

Grab a clipboard and take this map along on your treasure hunt. Focus on uncovering opportunities to save. When you find something, make notes about location; tools, materials, or expertise needed; or further research required. Feel free to add to or modify this list to suit your own needs.

Facility Name _____ Floor _____ Date _____ Team _____



Facility Management and Benchmarking

- Managing costs starts with knowing the baseline from which to track savings. Print the [Data Collection Worksheet for "Convenience Store" found under "Food Sales and Service"](#). This Worksheet lists what you need to benchmark your property in the online Portfolio Manager® tool for tracking energy, water and recycling/materials management.
- [Create your account](#), [learn more](#), and find [Portfolio Manager training and tech support](#).
- Portfolio Manager does not have a module to score Convenience Stores on the 1 -100 ENERGY STAR® scale but is working with NACS to create one.
 - National median Energy Use Intensity (EUI), or energy use/ square foot, can provide a frame of reference to know when your savings take your use below the national median for Convenience Stores. You can determine your EUI by benchmarking your store in Portfolio Manager. Many stores can do much better than the national median EUI of 231.4 Site EUI (kBtu/ft²).
- 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 saving opportunities.
- Adopt a purchasing/procurement policy that specifies EPA's ENERGY STAR, WaterSense® and Safer Choice® labeled products. [Customize the template letter](#).



Lighting

- Use a light meter (inexpensive models cost around \$30) to assess if any areas are over-lit or under-lit, compared to requirements or design levels.
- Run the numbers for savings on LED upgrades for canopy and exterior lighting, signage, interior lighting, cooler case lighting, restrooms and backroom, and storage areas.

NOTES:

TIP:

- Enter your Zip Code in the rebate finders for ENERGY STAR® and WaterSense® labeled products to check on utility or retail vendor product rebates. Utilities may have pre-purchase application requirements.
- Download the [ENERGY STAR Action Workbook for Convenience Stores](#) for more strategies, action items, and ideas. Start and support an employee Green Team. Find resources to Build Your Own Competition for savings.
- Get recognition for conducting a treasure hunt and finding energy savings by sharing your results with the [ENERGY STAR Find the Treasure Campaign](#).



- Evaluate the opportunity to upgrade to more energy efficient lighting options:
 - Replace T12 fluorescents with T8s or T5s with electronic ballasts (removing obsolete magnetic ballasts) or consider the use of tubular LEDs (TLEDs).
 - Upgrade incandescent and CFL bulbs to dimmable LED (especially for task lighting or specialty/decorative applications, such as ambient lighting in customer waiting area).
 - Replace incandescent or CFL exit signs with an LED model, or LED retrofit kit.
 - Recycle/dispose of all fluorescent tubes/CFLs and magnetic ballasts properly at your lighting or building supply store.
- Identify any lights routinely left on in unoccupied spaces (offices, restrooms, storage, etc.). Consider the use of automated lighting controls:
 - Occupancy/motion sensors for low-traffic areas, especially restrooms and storage.
 - Timers or daylight sensors to turn off exterior and parking lot lights during the day.
- Confirm lighting controls are installed to “see” what they must and are operating as intended.
- During the day, look for “day-burners,” such as exterior and parking lot lighting that should only be on at night but have failed or dirty light sensors.
- If upgrading your exterior lighting, consider “shielded” fixtures to direct the light only where needed to reduce “light pollution.”
- Assess the cleanliness of lamps/fixtures (dust, bugs, any debris) and institute a regular cleaning plan for maximum light output.
- Identify where reflectors can be added to amplify existing lighting.
- Consider de-lamping areas where lights are too bright and cause glare. De-energize and/or remove ballasts of fluorescent fixtures not in use.
- Review [efficient LED signage opportunities](#).
- Review ENERGY STAR product information, use calculators, and [find local retailers and rebates](#).

NOTES:

TIP

- Consider an “all utility audit” that will look for billing errors and proper rate classification for your electricity, natural gas, heating oil, water/sewer, and telecommunications. If refunds are due, the auditing firm may charge an agreed-upon percentage. If no refunds are due, you have confirmed proper billing.





Kitchen/Foodservice Equipment

- If you need to purchase new foodservice equipment, verify that it is [ENERGY STAR certified commercial food service equipment](#).
- If possible, be sure heating equipment is not near cooling equipment, and turn it off when possible.
- 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.
- 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.
- Survey water use to identify major uses; find and fix any leaks—especially hot water leaks.
- Determine if low-flow pre-rinse spray valves can be installed.



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.
- 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.

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TIP:

- Feed people not landfills: Visit EPA’s [Sustainable Management of Food](#) for webinars, tools and tips, including composting and donation. Track materials management and recycling in Portfolio Manager.



- Electronically commutated motors (ECMs) can be programmed and potentially remote-controlled by an Energy Management System (EMS) 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.
- 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.



5 HVAC (Heating, Ventilation, Air-Conditioning)

- 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 that HVAC system components are maintained regularly. If not by qualified staff, then consider an annual maintenance contract to "tune-up" HVAC, 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:
 - Replace filters on a regular schedule; monthly during heating/cooling season. Ask your facility staff how often filters are changed.
 - Ensure free airflow to and from supply/return registers (clear furniture, books, papers, or other materials).
 - Ensure that electronics and heat sources are located away from thermostats.
 - Identify and prevent any instances of simultaneous heating and cooling.

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TIP:

- Review [NACS information on "sustainability" and "energy efficiency"](#).
- At the [Retail Industry Leaders Association website](#) search "sustainability" for retail updates.



- 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.
- Determine if you already have or need professional savings estimates for HVAC Economizers, Advanced Digital Economizer Controls (ADECs), Demand Control Ventilation (DCV), and Enhanced Ventilation Controls (ECVs).
- Ask about Variable Speed Drives (VSDs) to optimize the speed of motors in pumps and fans.
- See [ENERGY STAR HVAC products and resources](#) and evaluate the savings for higher SEER/IEER Rated equipment for new installations and retrofits.



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. Don’t forget to tell customers that it is up there if they can’t see it!
- 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 installation of 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 money on water bills and space cooling in the summer and heating in the winter. See [tips and information](#).



Office Equipment

- For office equipment that needs replacing, consider ENERGY STAR certified options using the online savings calculators and available rebates. Review [ENERGY STAR office products and resources](#).

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TIP:

- Controls are available for virtually all convenience 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.
- 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.



- Place computers (CPU, hard drive, etc.) into a low power “sleep mode” after a designated period of inactivity.
- Identify where power strips can be used for easy disconnect from power source.
- Be sure staff knows 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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Water: Hot and Cold

- Survey water use to identify major uses; find and fix any leaks—especially hot water leaks.
- See [EPA's WaterSense® program](#) for water saving labeled products and rebates, for indoor/outdoor water efficiency tips, and best practices.
- Check out [ENERGY STAR water heating product information and calculators; find local retailers and rebates.](#)
- Typically, set water temperature to 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.
- Insulate water heaters.
- Optimize the amount of water used in heating and cooling systems.
- Practice [water efficient landscaping](#).



Car Wash

- Since drying systems use the most energy in the wash tunnel, look for energy-efficient drying systems.
- Consider using variable frequency drives (VFDs) that control the amount of electricity heavy equipment uses by regulating motor speed and power surges—this is most important for dryers and blowers.
- Keep dryers clean and clear of debris and perform a daily inspection of the dryer to remove debris and any build up.
- Use LED lights for interior and exterior lighting—they save electricity and do not need to be replaced as often.
- To measure and manage car wash water use, add a car wash-specific water meter that is separate from the rest of your store.



- ❑ Consider water reclamation. These systems can separate car wash sediment (dirt, grease, oil and chemicals) from the water to make it reusable—increasing water efficiency at the operation. The International Carwash Association manages a [WaterSavers](#) program to encourage and promote water-efficient and best water management practices for car washes. It includes a [logo and other marketing materials](#) to promote WaterSavers members and an [online database](#) so that customers can find car washes meeting its criteria.



Electric Vehicle Supply Equipment (EVSE)

- ❑ There are [three major categories of electric vehicle 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.
- ❑ Convenience stores will be interested in DC Fast Charge models. For more information and equipment sources, see the [websites of several members of the Electric Vehicle Charging Association](#).
- ❑ Consider separately metering the charger's energy use to better measure and manage how much electricity is used to charge vehicles.
- ❑ Find more general information at the [Electric Vehicle Charging Association](#).

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Treasure Map FOR CONVENIENCE STORES

ADDITIONAL NOTES:

