

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



Grab a clipboard and take this checklist along as you discover opportunities to increase energy and water efficiency at your property. For this checklist, focus on uncovering opportunities to save. When you find something, make notes about location, tools, materials, expertise, needed, or further research required. Feel free to add to or modify this list to suit your own needs.

Date _____

Facility Management and Benchmarking

- Managing costs starts with knowing your baseline use, from which to track savings. Start by printing a Data Collection Worksheet for Hotel at <https://portfoliomanager.energystar.gov/pm/dataCollectionWorksheet>. This Worksheet will list all you need to benchmark your property in the free, online Portfolio Manager® tool for tracking energy, water, and recycling/materials management.
 - For those properties that include swimming pools, the hotel data collection worksheet has a swimming pool addition to include details on the pool. This ensures that the swimming pool-related energy use (water pump, heating, etc.) is included in your Portfolio Manager account.
- With the data collection worksheet in hand, collect property use data as well as utility bills in preparation to set up a Portfolio Manager account.
- Create an account at portfoliomanager.energystar.gov/pm/signup.
- Learn more at www.energystar.gov/benchmark and find all Portfolio Manager training and tech support at www.energystar.gov/buildings/training.
- After you enter your property and energy data, a 1-100 ENERGY STAR® score will compare your property to other U.S. peer properties for immediate insight. A 75 or higher score is eligible for ENERGY STAR certification.
- Educate and encourage housekeeping staff to report leaks, turn off lights not in use, and set temperatures to minimum levels after cleaning vacant rooms. Teach registration staff to schedule rooms in clusters to isolate vacant space. Suggest that they rent the following types of rooms last: top floor rooms, those at building corners, and those facing west in summer or north in winter as these can be more energy-intensive.
 - Keycards are available that shut off or turn on energy consuming equipment when a guest leaves or enters the room.



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Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



- Adopt a purchasing/procurement policy that specifies EPA's ENERGY STAR, WaterSense® and Safer Choice® labeled products when applicable.
- Learn how reducing, reusing, and recycling can help your business and the environment by saving money, energy, and natural resources at <https://www.epa.gov/recycle>.

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Lighting

- Evaluate the opportunity to upgrade to more energy- efficient lighting options:
 - Update lighting from incandescent or halogen bulbs to high-lumen LED equipment. This will save money and improve safety and durability. Solid state LED lights are resistant to impacts.
 - Replace T12 fluorescents and obsolete magnetic ballasts, ideally with tubular LEDs (TLEDs). Retain existing T8s or T5s with electronic ballasts through their useful life.
 - Upgrade incandescent and CFL bulbs to LED (especially for task lighting or specialty/decorative applications).
 - Replace incandescent or CFL exit signs with an LED model, or LED retrofit kit.
 - Recycle/dispose of all fluorescent tubes/CFLs and magnetic ballasts at a lighting or building supply store.
- During daytime and evening hours, identify where lights have been left on in unoccupied spaces (including offices, restrooms, storage, guest rooms, hallways, etc.).
- During the day, look for "day-burners" – that is, exterior and parking lot lighting that is on and should only be on at night, and which has a failed or dirty light sensor.
- If upgrading your exterior lighting, consider shielded fixtures to direct the light where needed and reduce light pollution.
- Identify and assess opportunities to use automated lighting controls:
 - Occupancy/motion sensors for low-traffic areas.
 - Timers or daylight sensors to turn off exterior and parking lot lights during the day.
 - Dimming controls in locations where natural lighting (e.g., near windows, skylights, light tubes) can temporarily supplement or replace fixture lighting.
 - Install timers on bathroom heat lamps and consider connecting bathroom exhaust fans to light switches to reduce excessive operation.



TIP: Consider an "all utility audit" to look for billing errors and proper rate classification for electricity, natural gas, heating oil, water/sewer, and telecommunications. The auditing firm is paid a pre-agreed percentage only after your refund is complete. If there is no refund due, you have confirmed you are not overpaying.

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



- Confirm that lighting controls are installed to “see” what they must and are operating as intended.
- Assess cleanliness of lamps/fixtures (dust, bugs, any debris) and the need to institute a regular cleaning plan for maximum light output.
- Identify where adding reflectors can amplify existing lighting.
- Consider purchasing an inexpensive light meter (under \$30) to assess whether any areas are over-lit, compared to requirements or design levels.
- Consider opportunities for de-lamping, and de-energize and/or remove ballasts that are not in use.
- Review ENERGY STAR product information, calculators and find local retailers and rebates at www.energystar.gov/products and find lighting, fans, and more lighting facts at www.energystar.gov/lighting.

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Building Envelope

- Inspect doors and windows to identify gaps or cracks that can be weather-stripped, caulked, or filled with foam insulation.
- If in the market for new windows, consider high-efficiency options that may cost more up front but offer reasonable pay-back.
- Try to keep closed doors to the outside and to any unheated or uncooled areas.
- Consider installing solar film, awnings, vegetation, or insulated curtains for east and west windows to block summer heat gain. Ensure solar gain in the winter through south-facing windows.
- Consider strategic landscaping to save on water bills and cooling in the summer and heating in the winter. See tips and information at <https://www.epa.gov/watersense/outdoors>.
- Inspect attic insulation levels and address any inadequacies. Add insulation as necessary if remodeling.
- Check on the roof, note and take photographs of and address any damage, including cracked shingles or other surface aging. In the attic, look for signs of leaks, membrane cracks/holes, or damaged insulation.
- Consider that white, reflective paint can significantly reduce heat gain and extend the life of some roofing.

Heating, Ventilation and Air Conditioning (HVAC)

- Ensure HVAC system components are being maintained regularly by qualified staff or under an annual maintenance contract to “tune-up” HVAC systems both pre-heating and pre-cooling seasons.

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



- Also remember to:
 - Regularly replace HVAC filters as needed during the heating and cooling seasons.
 - Ensure free airflow to and from supply/return registers (clear furniture, books, papers, or other materials).
 - Keep electronics and heat sources away from thermostats.
 - Use window shades/curtains to block excess heat and educate staff about when to use them.
 - Identify and prevent simultaneous heating and cooling by prohibiting individual space heater use. Address underlying heating and cooling issues causing employee discomfort.
- Ceiling and personal fans can help with energy savings by making cabins and rooms feel cooler during summer months. A smart thermostat can be programmed to pre-cool or pre-heat spaces for comfort an hour prior to occupation. Avoid heating/cooling unoccupied spaces.
- Depending on outside temperature, set programming to turn off the HVAC 15-30 minutes before space use ends.
- Use “smart thermostats” and a temperature setback policy for heating/ cooling when the building is unoccupied (including any special considerations for summer/winter months).
- Have a plan for HVAC failures. Right size new systems by having contractors quote equipment based on high efficiency levels and reduced demand. Do not buy a larger system than you need.
- Where electricity is the fuel of choice, consider heat pumps or solar for water heating. Heat pumps cost much less to operate than electric resistance heating and even some gas heating units. Where gas is used for water heating, look for a minimum 8% boiler annual fuel use efficiency (AFUE).
- Maintain boilers regularly, checking for combustion efficiency and sediment.
- See ENERGY STAR HVAC products and resources at https://www.energystar.gov/products/heating_cooling.

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TIP: Download the ENERGY STAR Action Workbook for Small Business for more strategies, action items, and ideas. Find special content for the lodging industry. Start and support an employee Green Team. Find resources to Build Your Own Competition for savings. <https://www.energystar.gov/smallbiz>.

Office Equipment/Plug Load

- For office equipment that needs replacing, consider ENERGY STAR certified options using the online savings calculators and available rebates at <https://www.energystar.gov/products>.
- Turn off equipment left on overnight unnecessarily (including equipment left in sleep/idle or screen saver mode).

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



- Ensure that power management settings are activated on common area equipment such as TV monitors, printers, and copiers.
- Use advanced power strips for easy power disconnect.
- Train staff to unplug rechargeable devices once charged.
- Use timers to turn off vending machines or put in sleep mode at the end of the day. In the alternative, install motion/occupancy-based vending machine controls.
- Review ENERGY STAR office products and resources at https://www.energystar.gov/products/office_equipment; see ENERGY STAR vending machines at https://www.energystar.gov/products/other/vending_machines, and water coolers at https://www.energystar.gov/products/other/water_coolers.

Kitchen and Food Service Areas

- When purchasing new kitchen equipment, review ENERGY STAR models, calculate savings and find rebates in advance. All food service equipment is available here https://www.energystar.gov/products/commercial_food_service_equipment.
- ENERGY STAR certified commercial coffee brewers offer as much as 35% energy savings and better temperature uniformity compared to conventional models, due to efficient electrical systems and well-insulated tanks.
- Avoid placing heating equipment near cooling equipment.
- Verify oven thermostat accuracy and recalibrate if necessary.
- Establish operating procedures for cooking/baking equipment (for instance, preheating only when necessary, turning down/off equipment when not in use).
- Ensure that range hoods and exhaust fans are only running when the range is being used.
- Identify and assess opportunities to install variable frequency drives (VFDs) on kitchen hoods.
- Ensure that unused appliances are unplugged or on a power strip that is shut off.
- Determine if low-flow pre-rinse spray valves can be installed.
- Identify major water uses. Find and fix any leaks— especially of hot water.

TIP: Celebrate your success and recognize contributors. Also help your employees and guests achieve savings at home by referring them to www.energystar.gov/campaign/home, and at customers' workplaces with <https://www.energystar.gov/smallbiz> and <https://www.energystar.gov/work>.

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



- Set water temperature 110 – 120 degrees or per local code to prevent scalding and save energy and money.
- See EPA's WaterSense® program for water saving labeled products and rebates, for indoor/outdoor water efficiency tips, and best practices at www.epa.gov/watersense.
- If you have food service, offer guests water, but don't serve water unless requested.
- Reduce food waste in the restaurant; see EPA's resources on reducing food waste at <https://www.epa.gov/sustainable-management-food/tools-preventing-and-diverting-wasted-food>.
- Composting food waste creates a product that can be used to help improve soils, grow the next generation of crops, and improve water quality. Learn more about creating a compost program at <https://www.epa.gov/sustainable-management-food/reducing-impact-wasted-food-feeding-soil-and-composting>.

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Refrigeration

- Ensure that unused refrigeration units are turned off.
- Check that minimum recommended refrigeration temperatures are being maintained.
- Verify operation of defrost timers and moisture sensors to ensure optimal performance.
- Identify any potential obstructions to ensure free airflow to cold air supply and return registers.
- Check for unusual noise or vibration from compressors and motors as this may indicate a decrease in performance.
- Assess plans for regularly cleaning refrigeration coils.
- Assess plans for regularly cleaning and disinfecting condensate drain pans.
- Identify worn and/or leaky door seals/gaskets on refrigerators and freezers. To test, close a door on a piece of paper; if easily pulled out, replace the gasket.
- Keep refrigerator coils clean and free of obstructions.
- Identify for repair/replacement of broken strip curtains.
- Identify where night curtains can be used.
- Consider adding doors to open refrigerated cases where feasible.
- Identify where automatic door closers for walk-in coolers can be installed.

TIPS:

- Check out the American Hotel and Lodging Association (AHLA) Food Waste Toolkit to reduce wasted food, water, and energy.
- Keep up with the AHLA Sustainability Committee.
- Look into the Green Hotel Association.

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



- Consider venting or recovering the rejected heat off the refrigeration unit condensers.
- If your property has any residential type refrigerators (staff area, etc.), consider replacing these if they are more than 9-10 years old.
- Dispose of old refrigerators properly. See the EPA's Responsible Appliance Disposal (RAD) Program at <https://www.epa.gov/rad>.

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Sleeping/Guest Areas

- Identify where lights have been left on.
- Evaluate opportunities for replacing inefficient lighting with LEDs.
- Identify units that are fully conditioned while unoccupied; reset thermostats to appropriate settings for unoccupied spaces.
- Identify any new common area laundry appliances that will be needed soon; make plans to ensure they are ENERGY STAR certified where possible.

Electric Vehicle Supply Equipment (EVSE)

- There are three major categories of electric vehicle (EV) chargers, based on the maximum amount of power the charger provides to the battery from the grid: Level 1, Level 2 and DC Fast Charge. All three types are currently ENERGY STAR certified; <https://www.energystar.gov/productfinder/product/certified-evse/results>. All ENERGY STAR certified EV chargers use 40% less energy than a standard EV charger in standby mode.
- Properties needing larger charging facilities will be interested most in DC Fast Charge models. For more information and equipment sources, see https://www.energystar.gov/products/ev_chargers.
- Consider separately metering the charger's energy use to better measure and manage how much electricity is used to charge vehicles.
- EV chargers may require periodic inspection, testing, and preventive maintenance typically performed by a qualified electrical contractor. Annual maintenance costs can vary but are generally low. Many EV charging service providers offer optional maintenance plans.

Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



Renewable Energy Options

- Consider installing renewable energy for onsite generation at your property. EPA's Green Power Partnership (GPP) has a toolkit on renewable energy feasibility assessments at <https://www.epa.gov/greenpower/conducting-site-and-economic-renewable-energy-project-feasibility-assessments>
- Review GPP resources on renewable energy project development at <https://www.epa.gov/greenpower/toolbox-renewable-energy-project-development>.
- Invest in increased energy efficiency prior to installing onsite renewable energy to ensure your renewable energy system is sized correctly to your energy use.

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Water: Interior Hot and Cold

- Survey water use to identify major uses; find and fix any leaks—especially hot water leaks.
- Typically, set temperature 110 – 120 degrees or per local code to prevent scalds and to save energy and money.
- Consider “tankless” heaters (on-demand) for low-use areas or if you have a number of cabins/sleeping areas with individual water heaters.
- Insulate 7-year or older water heaters and the first 3' of heated water “out” pipe.
- Check out ENERGY STAR water heating product information and calculators; find local retailers and rebates at www.energystar.gov/products/water_heaters.
- Evaluate opportunities for installing low-flow showerheads and faucet aerators.
- Evaluate opportunities for installing high-efficiency toilets and urinals.
- If you have hot tubs, cover after use to reduce heat loss and maintain cleanliness.
- If you have a pool, review ENERGY STAR certified swimming pool pumps at <https://www.energystar.gov/productfinder/product/certified-pool-pumps/results>.
- See EPA's WaterSense® program for water saving labeled products and rebates, for indoor water efficiency tips, and best practices at www.epa.gov/watersense.



Energy and Water Efficiency Checklist for Hotels, Motels, and Inns



Water: Exterior Savings

- See EPA's WaterSense® program for water saving labeled products and rebates, for outdoor water efficiency tips, and best practices at www.epa.gov/watersense.
- Survey water use to identify major uses; find and fix any leaks—especially with irrigation.
- Water-efficient irrigation products and practices—such as native plantings, water budgeting, seasonal scheduling, or WaterSense labeled weather-based irrigation controllers—could cut the amount of water lost outside by as much as 50 percent.

NOTES: