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. Note that due to the many operating characteristics of hospitality properties, some sections may not apply to 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.

1 Facility Management and Benchmarking

- ❑ Managing costs starts with knowing your baseline use. Start by printing a Data Collection Worksheet. This Worksheet will list all you need to benchmark your property in the free, online ENERGY STAR Portfolio Manager® tool for energy use, water use, 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.
- ❑ Learn more and find all Portfolio Manager training and tech support.
- ❑ 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.

❑ Adopt a purchasing/procurement policy that specifies the EPA's ENERGY STAR, WaterSense® and Safer Choice® labeled products when applicable.

❑ Learn how reducing, reusing, and recycling can help your property and the environment by saving money, energy, and natural resources.

Lighting

❑ Evaluate the opportunity to upgrade to more energy-efficient lighting options.

- ❑ Update lighting from incandescent or halogen bulbs to high-lumen LED equipment.
- ❑ Replace T12 fluorescents and obsolete magnetic ballasts, ideally with tubular LEDs (TLEDs). Retain existing T8s or T5s with electronic ballasts through their useful life.

❑ During daytime and evening hours, identify where lights have been left on in unoccupied spaces (including offices, restrooms, storage, 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.

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.

- ❑ 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.

❑ 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.

❑ Review ENERGY STAR product information, calculators and find lighting, fans, and more lighting facts.

TIP:

Use your Zip Code in the rebate finders for ENERGY STAR® and WaterSense® labeled products to check on utility or retail vendor cash rebates before you buy any products. Note that utilities may have pre-purchase application requirements.

Building Envelope

❑ Inspect doors and windows to identify gaps or cracks that can be weather-stripped, caulked, or filled with foam insulation. This includes doors, windows, HVAC system joints, vents, and ducts. The idea is to be sure any indoor/outdoor air- exchange is not accidental but is deliberate ventilation. Consider using a "smoke pencil" from the hardware store to detect leaks.

❑ 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 south 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.

- ❑ 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.
- ❑ Take advantage of opportunities to use "residential" products and view savings resources.

TIP:

Download the ENERGY STAR Action Workbook for Small Business for more strategies, action items, and ideas.

Heating, Ventilation and Air Conditioning (HVAC)

- ❑ See ENERGY STAR HVAC products and resources.
- ❑ 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.
- ❑ 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.
- ❑ Ceiling and personal fans can help with energy savings by making spaces 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.
- ❑ Identify and discontinue the use of personal heaters in spaces that already have HVAC equipment. The use of personal heaters may indicate broader issues that should be addressed at the system level.
- ❑ 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 reduce 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 90% boiler annual fuel use efficiency (AFUE).
- ❑ Maintain boilers regularly, checking for combustion efficiency and sediment.
- ❑ If you use a boiler, consider the following to increase efficiency:
  - ❑ Ensure your boiler has an inspection and full cleaning prior to the heating season. A professional service provider can run an efficiency test to determine how well the unit is functioning. These tests should also include testing water quality, fuel efficiency, and pressure.
  - ❑ Check all vents and flues for blockages and clear; check pipes to ensure no deterioration or leaks. Keep the boiler room as clean as possible.
  - ❑ Ensure water pressure is consistent by monitoring the pressure gauge. Watch for any water leaking or dripping.
  - ❑ Depending on how consistently your boiler is in use, conduct regular blowdown maintenance by draining water to remove accumulated sludge and impurities that cause corrosion and scaling. This may occur daily or weekly; talk with your service provider for timing recommendations.
  - ❑ If your boiler is reaching the end of life, consider replacing it with a heat pump; heat pumps can significantly reduce overall fuel consumption.

TIP:

Consider "load shedding" to avoid demand charges during your utility system's "peak demand" time of day. This means understanding your utility's time of day rates and avoiding the use of as much of your equipment as possible during this time. Ask your utility about programs and financial incentives for customers to avoid contributing to peak demand.

5 Office Equipment/Plug Load

- ❑ For office equipment that needs replacing, consider ENERGY STAR certified options using the online savings calculators and available rebates.
- ❑ Turn off equipment left on overnight unnecessarily (including equipment left in sleep/idle or screen saver mode).
- ❑ 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 them in sleep mode at the end of the day. In the alternative, install motion/occupancy-based vending machine controls.

6 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 on the ENERGY STAR website.
- ❑ 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.
- ❑ Set water temperature 110 – 120 degrees or per local code to prevent scalding and save energy and money.
- ❑ See the EPA's WaterSense® program for water saving labeled products and rebates, for indoor/outdoor water efficiency tips, and best practices.
- ❑ If you have food service, offer guests water, but don't serve water unless requested.
- ❑ Reduce food waste in the restaurant; see the EPA's resources on reducing food waste.
- ❑ 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.

TIP:

- *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.*

Refrigeration

- ❑ Ensure that unused refrigeration units are turned off.
- ❑ Check that minimum recommended refrigeration temperatures are 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. 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.
- ❑ 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.

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

- ❑ 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. 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.

- ❑ 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.

Renewable Energy Options

- ❑ Consider installing renewable energy for onsite generation at your property. The EPA's Green Power Partnership (GPP) has a toolkit on renewable energy feasibility assessments.
- ❑ Review GPP resources on 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.

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 or external guest 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.
- ❑ 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.
- ❑ See the EPA's WaterSense® program for water saving labeled products and rebates, for indoor water efficiency tips, and best practices.

Water: Exterior Savings

- ❑ See the EPA's WaterSense® program for water saving labeled products and rebates, for outdoor water efficiency tips, and best practices.
- ❑ 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.
- ❑ Consider xeriscaping, or dry, gardens that use rocks and succulents to reduce or eliminate the need for irrigation.