



# Energy and Water Efficiency Checklist for Supermarkets and Grocery Stores

ENERGY STAR for Commercial Buildings

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.

## 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.
- 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 energy data in Portfolio Manager, your store will receive an ENERGY STAR score on a scale of 1 – 100 that shows your energy use efficiency and allows you to compare your property to other U.S. supermarkets/grocery stores. A 75 or higher score is eligible for ENERGY STAR certification.
- Use “start-up, shut-down” scheduling for house lights, kitchen equipment and heating/air-conditioning.
- Develop an education and/or training program to encourage energy conservation.
- Educate and encourage employees to report water leaks, turn off lights that are not in use and look for energy savings opportunities.



### TIP:

Download the [ENERGY STAR Action Workbook for Small Business](#) for more strategies, action items, and ideas.

- Adopt a purchasing/procurement policy that specifies the EPA’s ENERGY STAR, WaterSense® and Safer Choice® labeled products.
- 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.
  - 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.

### 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.*

- 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](#).



### Building Envelope

- Check exterior walls for leaking and proper insulation.
- Minimize as much unconditioned air flow through doors as possible.
- Ensure the roof is in good condition; consider whether a “green roof” or “cool roof” makes sense for your business. Depending on “street view” aesthetics, and safety concerns, and other issues, consider that white, reflective paint can significantly reduce heat gain and even extend the life of some roofing.
- Inspect the condition of and replace windows and window shadings, if needed. If new windows must be purchased, consider the incremental costs and savings of high-efficiency windows, which will cost more but will save more in energy and heating/cooling costs.
- With “outside-to-inside” visibility in mind, consider installing solar film on east and west windows to block summer heat gain for dollar savings, customer, and employee comfort. Depending on your climate, you may even need to block winter heat gain on the south side in very warm climates.
- [Consider strategic landscaping to save on water bills](#) and cooling in the summer and heating in the winter.



### Heating, Ventilation and Air Conditioning (HVAC)

- See [ENERGY STAR HVAC products and resources](#).
- Keep windows and exterior doors closed while running the HVAC in line with your store’s operations.
- Install a [programmable thermostat](#) to control the HVAC system.

- Depending on outside temperature, programming can be set to turn off the HVAC 15-30 minutes before space use ends for additional savings.
- 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.
- Qualified staff or a professional should implement the full HVAC maintenance list: however, everyone can help 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.
- 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:

**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.*

**TIP:**

*Controls are available for virtually all grocery store equipment and functions: scheduling, lighting, plug loads, HVAC, refrigeration, food storage and preparation, etc. If you are not fully automated, get competing bids showing your return-on-investment from 2-3 professionals serving the industry.*

- 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.



## 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.
- Print double sided pages; much more energy is used in the manufacturing and distributing of paper than the actual printing at your store.

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## 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.
- Reduce food waste; 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](#).





## Refrigeration

- Your refrigeration is designed for worst-case temperatures in your climate. Floating head and suction pressure controls react to actual ambient temperatures to maintain necessary temperatures for savings.
- Electronically commutated motors can be programmed and potentially remote-controlled by an Energy Management System to speed or slow motors based on cooling needs, offering significant savings over evaporator fans in walk-in coolers and over split capacitor and shaded-pole motors in refrigerated cases.
- Regularly check the effectiveness of refrigerated case seals and consider automatic door closers.
- Identify worn and/or leaky door seals/gaskets on refrigerators and freezers. Close the door on a dollar bill or piece of paper, and if it is easily pulled out, replace the gasket. Many websites have “DIY” videos and instructions. Some replacement gaskets claim to be “universal,” but it is best to purchase using the appliance brand and model number. Regularly clean the gasket with soapy water to keep it free of debris.
- Consider installing anti-sweat controls to monitor both humidity and temperature to activate heaters in cooler and freezer doors only when needed to prevent condensation.
- Consider installing defrost controls which use sensors to intelligently sense when evaporator coils need defrosting, and only then consume the energy necessary to perform that operation.
- Install strip curtains and keep condenser and evaporator coils clean.
- Alcohol and soft drinks don’t have to be chilled to the lower temperatures required for perishable foods.
- Check whether refrigerated case lighting is LED.
- 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](#).

### TIP:

Review the [ENERGY STAR® Guide for Cafés, Restaurants, and Commercial Kitchens](#) for more details on specific tips and suggestions for efficiency.

At the [Retail Industry Leaders Association \(RILA\)](#), search sustainability for retail updates.

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## Water: Interior and Exterior Savings

- 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.
- Check out ENERGY STAR water heating product information and calculators; [find local retailers and rebates](#).
- Evaluate opportunities for installing high-efficiency toilets and urinals.
- See the [EPA’s WaterSense® program](#) for water saving labeled products and rebates, for indoor 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.

**TIP:**

*Consider installing a demand management system to control peak pricing and surge usage charges during peak hour charging.*