

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

- Make note of your EUI and ENERGY STAR Score in Portfolio Manager.
- Have a plan! Ensure that the facility energy management plan, and the O&M plan (operations and maintenance) are up to date and that appropriate staff have reviewed the latest versions.
- Review building management system (BMS) and/or building automation system (BAS) code to ensure that specific commands to reduce unneeded energy consumption (e.g., on/off times) have not been overwritten.

NOTES:



## Lighting

- During daytime and evening hours, identify where lights have been left on in unoccupied spaces (including offices, restrooms, classrooms, conference rooms, kitchen, family room, hallways, storage, library, etc.)
- During the day, look for “day-burners” – that is, exterior and parking lot lighting that should only be on at night, and which has a failed or dirty light sensor.
- 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.
- Assess cleanliness of lamps/fixtures (dust, bugs, any debris) and the need to institute a regular cleaning plan for maximum light output.
- Identify where reflectors can be practically added to amplify existing lighting.



- Consider purchasing an inexpensive light meter (under \$50) 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.
- 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 LED (especially for task lighting or specialty/decorative applications).
  - Replace incandescent or CFL exit signs with an LED model.
  - Recycle/dispose of all fluorescent tubes/CFLs and magnetic ballasts properly at your lighting or building supply store.

## NOTES:

## TIP:

- Review ENERGY STAR product information, calculators and find local retailers and rebates at [https://www.energystar.gov/products/lighting\\_fans](https://www.energystar.gov/products/lighting_fans) and more lighting facts at [www.energystar.gov/lighting](http://www.energystar.gov/lighting).



## Building Envelope

- Inspect doors and windows to identify gaps or cracks that can be repaired.
  - Note damaged or missing weather stripping.
  - Determine if new, highly efficient windows may be necessary.  
\*\*Windows can be expensive, so consider sealing and caulking leaks before purchasing new windows.
- Note air leaks that should be sealed with caulking or another sealant.
- Close doors to the outside and to any unheated or uncooled areas.
- Assess the opportunity to install solar film or other window coverings on east, west, or south exposures to reduce solar heat gain and heat loss.
- Inspect insulation levels and identify inadequacies to be addressed.
- Consider checking the roof: take photographs and notes on any damage, cracked shingles or other surface aging. Note if the roof is still under warranty. In the attic, look for signs of leaks, membrane cracks/holes, or damaged insulation.

## TIP:

- Consider strategic landscaping to save money on water bills and space cooling in the summer and heating in the winter. See tips and information at <https://www.epa.gov/watersense/outdoors>.
- Congregations can use much of the information on “residential” products and savings resources at [https://www.energystar.gov/products/building\\_products](https://www.energystar.gov/products/building_products) for facilities.





## Equipment/ Plug Loads

- Identify any new office equipment that will be needed soon, and make sure to purchase ENERGY STAR certified equipment where possible.
- Identify any equipment left on overnight (including equipment left in sleep/idle or screen saver mode).
- Ensure that power management settings are activated on office equipment such as computers, monitors, printers, and copiers.
- Identify where power strips can be used for easy disconnect from power source. Consider the use of advanced power strips.
- Teach staff to unplug rechargeable devices once charged.
- Be sure vending machines are turned off or put in sleep mode at the end of the day. Consider installing motion/occupancy-based vending machine controls.



## Kitchen/Food Service Equipment

- Determine if commercial refrigerators/freezers (typically silver/stainless steel) or residential models are in use. Many congregations have residential type refrigerators, which should be replaced if 9-10 years old.
  - Make sure your old refrigerator is disposed of properly. See the EPA's Responsible Appliance Disposal (RAD) Program at <https://www.epa.gov/rad>.
- If possible, be sure heating equipment is not near cooling equipment.
- 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.
- Check that refrigerator coils are clean and free of obstructions.
- 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.
- Ensure that unused appliances are unplugged or on a power strip that is shut off.
- Identify where low-flow pre-rinse spray valves can be installed.

### NOTES:

### TIP:

- Review products and resources at [www.energystar.gov/products/office\\_equipment](http://www.energystar.gov/products/office_equipment); see ENERGY STAR vending machines at [www.energystar.gov/products/other/vending\\_machines](http://www.energystar.gov/products/other/vending_machines) and water coolers at [www.energystar.gov/products/other/water\\_coolers](http://www.energystar.gov/products/other/water_coolers).

### TIP:

- Check out ENERGY STAR product information, calculators and find local retailers and rebates at [https://www.energystar.gov/products/commercial\\_food\\_service\\_equipment](https://www.energystar.gov/products/commercial_food_service_equipment).



- Identify and assess opportunities to use ENERGY STAR certified commercial food service equipment and ENERGY STAR certified appliances (e.g., refrigerators, dishwashers).
- Identify and assess opportunities to install variable frequency drives (VFDs) on kitchen hoods.



## HVAC

- Identify and end any instances of simultaneous heating and cooling. Ensure that individual space heaters are not being used. The use of such personal devices may indicate broader heating issues that should be addressed at the system level.
- Ceiling fans and personal fans can help with energy savings by making 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 occupying a space instead of maintaining the comfort level when not occupied.
- Confirm proper implementation of a temperature setback policy for heating/cooling when the building is unoccupied (including any special considerations for summer months).
  - 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 being 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:
  - Replace filters on a regular schedule; monthly during heating/cooling season.
  - Ensure that thermostats and outside air temperature sensors are properly calibrated/maintained.
  - Service any dirty or damaged parts.
  - Inspect and clean evaporator and condenser coils.
  - Clean fan blades and adjust belts as needed.
  - Inspect water/steam pipes and ducts for leaks and/or inadequate insulation; address as needed.
  - Evaluate furnace/boiler efficiency and clean/tune up as needed (including boiler water treatment and inspection of steam traps, as appropriate).
  - Check chiller and cooling tower components for fouling or corrosion; ensure proper water treatment is in place.

NOTES:



- Check for unusual noise, vibration, and decrease in performance of compressors/motors.
- Perform testing and balancing of air and water systems.
- Ensure free airflow to and from supply/return registers (clear furniture, books, papers, or other materials).
- Ensure that electronics are located away from thermostats.
- Use window shades/curtains to block excess heat, and educate staff about when to use them.
- Monitor make-up air ventilation, and ensure the proper functioning of dampers to achieve outside air requirements.
- Identify and assess opportunities for installing variable frequency drives (VFDs) for fan and pump motors.
- If your facility is not fully heated/cooled every day, consider scheduling special events and cleaning on days just before or after regular services to benefit from consecutive days of temperature stability.



## Hot and Cold Water

- 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.
- 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 [https://www.energystar.gov/products/water\\_heaters](https://www.energystar.gov/products/water_heaters).
- 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](http://www.epa.gov/watersense).

### NOTES:

### TIP:

- Have a plan for HVAC failure on the hottest/coldest day of the year. Know the anticipated useful life of your current system, have your contractor “right-size” the new HVAC system to account for your new level of efficiency and reduced demand so you do not pay more for a larger system than you need.
- See ENERGY STAR HVAC products and resources at [https://www.energystar.gov/products/heating\\_cooling](https://www.energystar.gov/products/heating_cooling).

### 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. Utilities may have pre-purchase application requirements.



## ADDITIONAL NOTES:

## MORE TIPS:

- Download the ENERGY STAR Action Workbook for Congregations (and resource appendices) for more strategies, action items, and ideas at [www.energystar.gov/congregations](http://www.energystar.gov/congregations).
- Use EPA's Portfolio Manager tool to help you manage energy and water use through benchmarking. Learn more at [www.energystar.gov/benchmark](http://www.energystar.gov/benchmark) and find a wealth of training and tech support at [www.energystar.gov/buildings/training](http://www.energystar.gov/buildings/training).
- 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. Such audits are free unless the analysis finds you are due refunds, then the auditing firm is paid a pre-agreed percentage after your refund is complete. If you find no refund, you have confirmed you are not overpaying.
- Help your congregational members achieve savings at home with resources at [www.energystar.gov/campaign/home](http://www.energystar.gov/campaign/home), at their business with [www.energystar.gov/smallbiz](http://www.energystar.gov/smallbiz), or other workplaces with [www.energystar.gov/work](http://www.energystar.gov/work).

