Shedding the Light on Energy Savings

The EIA says 50-75% of your utility expenses are for electricity and of that, approximately 21% is just lighting. If you spend an average of $100,000 annually on one building that adds up to $21,000 just to keep the lights on! By simply making your lighting 25-50% more efficient, you could save up to $10,500 each year.

It sounds easy and it is. Below are some steps to get you started:

**Step 1: Determine how much you are using and spending**

It’s critical to know what you are doing now so you can assess opportunities for energy savings later. You will need 12 months of common area bills that include the building’s interior lighting. This should include all account numbers, billing date cycles, number of days in each bill, usage in kWh and demand kW, and expense. At the end of each month, calculate the rate by dividing expense by usage. This will give you a base analysis for where you are now versus when you initiate your lighting cost avoidance program. If possible, include a hyperlink to actual bill images to be referenced later as needed.

**Step 2: Complete a building lighting audit**

You need to know what type of lighting you have, how often it’s in use and where it’s located. A building diagram with notes is very helpful. It is best to do the audit both during and after business hours. Below are some examples of questions to answer:

- Are lights off in unoccupied spaces? (Stairwells, parking levels, fitness centers, business centers, party rooms, offices, basements). There may be opportunities for reduced or sensor lighting.
- Are lights in the models on sensors or timers to be off when unoccupied?
- What are the model, types, and usages for your lighting fixtures in the main hallways and business areas?
- What are the hours when lighting is used in business areas, hallways, basements, storage, garage, fitness, and business rooms?
- Are you installing energy efficient lighting in vacants when turned?
- Do you have the number of fixtures, number of lamps per fixture, type/number of lamps per ballast, wattage?
- What dates were fixtures installed and what is their condition?
- What is the daylight availability (windows near lighting)?
- Are the tasks performed in the space (critical or secondary)?

**Step 3: Low hanging fruit: Consider where you can change lighting hours, add motion sensors, timers, light reducers and use energy saving lamp bulbs.**

Lighting Tip:

It’s important to know how much of your interior lighting is incandescent lighting versus fluorescent.

Incandescent lighting is the most energy saturating and wasteful type. Fluorescent, HID and low pressure sodium lighting have all improved aesthetically and should be used wherever possible to reduce energy.
Illuminate Your Lighting Efficiency

This is the easiest, least expensive step you can make. You know you can’t rely on people to remember to turn off lights but for a small expense you can make sure lights not used are off or energy reduced during day light hours or evening hours. Sensors, light reducers or timers in models, business centers, fitness facilities, basements and storage areas are key energy savers. Even in the garage and stairways, you can usually install light reducing devices that will use half the energy when not in use without violating any safety requirements. Make sure you rid every lamp of incandescent light bulbs – these not only use more energy to light the space, they put off 2-3 times the heat and last a fraction of the life of an energy efficient bulb.

**Step 4: Hallway lighting**
Hallway lighting can easily account for a large chunk of your common area electrical bill. By choosing the best lighting for the task you can reduce your usage by 20-50%. If the fixtures are well-maintained, it may be worthwhile to research your options for replacement bulbs that would fit and be more energy efficient. If it’s time for replacement, you may pay for the new fixtures in energy savings within a reasonable time. A simple pay back analysis can help you determine what your best option might be:

To calculate a simple payback on your investment, divide the cost of the new fixtures by the annual cost savings using current rates. You have already determined your annual usage and rates in Step 1. Now, you can apply the energy savings by installing the new equipment to the usage once you have that number divided by the cost of the investment. **Easy Tip:** Hallways and ceilings painted in light reflective colors increase the light glow and help reduce energy usage.

Finally, once you’ve completed Steps 1-3, it’s recommended to consult with lighting experts on your findings and determine the most efficient next steps toward energy savings. You and your budget will be glad you shed some light on your energy expense!

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Kate joined the Minol USA team in August of 2009. She currently oversees the Energy Management Program with a special emphasis on utility provider bill payment, cost avoidance and green initiatives.

Prior to joining Minol USA, she was employed by REIT AvalonBay Communities, Inc. for more than 20 years where she was responsible for increasing water, sewer, electric and gas collections via onsite associate training; augmenting utility reimbursements by instituting a collection and training process, creating and implementing a new utility recovery program, “Hot Water Energy, as well as developing a reinstatement and centralization of the collections programs for AvalonBay’s portfolio which consisted of more than 150 properties. While with AvalonBay, Kate also successfully lobbied for the passing of the submetering law in Massachusetts in 2005.