



DELIVERING WITH
FOCUS

Commercial High Efficiency Foodservice Program

April 18th, 2022



Commercial High Efficiency Foodservice Program

Energy Saving Opportunities
in Commercial Foodservice



CenterPoint Energy Electric Territory



Program comes from transmission and distribution charges paid by electricity consumers



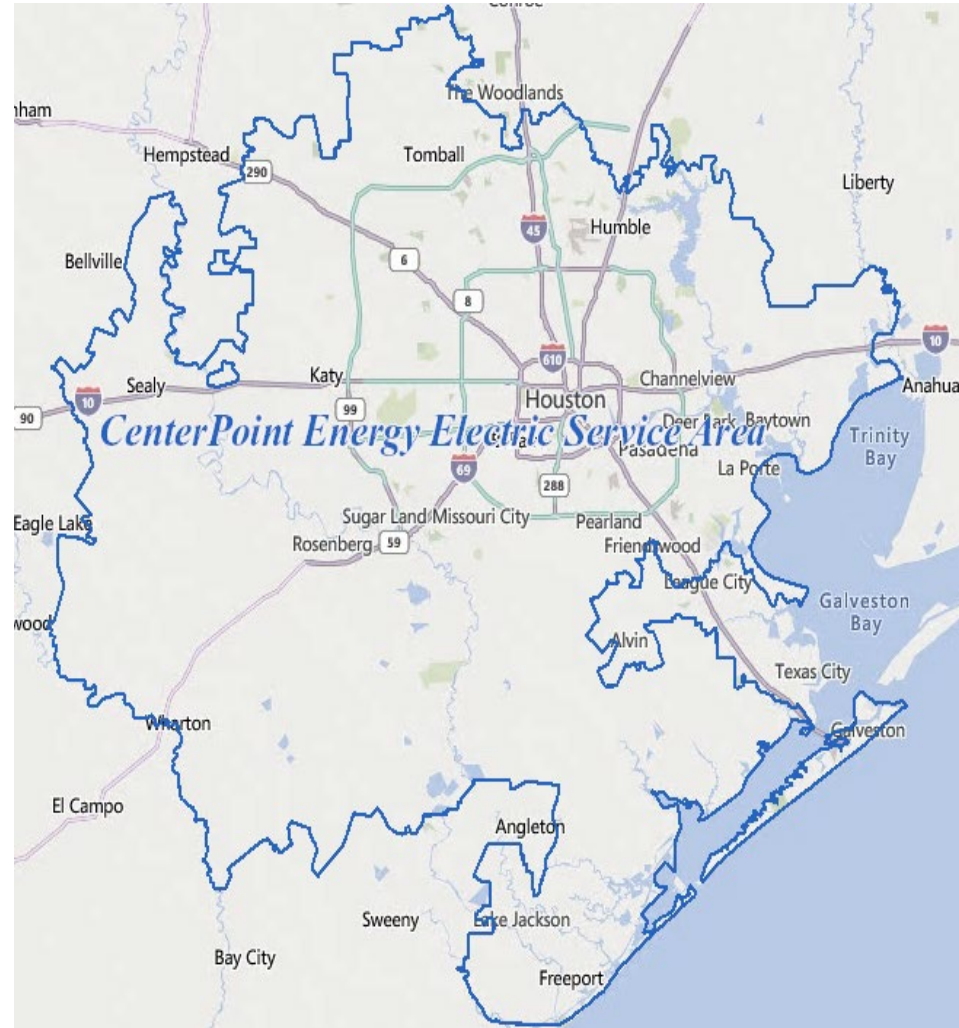
PUCT requires that CenterPoint Energy is offers energy efficiency programs that provide value and verified savings



Avoid the cost of new capacity



Grid reliability



Why Energy Efficiency?



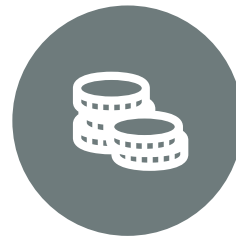
State energy efficiency goals



Avoid the cost of new capacity



Returning \$ to Texas Consumers



Allows commercial food business owners to save energy and money

Why Commercial Foodservice?



- Restaurants face both challenges and opportunities in energy management
- Energy cost management is a critical part for your restaurant's success
- **Energy savings go directly to your bottom line**

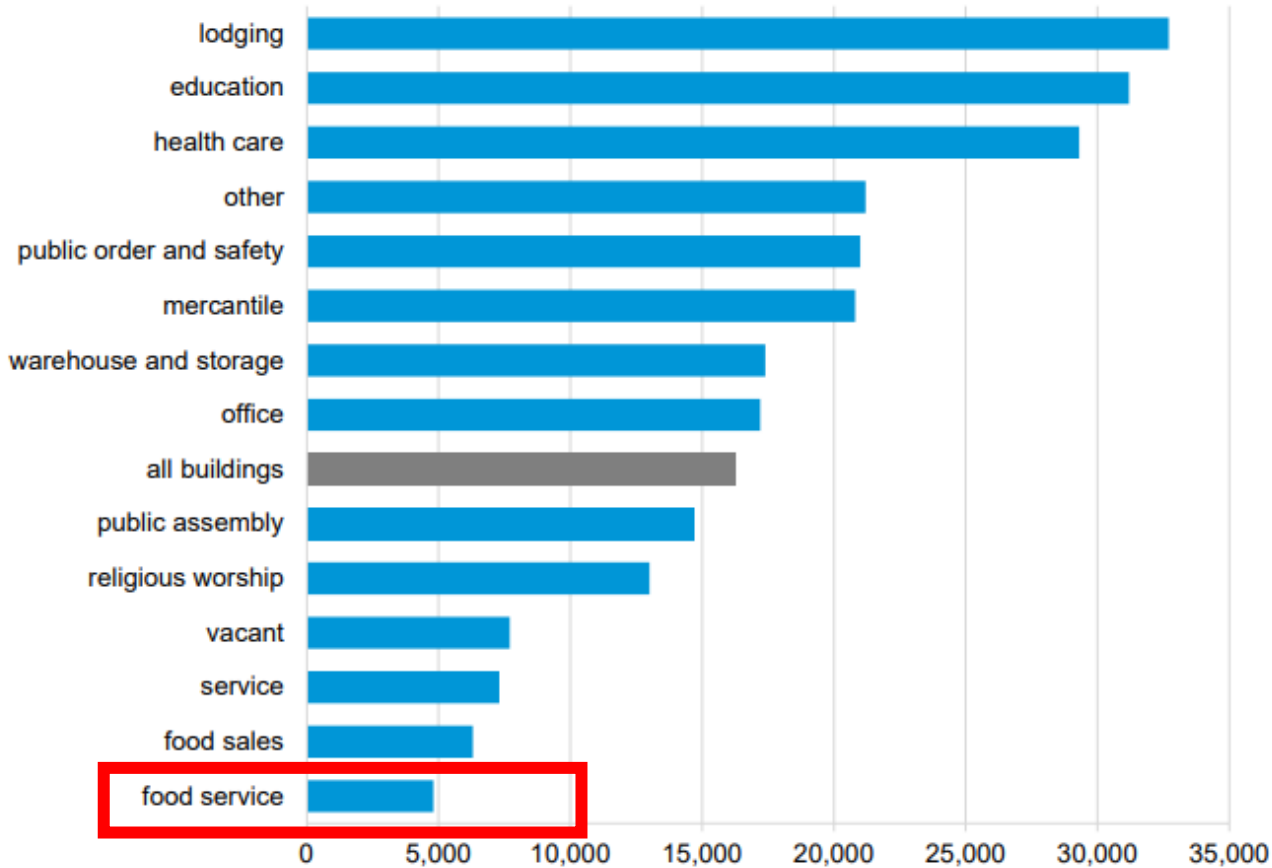
Fun Question #1

Which type of building has the highest energy consumption per square foot?



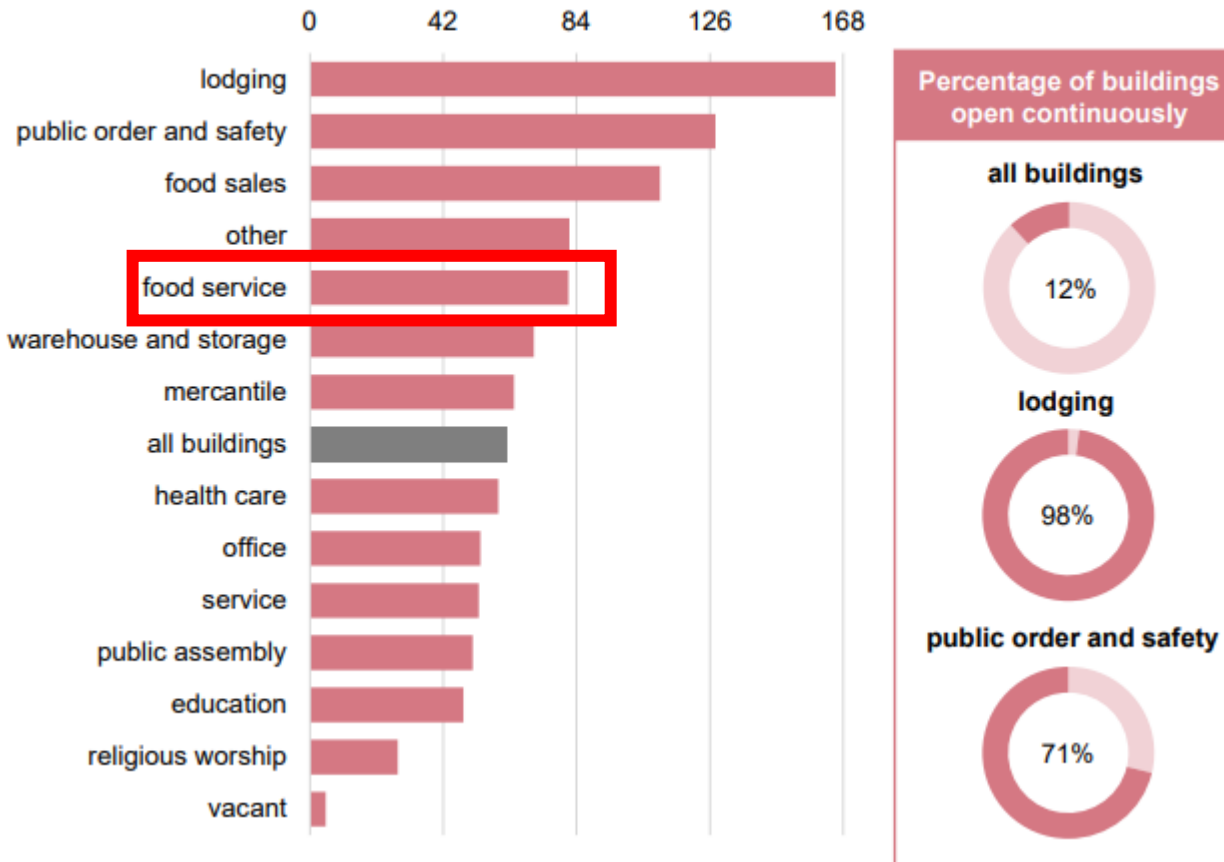
Floorspace by Building Activity

Average floorspace by principal building activity, 2018
square feet per building



Operating Hours

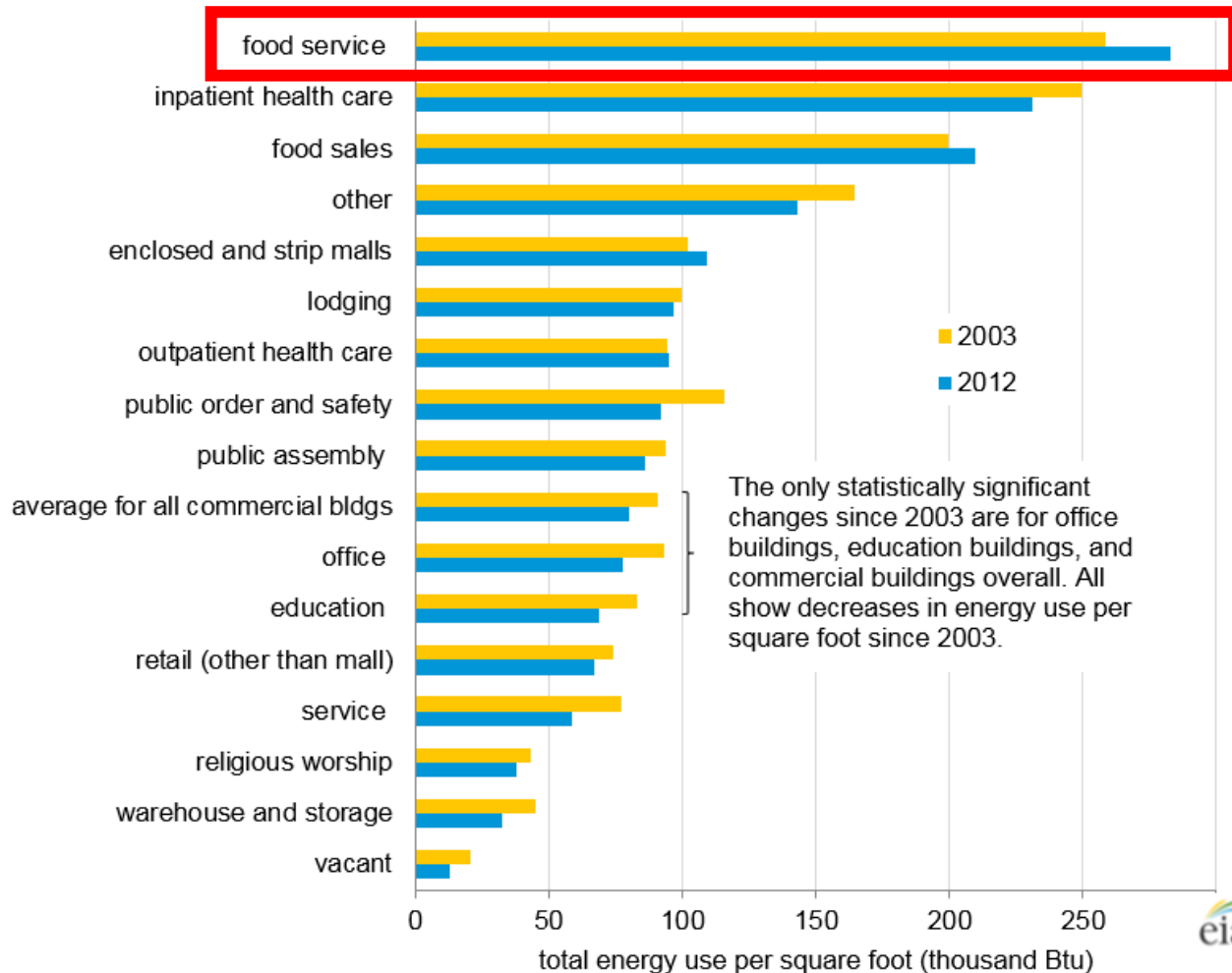
Average weekly operating hours in commercial buildings by principal building activity, 2018
hours



Source: <https://www.eia.gov/consumption/commercial/reports/2012/energyusage/>

Energy Usage by Square Foot

Commercial Building Energy Consumption Survey: energy usage summary users



2-3 times

- Restaurants use approximately 2 to 3 times more energy per square foot than other commercial buildings
- QSR can use up to 5 times more energy per square foot than other commercial buildings



ENERGY STAR is voluntary network of government, business, utility, and community partners

The Goal: to save money and protect our climate through superior energy efficiency

energystar.gov/partnersearch



What is ENERGY STAR?



The simple choice
for energy efficiency.

- Influential and trusted symbol of **energy efficiency**
- Available across **75+ product categories**
- Since 1992, a voluntary **partnership** among government, business, and consumers
- Now in our 20th year partnering with the commercial food service industry
- Products are independently certified to meet strict energy-efficiency guidelines set by the **U.S. EPA**
- **Utilities** offer **rebates** on ENERGY STAR certified equipment
- **Saves** end-users **energy**, **water**, and **money**
- Helps protect the **climate**



The biggest little label in energy efficiency



6 billion
products

34,000+
buildings

100
industrial
plants

2 million
homes

https://www.energystar.gov/about/origins_mission/energy_star_numbers



To date, ENERGY STAR
has helped Americans:

- Save more than **\$450 billion**
- **Save 4 trillion kWh** of electricity
- Avoid **3 billion metric tons** of GHG emissions





Commercial Food Service



CFS Products in the ENERGY STAR Portfolio

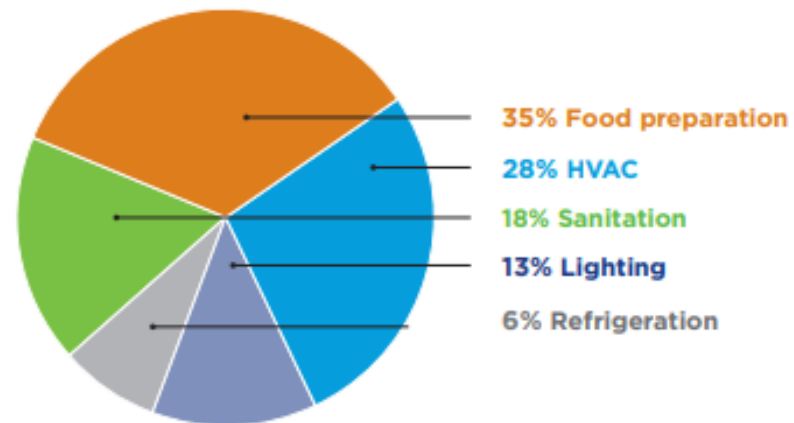
- Refrigerators and Freezers*
- Hot Food Holding Cabinets*
- Dishwashers*
- Griddles
- Fryers*
- Steam Cookers*
- Ice Makers*
- Ovens*
- Coffee Brewers
- *Electric Cooktops (incl. Induction) - pending*



Energy Consumption in Commercial Kitchens

- **Commercial kitchens** are energy intensive
 - Use **2-3 times more energy per square foot** than other commercial buildings (e.g., office, retail stores).
- A single piece of equipment is energy intensive
 - Typical electric deep fat **fryer** can consume more than 18,000 kWh annually, while the **average U.S. household** electricity use is approx. 12,000 kWh annually.

Example of average energy consumption in a fullservice restaurant



Source: U.S. Environmental Protection Agency Energy Star program



ENERGY STAR Certified Equipment in Restaurants

Nearly half of all restaurants use EPA Energy Star-rated refrigerators. Independently owned restaurants are slightly more likely than chain/franchisee operations to use EPA Energy Star-rated kitchen equipment.

Percent of restaurant operators using Energy Star-rated appliances



Refrigerators



Freezers



Icemakers



Dishwashers



Fryers



Energy Savings in Commercial Kitchens

- Outfitting a commercial kitchen with a suite of ENERGY STAR certified equipment could save an **operator** 340 million BTU/year, or more than \$5,300/year, on energy bills.
- That means, more energy goes into the food and less energy is wasted!
- Rebates are the additional incentive to purchase ENERGY STAR certified equipment!



What is CHEF...

How can it help me?



What is CHEF?

How does it work?

- CHEF is the Commercial High Efficiency Foodservice Program
- Incentives for electric commercial high efficiency foodservice equipment
- Midstream program - Distributor/Seller focused program
- In 2021 we provided \$111,000 in incentives to restaurants

Why did we choose midstream?

- Customers don't buy equipment from utility companies
- It eliminates "rebate breakage"
- Improves customer understanding and reduces market confusion

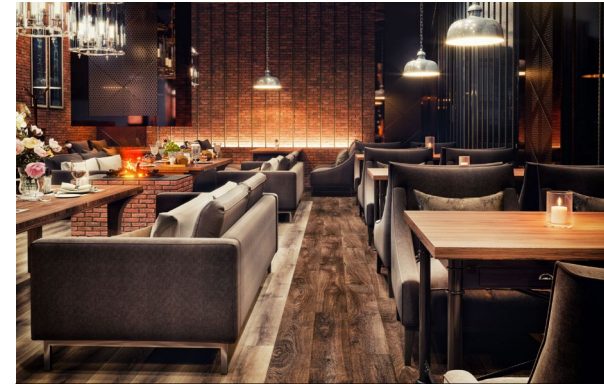
Lighting, HVAC & Ventilation

13% of energy use comes from lighting

- Upgrading to efficient lighting can be simple and low risk
- You don't have to sacrifice design & comfort with lighting
- Lighting retrofits can save between 30-50% in lighting energy

28% of energy use comes from HVAC

- ENERGY STAR equipment in the kitchen and efficient lighting will help reduce cooling
- Demand Control Kitchen Ventilation will help reduce cooling and exhaust usage in the kitchen



Front of House vs Back of House



Food Prep, Refrigeration & Sanitation Efficiencies*

Incentives up to \$1900 per piece of equipment

<u>Category</u>	<u>Improved Efficiency*</u>
Combination ovens	30%
Convection ovens	15%
Hot food holding cabinets	70%
Fryer's standard	14%
Fryer's large	35%
Steam cookers	60%
Commercial freezer	20%
Commercial refrigerator	20%
Ice Maker - batch	11%
Ice Maker – continuous	20%
Commercial Dishwasher	40% energy 40% water

* Efficiency numbers are being revised in 2022 and 2023
https://www.energystar.gov/sites/default/files/asset/document/CR%20ES%20Restaurant%20Guide%202015%20v8_0.pdf

CHEF approved dealers:



- Ace Mart Restaurant Supply
- C&T Design & Equipment Co.
- Coolers Incorporated
- Melink Incorporated
- Stafford & Smith Restaurant Equipment
- Trimark/ISI
- Wholesale Restaurant Supply

If you do not see your dealer on this list, please contact us and we will be happy to add them to the CHEF Program!

Email: jemerson@trccompanies.com

ENERGY STAR Tools and Guides

I'm interested! Where do I go
from here?



Commercial Foodservice (CFS) Tools



- CFS equipment calculator – updated in 2021
- Dealer & Distributor Toolkit – updated in 2021
- Sell sheets for all products – new release in Q2 2022
- Ask the Experts articles “For Business”
 - [Cut Utility Costs in Commercial Kitchens](#)
 - [Reducing Refrigeration Costs](#)
 - [Selecting the Right-Sized Commercial Oven](#)



Selling ENERGY STAR CFS Equipment

Step 1: Identify the ENERGY STAR Products Available

There are nine ENERGY STAR certified CFS product categories. Click on the product categories below to view the ENERGY STAR sell sheet. The sell sheets contain facts on the specification and the energy / water savings associated with each product, allowing you to promote ENERGY STAR equipment.



The ENERGY STAR Product Finder will help you develop a list of certified products for your customers' specific needs. Follow these steps to determine what ENERGY STAR products are available within each product category.

How to Use the ENERGY STAR Product Finder:

1. Visit the [ENERGY STAR Product Finder](#)
2. Select either Commercial Food Service Equipment or one of the nine CFS product categories.
3. Review the results and if needed, filter your results further by "Type," "Brand Name," or other key product features. *Optional: Compare up to 4 different products.*
4. Make informed recommendations about ENERGY STAR certified products to your customer.

DID YOU KNOW

The ENERGY STAR Product Finder is a searchable online database of ENERGY STAR certified products. The Product Finder is updated daily.

Step 2: Determine the Customer's Return on Investment (ROI)

Provide your customer with an estimated operating cost and the potential energy and water savings achievable with ENERGY STAR certified equipment.

1. Visit the [ENERGY STAR CFS Equipment Calculator](#).
2. On the first tab titled, "INPUTS," enter where the equipment will be used (select the U.S. average or a specific state).
3. Then, enter the quantity of kitchen equipment that your customer is planning to purchase (all nine ENERGY STAR product categories are included). *Optional: Fill in the product information (i.e. racks washed per day, fuel type, operating days per year, etc.) or use the default data included in the Calculator.*
4. Click the link at the bottom of the tab and you will be taken to the
5. Review the results and provide your customer with the benefits i lifecycle cost, return on investment, and quality.



CFS Equipment Calculator

Estimate savings from purchasing ENERGY STAR certified CFS equipment.

Calculate Savings



Restaurant, Café & Commercial Kitchen Guide



- Co-Brandable, best-practices guide designed to help operators identify ways to save energy and water and boost their bottom line while protecting the environment!
- Includes:
 - Cost savings per product type
 - Incentive ranges available from partners across the U.S.
 - Benchmarking
 - Water conservation tips
 - Much more!



ENERGY STAR® Guide for Cafés,
Restaurants, and Institutional Kitchens



EPA developed this guide in partnership with PG&E's Food Service Technology Center and the National Restaurant Association's Conserve Program in 2015 with assistance from CA's four Investor-Owned Utilities

https://www.energystar.gov/sites/default/files/asset/document/CR%20ES%20Restaurant%20Guide%202015%20v8_0.pdf



How to locate certified equipment: ENERGY STAR Product Finder



Search for ENERGY STAR certified products, compare product features, and export data

Find and Compare Products Languages: English | Français [Access to ENERGY STAR API, Data Set or Excel File](#)

Find product models that have earned the ENERGY STAR and compare features, savings and more to optimize your purchase.

- 1 Select a product category of interest to you.
- 2 Get details on specific qualifying models.
- 3 Make informed purchasing decisions.

ENERGY STAR Certified **Commercial Refrigerators and Freezers** Visit the [Commercial Refrigerators and Freezers](#) page for usage tips and buying guidelines.

CHANGE product category

1032 Records Found Sort by: **Energy Use (kWh/day)** Share Your Results

Filter Your Results

Type

- Vertical Solid Door Refrigerator (442)
- Vertical Transparent Door Refrigerator (351)
- Vertical Solid Door Freezer (182)
- Vertical Transparent Door Freezer (43)
- Horizontal Transparent Door Refrigerator (10)

IDW - TEQ-77 Compare

Type: Horizontal Transparent Door Refrigerator Configuration (Vertical/Chest): Chest
 Volume (cu. ft.): 2.3 Number of Doors: 1
 Energy Use (kWh/day): 0.26 Refrigerant Type: R-600a

IDW - RCM-VISID Compare

Type: Horizontal Transparent Door Refrigerator Configuration (Vertical/Chest): Chest
 Volume (cu. ft.): 2.19 Number of Doors: 1
 Energy Use (kWh/day): 0.29 Refrigerant Type: R-600a

ENERGY STAR Certified Commercial Refrigerators a... Public [Edit](#) [Manage Collaborators](#)

ENERGY STAR Certified Commercial Refrigerat... [Find in this Dataset](#)

Certified models meet all ENERGY STAR requirements as listed in the [Version 1.0 ENERGY STAR Program Requirements for Commercial](#) [More Views](#) [Filter](#) [Visualize](#) [Export](#) [Discuss](#) [Embed](#) [About](#)

ENER...	ENERGY STAR Partner	Brand Name	Model Name	Model Number	Additional
2,333,372	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial freezer	VP1F-HC	
2,333,423	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VP1R-23HC	
2,333,370	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VP1R-HC	
2,333,373	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial freezer	VP2F-HC	
2,333,424	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VP2R-48HC	
2,333,371	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VP2R-HC	
2,333,425	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VPUCR27	
2,333,426	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VPUCR48	
2,333,427	Allied Manufacturing, Inc. DBA Valp...	Valpro	Commercial refrigerator	VPUCR60	
2,340,478	Allied Trading Inc.	Padela	PDB-1R-HC	PDB-1R-HC	
2,340,477	Allied Trading Inc.	Padela	PDB-2F-HC	PDB-2F-HC	
2,340,398	Allied Trading Inc.	Padela	PDB-2R-HC	PDB-2R-HC	
2,340,643	Allied Trading Inc.	Padela	PDB-3R-HC	PDB-3R-HC	



Stay in touch: CFS Communications



Sign up for seasonal newsletters and the CFS distribution list to stay updated on ENERGY STAR certified commercial food service products, tools, and resources by sending an email to cfs@energystar.gov.



SAVE THE DATE

CFS Virtual Workshop

- **May 10-12, 2022**
- ENERGY STAR CFS updates
- Market opportunities related to the clean energy future featuring perspectives from **chefs**, **kitchen designers**, and **operators**.
- Advanced cooking technology in commercial kitchens featuring perspectives from **utilities** and **manufacturers**.

Questions? Contact CFS@energystar.gov

Include energy use in restaurant management



- Conduct an energy audit
- Benchmark
- Train your employees
- Invest effectively
- Let your patrons know what you are doing – they will be impressed!





Benchmarking



Benchmarking

- Benchmark your property in the free, online [Portfolio Manager® tool](#) for tracking energy, water and recycling/materials management.
- First print the [Data Collection Worksheet](#) for “Restaurant/Bar” under “Food Sales & Service” on this menu. This Worksheet will list all you need to benchmark.
- Use “start-up, shut-down” scheduling for house lights, kitchen equipment and heating/air-conditioning.
- Educate, encourage, recognize employees for reporting leaks, turning off unneeded lights and finding savings opportunities.
- Adopt a purchasing/procurement policy to specify EPA’s ENERGY STAR, WaterSense® and Safer Choice® labeled products. Customize ENERGY STAR’s template procurement letter.



Energy Savings Checklist for Restaurants

- 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 your baseline use, from which to track savings. Start by printing the Data Collection Worksheet for “Restaurant/Bar” found under “Food Sales & Service” on this menu. 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.
<https://esbuildings.webex.com/mw3300/mywebex/default.do?siteurl=esbuildings>
 - Create your account at <https://portfoliomanager.energystar.gov/pm/signup>
- Learn more at <https://www.energystar.gov/benchmark> and find all Portfolio Manager training and tech support at <https://www.energystar.gov/buildings/training>.
 - Register for ENERGY STAR’s live webinars and find recorded webinars on many sustainability topics.
- Portfolio Manager does not have a module to score restaurants or commercial kitchens on the 1-100 ENERGY STAR® scale yet. However, national median EUI (Energy Use Intensity is approximately energy use/sq.ft.) for Quick Service Restaurants is 886.4 for Source EUI (kBtu/ft²) and 402.7 Site EUI (kBtu/ft²). Median EUI is lower for other Restaurants/Cafeterias at 537.7 Source EUI (kBtu/ft²) and 325.6 Site EUI (kBtu/ft²). You can do much better than the EUI.
- Use “start-up, shut-down” scheduling for house lights, kitchen equipment and heating/air-conditioning.
- Educate and encourage employees to report leaks, turn off lights not in use and to look for savings opportunities.
- Adopt a purchasing/procurement policy that specifies EPA’s ENERGY STAR, WaterSense® and Safer Choice® labeled products when applicable. Customize ENERGY STAR’s template procurement letter for your use.

NOTES:

TIP:

- Download the ENERGY STAR Action Workbook for Small Business (with restaurant appendices) for more strategies, action items, and ideas. See the 30-minute ENERGY STAR for Small Business recorded webinar. Start and support a Green Team of members and employees. Find resources to Build Your Own Competition for savings.
- Celebrate your success and recognize contributors. Help your customers and employees achieve savings at home and at guests’ workplaces and Bring Your Green to Work.



Lighting



Energy Savings Checklist for Restaurants

2 Lighting

- Consider purchasing an inexpensive light meter (under \$30) to assess whether any areas are over-fit, compared to requirements or design levels.
- During daytime and evening hours, identify where lights have been left on in unoccupied spaces (including worship area, 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 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.
- 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 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, or LED retrofit kit.
 - Recycle/dispose of all fluorescent tubes/CFLs and magnetic ballasts properly at your lighting or building supply store.

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. 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.

Lighting

- Look for “day-burners” – exterior and parking lot lighting - which have a failed or dirty light sensor.
- 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, or LED retrofit kit.
- Recycle/dispose of all fluorescent tubes/CFLs and magnetic ballasts properly at your lighting or building supply store.
- See ENERGY STAR efficient signage opportunities.



Building Envelope



Energy Savings Checklist for Restaurants

- Review ENERGY STAR lighting and fan product information, use calculators and find local retailers and rebates, plus more lighting facts at www.energystar.gov/lighting.
- See ENERGY STAR efficient signage opportunities.



Building Envelope

- Inspect doors and windows to identify gaps or cracks that can be weather-stripped, caulked or filled with foam insulation.
- If new windows must be purchased anyway, consider the incremental costs and savings of high-efficiency windows – which will cost more and save more.
- Generally, keep doors closed to the outside and to any unheated or uncooled areas.
- Consider installation of solar film, awnings, vegetation or insulated curtains for east and west windows to block summer heat gain and allowing solar gain in the winter through south-facing windows. Likewise, depending on your climate, consider blocking heat loss through windows in the winter.
- 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>.
- Inspect attic insulation levels and identify inadequacies to be addressed. If a major remodel opens walls, consider adding insulation.
- Check on 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.
 - Depending on “street view” aesthetics and other issues, consider that white, reflective paint can significantly reduce heat gain and even extend the life of some roofing.
- Some restaurants may be able to use much of the information on ENERGY STAR “residential” building products including doors, windows, skylights, roofing, and sealing and insulation resources.

NOTES:

TIP:

- For tasks beyond your staff skills and capacity, find professional “green/sustainability” services for the industry.

Building Envelope

- Consider installation of solar film, awnings, vegetation or insulated curtains for east and west windows to block heat gain.
- Consider strategic landscaping to save money on water bills and space cooling. See tips and information at <https://www.epa.gov/watersense/outdoors>.
- Depending on “street view” aesthetics and other issues, consider white, reflective paint to significantly reduce heat gain and even extend the life of roofing.



HVAC



HVAC

- **Maintain HVAC system components regularly.** We recommend an annual "tune-up" contract – at least pre- cooling season.
- Replace filters monthly during heating/ cooling season.
- Ensure free airflow to and from supply/return registers.
- Keep electronics and heat sources away from thermostats.
- Controls are available for lighting, plug loads, HVAC, food storage/preparation, refrigeration, scheduling.
- If not fully automated, get competing bids showing the ROI from 2-3 industry professionals.



Energy Savings Checklist for Restaurants



HVAC

- 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 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.
 - Use window shades/curtains to block excess heat and educate staff about when to use them.
 - Identify and prevent 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 occupation rather than maintaining the comfort level when not occupied.
 - Depending on outside temperature, programming can be set to turn off the HVAC 15-30 minutes before space use ends for additional savings.
- Programmable thermostats with strategic setpoint times and temperatures can save money and keep you space comfortable.
- Read about "smart thermostats" and implementing 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 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.

NOTES:

TIP:

- Controls are available for virtually all restaurant 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.



Cooking Equipment



Plug Load

- Identify any needed office or cooking equipment. Start looking for ENERGY STAR options, use the online savings calculators, rebate finder.
- Identify equipment to be turned off when not in use.
- If possible, keep heating equipment away from cooling equipment. Keep heating equipment off when possible.

Cooking Equipment

- Ensure that range hoods and exhaust fans are only running when the range is being used.
- **Establish operating procedures** for cooking/baking equipment (e.g., preheating only when necessary, turning down/off equipment when not in use).



Energy Savings Checklist for Restaurants



Office Equipment/Plug Load

- Identify any new office equipment that will be needed soon. Start looking for ENERGY STAR certified equipment options, use the online savings calculators and look for available rebates.
- Identify any equipment left on overnight (including equipment left in sleep/idle or screen saver mode), that should be turned off when not in use.
- 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.
- Be sure staff know to unplug rechargeable devices once charged.
- Be sure vending machines are turned off or put in sleep mode at the end of the day with a timer. Consider installing motion/occupancy-based vending machine controls.
- Review ENERGY STAR office products and resources and see ENERGY STAR vending machines and water coolers.



Kitchen/Food Service Equipment

- If the restaurant anticipates purchasing new kitchen equipment, review the ENERGY STAR models, calculate savings and find rebates in advance.
- Some restaurants may have residential type refrigerators, which should be replaced if 9-10 years old. Commercial refrigerators/freezers are much larger are typically silver/stainless steel.
 - Dispose of old refrigerators 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, and turn heating equipment off when possible.
- Survey water use to identify major uses; find and fix any leaks—especially hot water leaks.
- Typically, set water temperature to 110 – 120 degrees or per local code to prevent scalds and to save energy and money.
- Check out ENERGY STAR labeled water heaters, including “tankless/on-demand,” solar and other models 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. 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.

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.



Refrigeration



Refrigeration

- **Monitor your cold storage units.** Anti-sweat controls monitor humidity and temperature to activate heaters in cooler and freezer doors to prevent condensation.
- Defrost Controls sense when evaporator coils need defrosting, and only then perform this function.
- Identify worn/leaky door seal/ 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.
- Verify that refrigerator coils are clean and free of obstructions and oven thermostat accuracy. Have recalibrated if necessary.



Energy Savings Checklist for Restaurants

- ENERGY STAR certified commercial coffee brewers offer as much as 35% energy savings and better temperature uniformity compared to conventional models, due efficient electrical systems and well-insulated tanks.
- 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.
- When purchasing signage displays, monitors, televisions, water coolers, vending machines and other products look for the ENERGY STAR label at <https://www.energystar.gov/products>.
- 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.
- Determine if low-flow pre-rinse spray valves can be installed.
- Identify and assess opportunities to install variable frequency drives (VFDs) on kitchen hoods.
- Monitor and control all the equipment you can, and look into predictive diagnostics. Receive real-time alerts

NOTES:

TIP:

- Download the ENERGY STAR Guide for Cafés, Restaurants, and Institutional Kitchens.



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 (ECMs) can be programmed 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.
- Anti-sweat controls monitor both humidity and temperature and humidity to activate heaters in cooler and freezer doors only when needed to prevent condensation.
- Defrost Controls use sensors to intelligently sense when evaporator coils need defrosting, and only then consume the energy necessary to perform that operation.

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.



Energy Savings Checklist for Restaurants

- Install strip curtains and keep condenser and evaporator coils clean.
- 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 have recalibrated if necessary.
- Establish and post 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.
- Determine if low-flow pre-rinse spray valves can be installed.
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- Monitor and control all the equipment you can, and look into predictive diagnostics.



Water: Hot and Cold

- Survey water use to identify major uses; find and fix any leaks—especially hot water leaks.
- Typically, set water heater temperature to 110 – 120 degrees or per local code to prevent scalds and to save energy and money.
 - Insulate 7-year or older water heaters and the first 3’ of heated water “out” pipe.
- Consider “tankless” heaters (on-demand) for low-use areas, or solar and other efficient options.
- Check out ENERGY STAR water heating product information and calculators; find local retailers and rebates at https://www.energystar.gov/products/water_heaters.
- See EPA’s WaterSense® program for water saving labeled products (faucets, commercial toilets and urinals), rebates, for indoor/outdoor water efficiency tips, and best practices at www.epa.gov/watersense.
- Don’t forget pre-rinse spray valves.

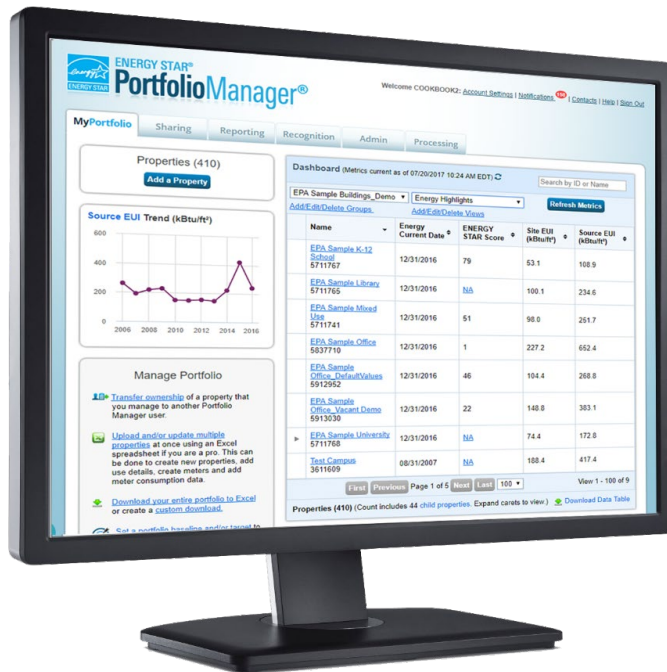
NOTES:

TIP:

- Look into the resources offered by the Green Restaurant Association.
- Visit the National Restaurant Association’s Conserve Program for best practices, blogs, videos, tools & solutions, news & events and the most recent NRA State of Restaurant Sustainability Report.

Water

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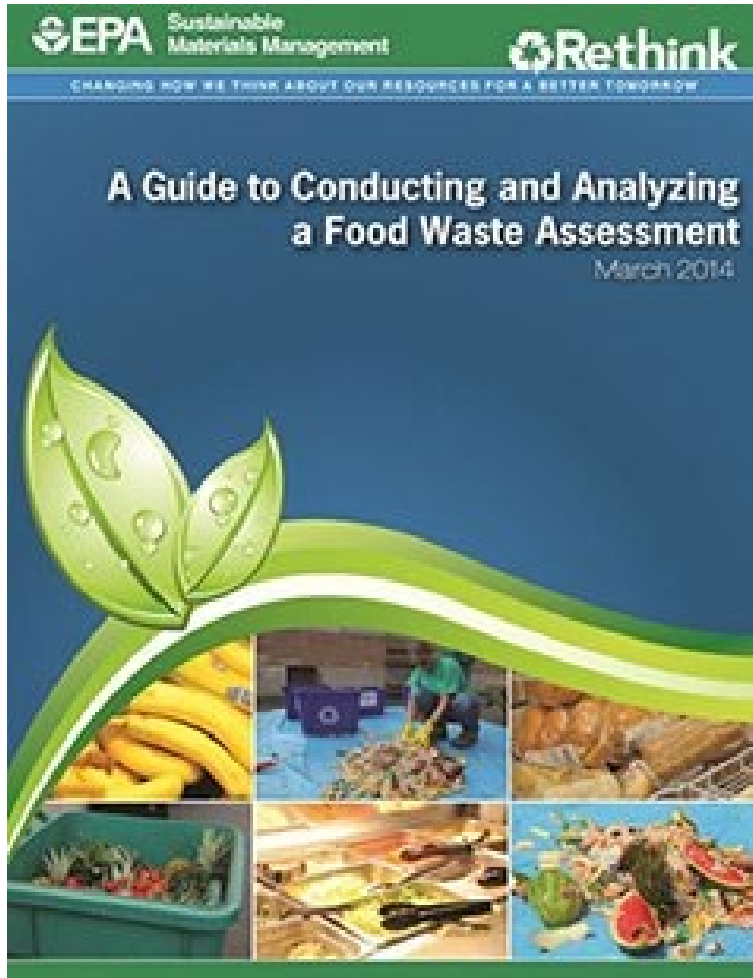
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Thank You!



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