fee. If purchasing a hard-wired system, we recommend getting a sample to see first hand how long the installation would take. Some vendors claim very short install times when in fact even with a wireless system you will still need approximately 20 to 30 minutes to install the system in each room. It may be possible to work faster but then you have to ask how much it will cost to employ the four or

segments have the exact same needs, convenience of installation and ROI are not the only two factors to consider when choosing an EMS system. I recommend looking at the following factors when looking into implementing an EMS project.

Electricity Cost

Electricity costs are on the increase in Australia and many utility companies have introduced demand charges which means that if you exceed a certain demand, you get billed at the higher tier rate.

Occupancy

If you are over 60 percent occupancy, an EMS is well worth looking into. In a full-service hotel, an EMS can save energy even during low occupancy because centrally monitored systems can turn off unsold rooms completely. In a smaller property, the higher your occupancy, the more effective an EMS will be at controlling energy costs since hopefully your staff are already trained to turn off the HVAC units in unsold rooms.

Control Needs

It is important to focus not only on what your potential energy savings will be, but also on how the system will interface with your guests. Ideally, you want something that the guests don't have to interact with and that does not require staff involvement. Front desk systems can give you control, but do you expect your front desk manager to always be on top of the system? Also, these systems aren't effective in occupied rooms and your true goal will be to save during peak hours, when rates are the highest. Centrally monitored systems are effective in large hotels with engineering staff because they can use data points to increase efficiency. The drawbacks are usually long implementation periods and longer ROI.

Installation

Don't necessarily base your project on a product simply because it claims to have the "most rooms installed." It may not be the right product for your property and it is also true that until now, almost all installations of EMS have occurred in larger type properties because of the capital requirements and installation requirements. So, it is important to go with a vendor that has a product that is suited for your type of property. Energy Eye has developed a system that is specifically suited for economy

five people needed to do that? For the Energy Eye System we estimate around one week with a two-man crew in a typical limited service property (less than 100 rooms). Don't forget, it's important to install during a low occupancy period to ensure contractors can easily get into the rooms without disturbing guests. This is especially important with hardwired systems. If you need to install during a higher occupancy period you should consider whether or not you are going with a wireless or hard-wired system. You also need to ask yourself if you can cope with the construction needs of hardwiring or is a fast install more important? This will be the difference between choosing a hardwired or wireless system. Also, check to see when the technology was designed, some companies may still be using outdated technology designs.

It is a good idea to know all of the available options before committing to a project. Choosing an EMS is not a small project and can be daunting, but done correctly can be well worth it, especially if you are facing quickly escalating energy costs. It may even be possible that at some point in the future it will be difficult to maintain profitability in many markets without using an EMS. It is very likely that using an EMS in guestrooms in the future will be just as common as electronic locks and safes. I would not be surprised that if over the next five years we see a dramatic increase in the use of an EMS, perhaps as high as 70 percent of all potential users, especially given high electricity rates and improved platforms. It is also a good idea to look into other areas of guestroom savings such as high efficiency PTACs or digital thermostats. Most EMS vendors also have digital thermostats available as upgrades to meet new franchise requirements. Many newer PTAC's also have built-in control boards that make installing an EMS or digital thermostat much easier. If possible, the best thing would be to upgrade all at once to save on labor costs. I suggest planning for this when it is time to replace your old HVAC units or when applying for new financing or capital budget for your property .•

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