

Resources:

Food Service Technology Center
Energy Star Guide for Restaurants
FYPower.Org
ECU Center for Sustainable Travel
Arizona Public Service
Union of Concerned Scientists
ASHRAE
Green Restaurant Association
National Restaurant Association

For the Next Generation

Prepared by:

Laura Piraino
Energy Education Manager
Green Restaurant Initiative
Blue Ridge Sustainability Institute
www.blueridgesustainability.org

BLUERIDGE
SUSTAINABILITY INSTITUTE
KNOWLEDGE INTO ACTION



Restaurants are the most energy intensive commercial buildings in the United States.

Operating a typical open deep fryer uses approximately the same amount of energy in one year as a typical American Household (EPA)

Conscientious use of kitchen equipment has been estimated to reduce restaurant energy consumption by up to 7% (Illinois Smart Energy Design Assistance Center)

Funded by:
The North Carolina
Board of Science and Technology
Green Business Fund

Energy Savings Menu

Take Out or Eat In



*Energy Efficiency
&
Conservation
Best Practices
for Restaurants*

*Hosted by:
Blue Ridge Sustainability Institute
and the
Asheville Independent
Restaurant Association*

www.blueridgesustainability.org

www.airasheville.org

Walk Ins

Increase efficiency with easy no cost & low cost

Install ECM motors on evaporator & condenser fans Save @ \$200 a year
Reduces fan energy use by @ two-thirds

Clean condenser coils/filters Walk In lasts longer
Dirty coils are the number one reason for walk in maintenance calls

Set defrost cycles to save Save \$\$ every-day
For only minimum needed, usually @ 15 minutes, 4X a day (fypower.org)

Turn off door heaters Save @ \$75 a year
Only turn on if condensation appears.

Add strip curtains, replace any worn gaskets Rebates \$3 sq ft
Strip curtains can reduce air infiltration by 75%. Look for rebates.

Lighting

*CFL's use @75% less energy than incandescent bulbs
LED's use @90% less energy, and both last much longer.
Dimmable CCFL's are now available for ambiance.*

Install LED exit signs Save @ \$46 a year
Save money and labor with low watt LED replacements--rebates cover costs (FSTC)

CFL's in exhaust hoods and in walk ins Save up to @ \$365 a year
Cold cathode CFLs in walk ins and CFLs under exhaust hood can save hundreds (FSTC)

Install occupancy sensors & timers Save time and money
In storage areas, bathrooms, walk ins, and for outdoor lighting

Turn off lights Cost: 0.00
If leaving the room, near sunny interiors

Energy Conservation 101

Basic conservation best practices for the commercial kitchen

Establish a Start-up and Shut down schedule for appliances and equipment. Cost: 0.00

During slow times, savings can be significant. Turn off unused sections of broilers, steamers & ovens, and turn off or turn down when not in use. Usually no more than 15-20 minutes are needed for preheating. Use energy savings settings. Set fryers to no more than 325-350 degrees. Use combo steam oven settings sparingly. Assign responsibility for schedule.

The Big Coverup Save Up to 50%
Cover hot and cold prep storage bins and consume up to 50% less energy (fypower.org)

Buy appliances appropriate for the scale of production. Saves heat

Put a lid on it Save Up to 50%
Put lids on pots and pans and reduce energy use and cooking time. Use up to 50% less energy to boil water (EPA)

Select most efficient appliances & cookware Cost: 0.00
When possible, use alternatives to energy intensive broilers and conventional ovens. Microwaves, pressure & slow cookers, electric woks are more efficient than stovetop burners. Glass and ceramic allow you to bake at temps 25 degree lower than metal

Consider life cycle costs Save \$\$\$\$ over time
The additional cost to operate a "bargain" appliance over time can often be more than the upgrade or replacement cost of high efficiency equipment. Look for Energy Star, CEE Tier 3 or FSTC tested.

Cool the Kitchen Down

Mind the Gap Cost: 0.00
Keep kitchen appliances against the wall to maximize exhaust hood overhang. Position energy intensive broilers and ovens towards center of the hood

Install side panels & max hood overhang Save on Cooling
Direct more effluent into the hood- can be up to 5-6ft deep

Consider demand ventilation Can decrease costs 30-50%
Variable speed, demand based exhaust control systems have sensors that detect cooking & slow fans. Install on new equipment or retrofit existing hoods

Triple Bottom Line

Reducing hot water use saves three ways: cost of water, energy and wastewater charges

Do not use water to defrost or to melt ice Cost: 0.00

Use cold water for the disposal, helps remove grease

Install aerators & sensors in bathroom faucets No more faucets left on
Reduce volume of water significantly with each user. Also more sanitary.

Use low flow spray valves Saves @ \$350/yr (EPA)
Compared with 3 gpm valve, 1 gpm valves reduces, maintains pressure

Use high pressure, low volume floor cleaning equip Use up to 50% less water
Water brooms clean more efficiently

De-scale dishwashers and water heaters Units last longer
Removing mineral deposits increases efficiency and reduces service calls

Repair leaks and drips Can save @ \$700 a year (EPA)
If the leak equals 1/10th gallon a per minute, equals 50K water/year

Get connectionless steamers Save @ 40gal/hr
Replace old boiler based systems, save thousands \$\$ a year, no need to de-lime

Landscape with natives Don't get Hosed
Drought tolerant native plants are low maintenance. If you irrigate, install drip irrigation and use rain barrels.

Give Them A Sign

Put Up Signage To Reinforce Saving Energy
Involve all staff in energy savings plan
Reward reductions, share your savings
Tell your success stories to your customers