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Spend Optimization: Semi-Scratch Cooking

Ginny Skelley & Mindy Guilfoyle



1 fl oz Salad Dressing

- Poured from 1 gallon \$.05
- PC packet \$.15

2 fl oz Breakfast Syrup

- Poured from 1 gallon \$.06
- PC packet \$.25

We Need Single-Serving Vessels...



1T Tartar Sauce

- Prepared/portioned from recipe \$.01
- Portioned from 1 gallon \$.03
- PC packet \$.053



We Need Some Simple Tools...



Or Some Heavy-Duty Tools...



We Can Do This Ourselves!

- 1 oz self-chopped onions \$.05
 - Allowing for 10% AP to EP loss
- 1 oz pre-chopped onions \$.15

We Can Do This Too!

- 1 oz self-shredded cabbage \$.025
 - Allowing for 11% AP to EP loss
- 1 oz pre-shredded cabbage \$.065
- 1 oz self-shredded carrots \$.03
 - Allowing for 14% AP to EP loss
- 1 oz pre-shredded carrots \$.09

1/2 c Cole Slaw

- Recipe using self-shredded cabbage \$.14
- Recipe using pre-shredded cabbage \$.20
- Pre-prepared \$.29



1/2 c Potato Salad

- Recipe using fresh whole potatoes \$.14
- Recipe using pre-diced potatoes \$.19
- pre-prepared \$.34



There Are So Many Possibilities !



Use This Tool...



1 T Frosting

- Made from recipe \$.03
- Made from mix \$.08
- Pre-prepared \$.09

1 Serving Sheet Cake

- Made from mix \$.06
- Pre-prepared \$.21



Now Think About This...



This is Our Most Valuable Resource !



1 fl oz Gravy

- Made from recipe \$.01
- Made from mix \$.025
- Pre-prepared \$.045

Macaroni and Cheese

- $\frac{3}{4}$ c made from recipe \$.46
- 1 c Brand A pre-prepared frozen \$1.00
- 1 $\frac{1}{4}$ c Brand B pre-prepared frozen \$1.25



1 Serving Meat Lasagna

- Prepared from recipe \$.46
- Brand A pre-prepared frozen \$.60
- Brand B pre-prepared frozen \$.90



Benefits

- Food cost savings
- Promote dining independence
- Manipulate nutritional targets
- Superior taste/quality
- Marketable as “home made”

A Really Cool Photo of GHC Chefs !



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Energy Strategies for Foodservice



What is Focus on Energy?

- Wisconsin's statewide energy efficiency and renewable energy program
- Legislature created the program in 1999, expanded in 2005
- Eligibility is based on your electric and/or gas utility

Why Energy Efficiency?

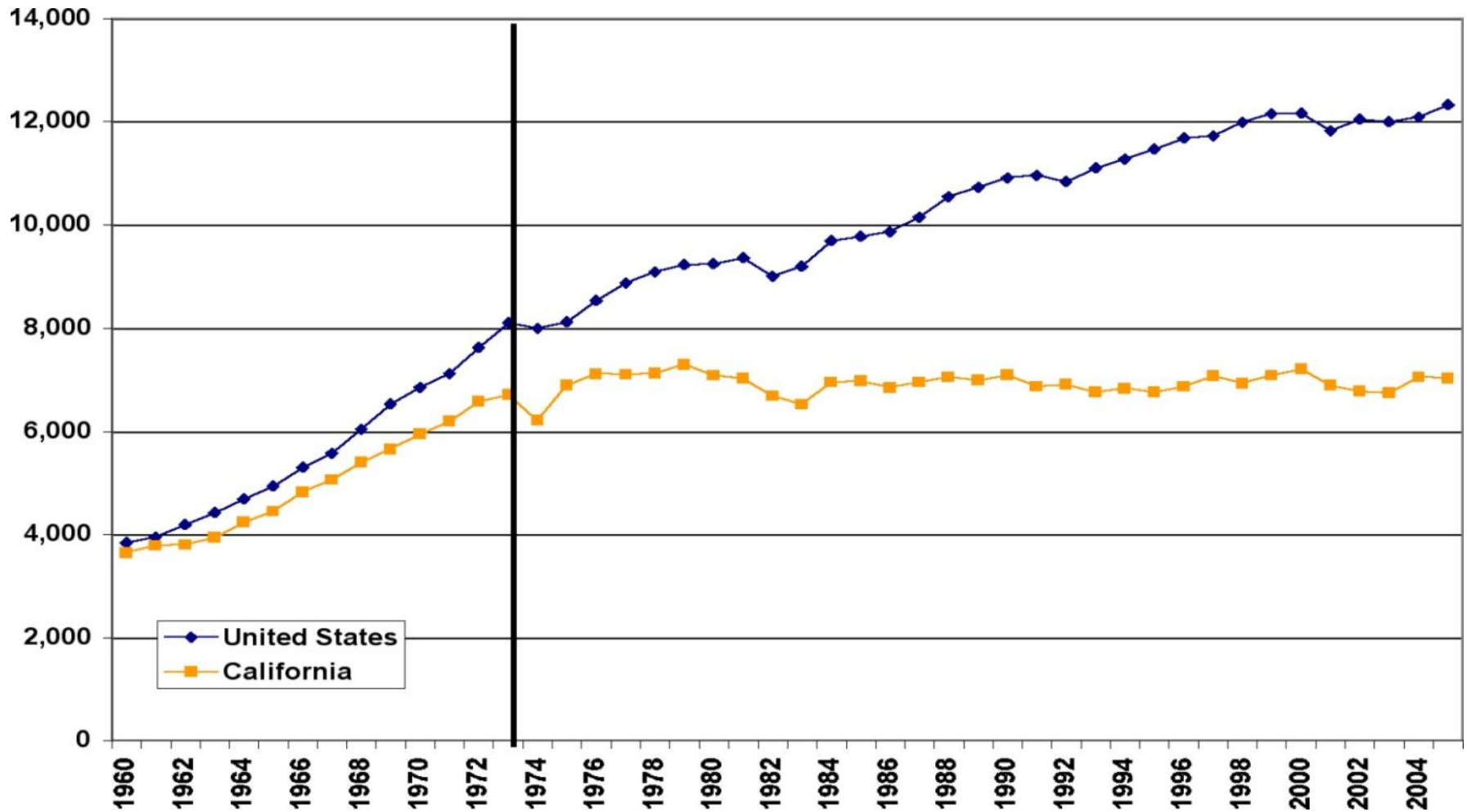
- Increase bottom line
- Extend equipment life
- Environmental benefits
- Why not?

Energy Saving Options

- Option 1: Business as usual, energy is a fixed cost of doing business
- Option 2: Energy cost management
- Option 3: Energy management

Energy Management in Action

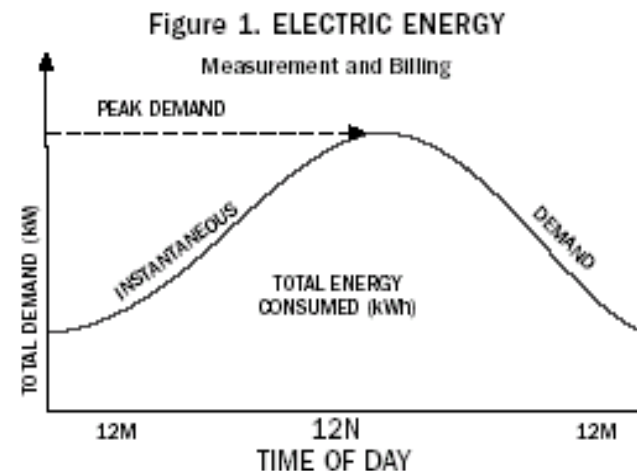
Per Capita Energy Use



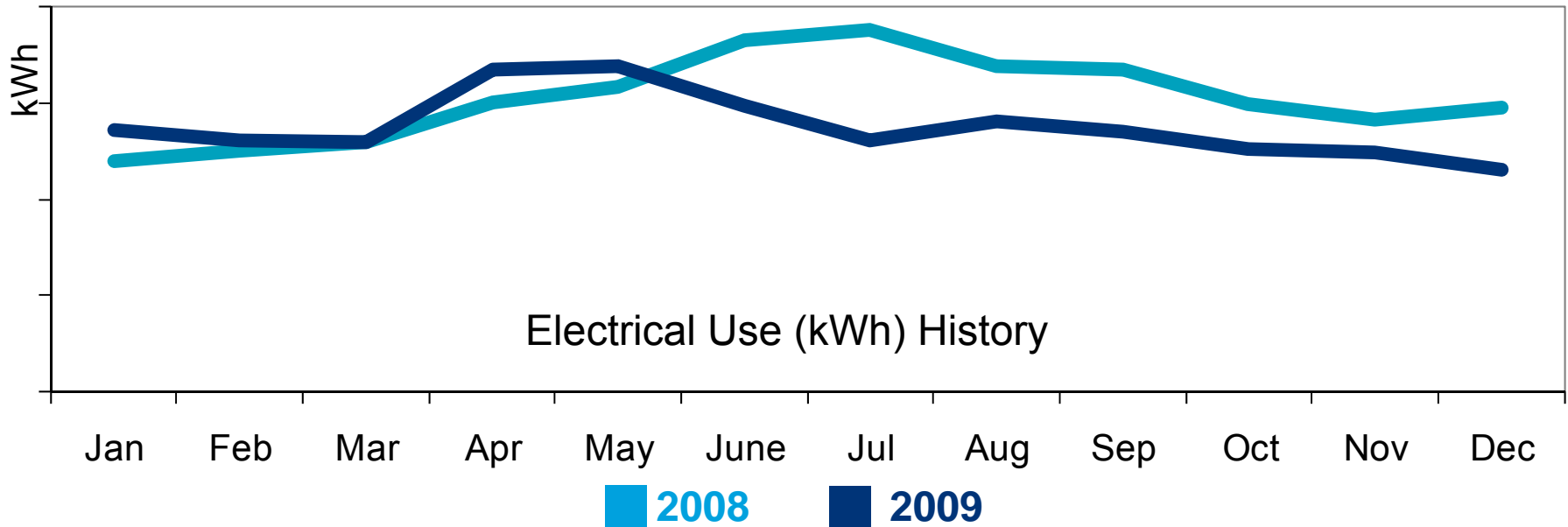
Source: DOE EIA

Key Terms

- Energy consumption units
 - Electricity - kiloWatt-hour (kWh)
 - 1,000 Watts = 1 kW
 - Example 2 kW x 5 hours = 10 kWh
 - Natural Gas – Therm or CCF
 - 1 Therm = 100,000 BTU
- Electric demand
 - Rate of electricity used (kW)
 - Pay for maximum read kW
 - Occurring during peak periods in each billing cycle

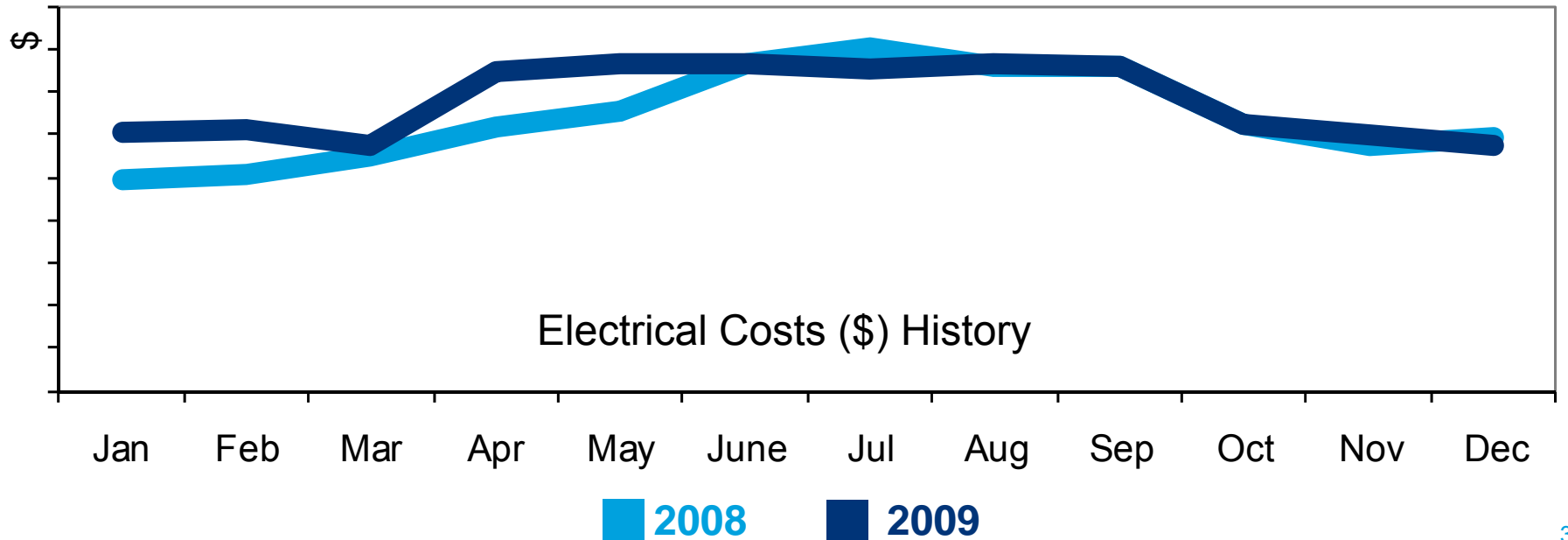
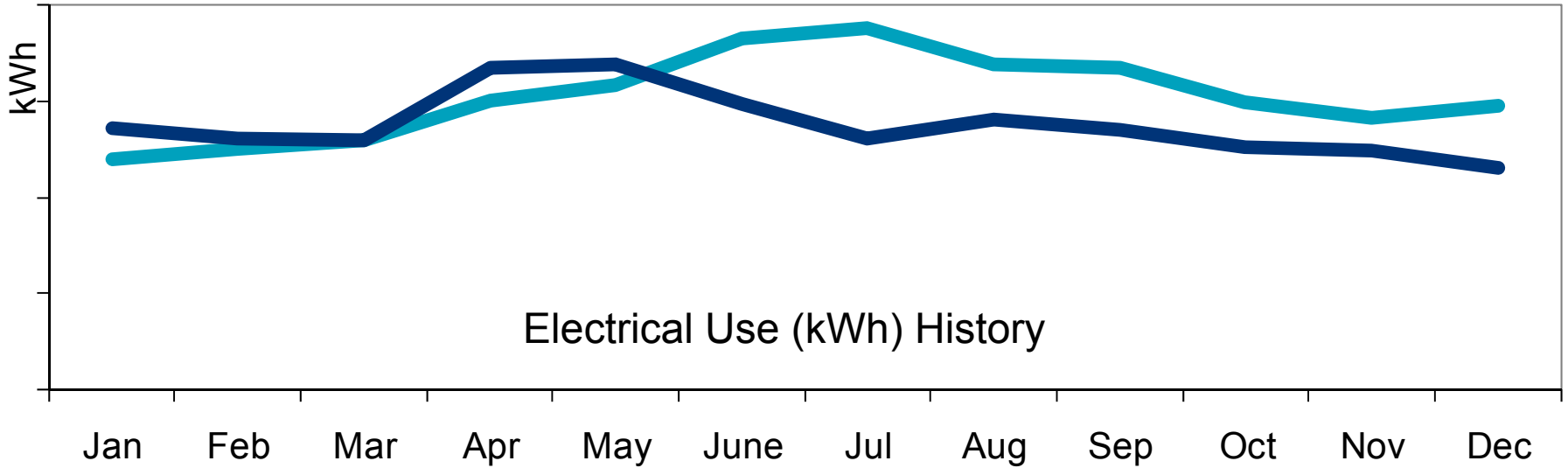


Tracking Utility Bills as a Score Card

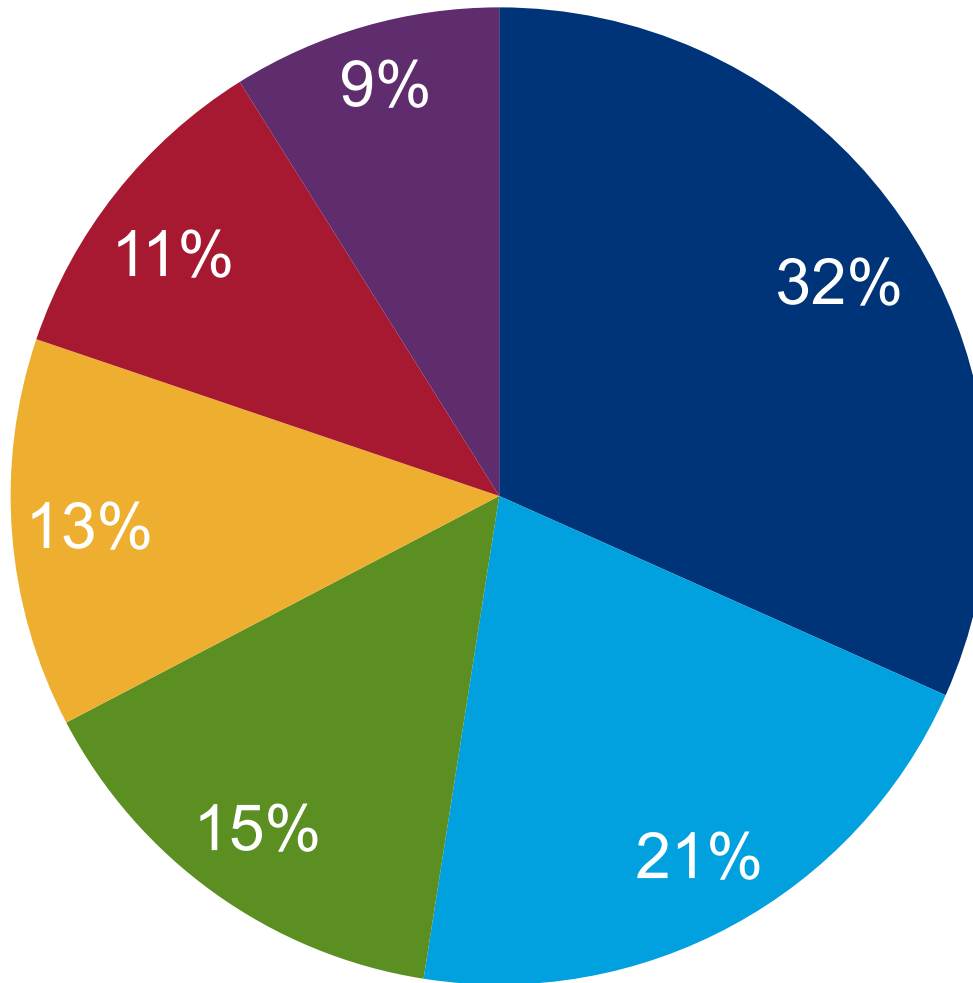


- Year-to-year comparison
- Benchmark
 - Usage per meal – ie. kWh/meal, therm/meal

Tracking Utility Bills as Costs Increase



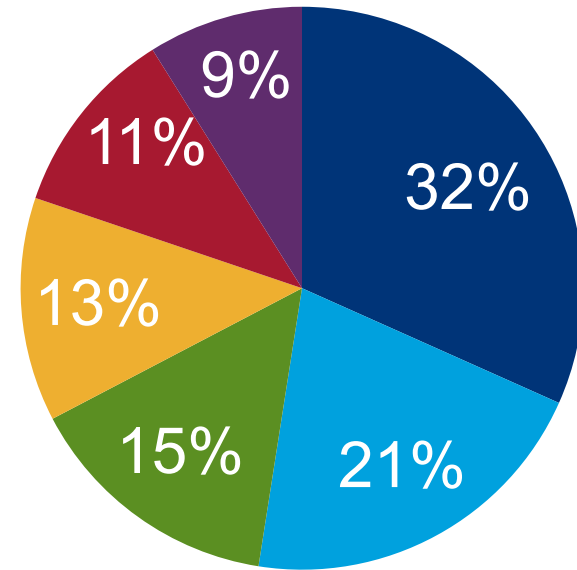
Where Energy Dollars Go



Pie chart information from the Energy Information Administration

Where Energy Dollars Go

- A single piece of food service equipment can use as much energy as a single family home*
- The kitchen can use 5 times more energy than general commercial space*



* Per Pacific Gas & Electric's Food Service Technology Center
Pie chart information from the Energy Information Administration

Big Picture on Costs

Focus on Energy and the Food Service Technology websites have links to life cycle cost calculators to help evaluate!

- **First cost**
 - Decisions are often made based on first cost
- **Lifetime costs**
 - 2 to 20 times greater than first costs



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Low Cost/No Cost Best Practices



Operational Opportunities

- Changes in behavior are often the best first step to no-cost ways to reduce energy usage
- Little changes add up

Not in Use? Shut it Off.

- Identify usage patterns
- Shut down equipment during slow periods
- Minimize preheat time

Annual Savings per Hour of Daily Shut Off	
Steam cooker	Up to \$80
Pasta cooker	Up to \$300
Broilers	Up to \$200
Griddles	Up to \$80

Don't Boil Away Savings

- Evaporation means significant heat loss
- Use lids to reduce evaporation
 - Braising pans and steam kettles
 - Up to 50% reduction in energy use
- Adjust temperature in slow periods
 - Set pasta cookers temperature just below boil - \$100 annually for every hour/day

Keep the Heat in

- Cooking with a lid
 - 8 to 14% increase in cooking efficiency
- Keep oven door closed when possible
 - Every second open equals a 3 to 10 degree temperature drop

Use the Right Equipment for the Job

- Certain equipment cooks more efficiently
 - A broiler uses 6 times the energy of fryer
 - Steamers are extremely efficient
- Consider using efficient method to partially cook food, then usual method to finish

Keep it Clean

- Build up makes equipment work harder
- Clean...
 - Grease and sediment from equipment
 - Roof-top HVAC equipment
 - Refrigeration coils

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Equipment Best Practices



Use Less Hot Water!

- Pre-rinse spray valves
 - Required by EPA Act 2005
- ENERGY STAR® dishwashers
 - Use 25% less energy
 - Use 25% less water
 - Save \$1000 annually in water and energy costs
- Run dishwasher at capacity



Heat Water More Efficiently!

- Check temperature settings
- Consider high efficiency water heaters
 - Condensing (92%)
 - Not atmospheric (80% or less)
 - Savings of about 16%
 - Based on 500 meals per day, 140°F water
 - About \$700 annual energy savings
- With a large refrigeration system
 - Consider heat recovery from refrigeration

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Foodservice Equipment Best Practices



Basics of Specifications

- Based on standardized test methods
- Based on heavy load cooking conditions

$$\text{Cooking Efficiency} = \frac{\text{Energy to Food}}{\text{Energy to Equipment}}$$

Efficient Foodservice Equipment

- ENERGY STAR® commercial foodservice
 - Convention ovens
 - Dishwashers
 - Fryers
 - Griddles
- Other equipment with established efficiency
 - Combination Ovens
 - Large Vat Fryers
 - Rack Ovens

Examples of Savings

- Steam cooker savings
 - \$725 annually (gas or electric) for 6-pan unit
 - Plus, 90% or greater reduction in water usage
- Convection oven savings
 - \$250 to \$350 annual savings (gas or electric)
- Fryer savings
 - 25% more efficient than standard models
 - Shorter cook times, higher production rates, quicker recovery times
 - Annual savings \$65 (electric) or \$270 (gas)



Refrigeration Best Practices

- Strip curtains reduce infiltration
- High efficiency condenser and evaporator fans
 - About 8 to 15% savings (ECM Motors)
- Auto-door closers
- Fan controllers
- Maintain gaskets on all doors and keep coils clean

Ventilation Opportunities

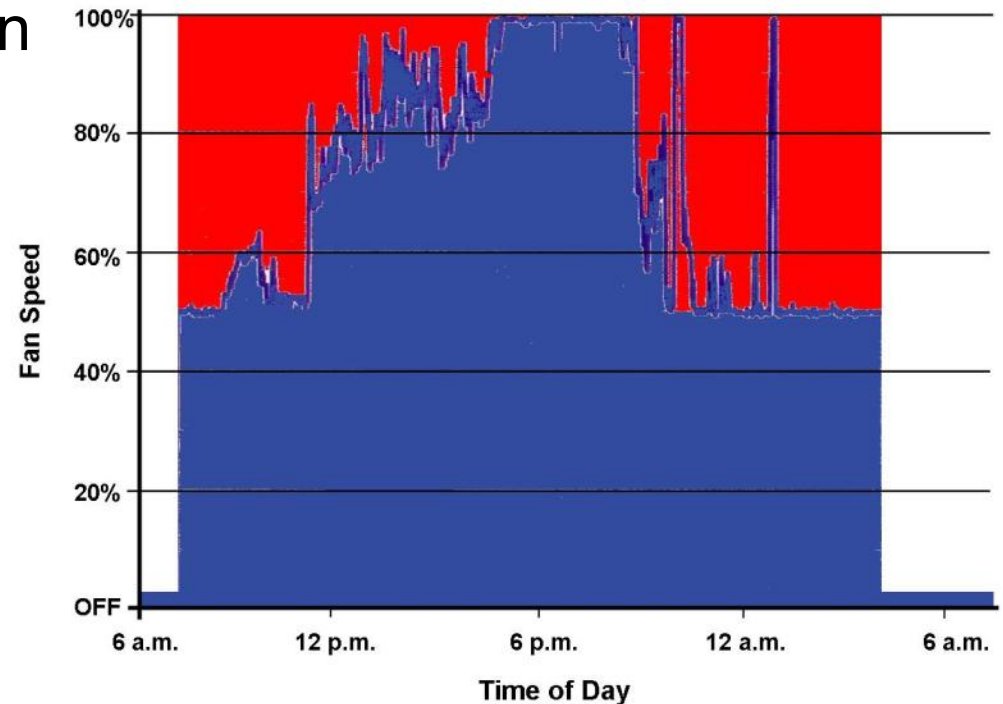
- Exhaust hood operation is largest opportunity for savings*
- On/off timers
- Variable flow controls
 - Vary amount of exhaust based on level of cooking
 - Savings due to:
 - Less fan energy
 - Less wasted heated or cooled air

* Pacific Gas & Electric's Food Service Technology Center

Variable Volume Control Ventilation

Restaurant application example

- 18-hour-per-day operation
- 82% of time exhaust did not need to be at highest level
- 33% of the time used only 12.5% of the energy



Environmental Impact

If 5,000 foodservice operations converted one standard efficiency gas fryer to high efficiency the impact would be the same as:

Heating 2095 Wisconsin homes for a year

or

Removing 1680 cars from the road

Focus on Energy Provides...

- Technical assistance
 - Unbiased advice from experts
 - Industry-specific experience
- Incentives
 - Dollars that mitigate first cost of choosing efficiency or renewables
 - Up to 30% of project costs in some cases
- Impetus to take action

Useful Links for Efficiency in Foodservice

- Food Service Technology Center
 - www.fishnick.com
- ENERGY STAR®
 - www.energystar.gov
 - www.energystar.gov/cfs
- Consortium for Energy Efficiency
 - www.cee1.org
 - Follow link under commercial to kitchens

Efficiency Programs for Foodservice

- ENERGY STAR®
 - Commercial Food Service Equipment Incentive Finder
 - www.energystar.gov/CFSrebate_locator
- Consortium for Energy Efficiency (CEE)
 - Summary of programs offered by CEE Members
 - www.cee1.org/com/com-kit/files/KitchensProgramSummary.xls

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Questions?

For more information call: (888) 598-4376

