



ENERGY EFFICIENCY

Energy savings means cost savings. Energy is a controllable cost and many organizations are realizing the cost-benefits of energy reduction.

ENERGY STAR® Award winner Starwood Hotels & Resorts Worldwide, Inc. was able to save \$3.4 million in energy costs, equivalent to renting 9,370 additional rooms, by implementing an energy management system.

In addition to the above cost savings, implementing an energy efficiency plan can lead to increased environmental performance. The benefits of energy efficiency are not financial alone. 2001 ENERGY STAR® Award winner Hilton Hotels' energy management plan resulted in savings of nearly 43 million kWh of electricity per year and the prevention of 65 million pounds of carbon dioxide (CO₂) emissions – the equivalent of removing 6,450 cars from the road in the year 2000.

General Energy Efficiency Best Management Practices

Have your local energy utility provider conduct an energy audit at your location

Many utility companies provide these audits free of charge. These audits are a great way to learn about how your specific utility usage can be reduced. The auditor may be able to provide information on monetary rebates or incentive programs to assist in equipment or operational changes that may need to be made.

Track energy usage

Keep monthly records of energy usage. Analyzing the records every month can assist in finding energy consumption issues. If inconsistencies are found, determine the reason and correct the issue as soon as possible.

Install energy efficient doors and windows

Energy efficient windows, used in either new or retrofit situations, can cut annual HVAC energy costs by up to 15 percent, if properly installed.

Ensure the proper insulation is used for all buildings, equipment, pipes, and appliances

Insulation can be one of the most important factors in achieving energy efficiency in a building. It works primarily to slow the flow of heat through a building envelope. Insulation not only saves money by reducing heating and cooling loads but also is a key factor in achieving comfortable living and working spaces.

Use ceiling fans to circulate air in low ventilation areas

Ceiling fans work by the power of evaporative cooling. The wind removes excess moisture from your skin, leading to a nice, cool feeling. This will allow you to increase the thermostat setting to a higher



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temperature, lowering the utility costs. If the room is vacant, the fan should be turned off as no evaporative cooling can take place.

Keep all windows and doors closed

If seasonably, appropriate, keep all windows and outside doors closed.

Consider installing white or reflective roofing

White or reflective roofing helps reflect heat, keeps buildings cooler, and lowers utility costs.

Add window film or tinting to windows and glass doors to reduce energy loss and solar heat emissions through windows

For relatively little cost per window, tints and films for doors and windows can have a significant impact on energy consumption.

Utilize light colored walls and ceilings

Light-colored walls and ceilings can increase ambient light levels by 15 percent to 50 percent, reducing the need for artificial lighting.

Use exhaust fans only when needed. Turn off when not in use

Extensive use of exhaust fans requires the HVAC system to work harder to maintain a consistent temperature in the building.

Consider installing an Energy Management System

An Energy Management System (EMS) is a program that allows operators to monitor the building's energy load. The most common use is monitoring the HVAC system. An EMS usually includes a computer, energy management software program, sensors and controls, and in larger systems, a communications network. An EMS can save 10 percent to 40 percent on electric utility costs.

Lighting Energy Efficiency Best Management Practices

Upgrade lighting to energy efficient lamps and fixtures by doing the following:

- Replace standard incandescent bulbs with compact fluorescents or LED lights.
- Use energy-saving fluorescent T8 or T5 lamps instead of T12 lamps.
- Use energy-efficient LED night lights to eliminate the need to leave bathroom lights on throughout the night.
- Replace old ballasts with electronic ballasts.
- Replace incandescent lamps in exit signs with LED exit signs.

Install occupancy sensors to detect the presence or absence of people and turn lights on and off accordingly



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Occupancy sensors may reduce lighting-related consumption by 50 percent or more in some circumstances. They are used most effectively in spaces that are often unoccupied, including offices, warehouses, storerooms, loading docks, corridors, stairwells, office lounges, and conference rooms.

Use the lowest wattage lamp necessary

Using no more light than necessary reduces energy consumption.

Eliminate or reduce external lighting not needed for safety or security

Guest and staff safety and security are the priority of any facility. However, reducing or eliminating external lighting, where possible, can save energy.

Use dimmer controls in meeting rooms, common areas, and guest rooms

By using dimmer switches to control light output to only the amount needed, energy consumption can be reduced.

Turn off lights in unoccupied rooms

Extinguish all lights when not in use. Create reminder cards for guests and staff to turn off lights when leaving a room.

Consider using natural daylight in areas, where appropriate

Using natural light can reduce lighting and energy consumption; however, heat loss may occur in winter and heat gain may occur in summer with open draperies and shades.

Use timers or sensors to control outdoor lighting

Install timers or outdoor light level sensors to control the amount of outdoor lighting.

Equipment Energy Efficiency Best Management Practices

Operate all equipment in an efficient manner and according to manufacturer's instructions, including keeping all equipment clean and free of obstructions

Follow all manufacturer's instructions. These instructions were designed to provide for the most efficient use of the equipment.

Use preventative maintenance schedules to clean and maximize efficiency in appliances and equipment

Preventative maintenance schedules can increase machine efficiencies, lower repair costs and can lead to lower utility costs by correcting problems before they become larger issues. All equipment should be placed on a preventative maintenance schedule and necessary records kept accordingly.

Use Power Management settings and turn off any equipment not in use

Set automatic sleep and hibernate modes on electronics to save electricity when equipment is not in use. Turn off equipment that will be idle for extended periods of time.



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Use ENERGY STAR® Equipment

Incorporate ENERGY STAR® equipment throughout your hotel. ENERGY STAR® is a U.S. Environmental Protection Agency (EPA) program that identifies equipment that is energy efficient and protects the environment.

Focus on Heating, Ventilation and Air Conditioning (HVAC) units and systems. The following conservation measures help decrease HVAC energy consumption.

- Set thermostats to correct temperature depending on the season.
- Turn off heating and cooling in unoccupied rooms.
- Plan and perform scheduled maintenance on HVAC equipment.
- Change filters regularly.
- Lock all thermostats that are accessible to the public.
- Use programmable thermostats.
- Clean condenser and evaporator coils at least once every six months. Dust accumulation leads to decreased efficiency.
- Repair leaks around doors, windows and duct work on a regular basis.
- Properly vent any heat generating appliances to the outside.
- When possible, consider purchasing HVAC equipment that is more efficient. This would apply to any new construction, rehabilitation or building upgrades.

Capture and reuse any heat that is generated

An example would be to capture heat in the laundry operations and recycle it back into the system. Since heat is a form of energy, reducing heat loss is equal to reducing energy loss.

Locate outside icemakers and vending machines under cover and in shaded areas. Regularly inspect and clean icemaker and vending machine condenser coils.

Follow all manufacturer's instructions.

Operate refrigeration equipment in an efficient manner

Do not set thermostat below necessary temperature, thaw frozen food in refrigerator (it will help keep the refrigerator cool thereby reducing energy use). Store food in refrigerator based on frequency of use, do not block circulation within the refrigerator and locate units away from heat sources. Install vinyl air curtains or air blowers over doors or walk-in refrigeration units.

Stagger times to turn on heavy-duty electrical equipment

Do not turn on all equipment at once. Staggering can lower the peak demand recorded by utility companies and lower costs.