



10 Ways to Save Natural Gas

PG&E Food Service Technology Center



Natural Gas is routinely wasted in food service operations – draining away profits as well as irreplaceable natural resources. Fortunately, there are many easy and inexpensive ways to lower natural gas consumption in food service operations. These ten simple tips are guaranteed to save money without compromising the comfort, performance, or productivity of your kitchen.

1. Turn it off, turn it down, keep it clean

Some cooking appliances can really guzzle the energy so it's important to turn them off or down when they are not being used. Posting a start-up and shutdown schedule on the appliance is one way to give the kitchen staff guidance. Pay special attention to broilers, which have no thermostatic control and can run at full input all day. That means a three-foot underfired charbroiler can cost as much as \$1.70 an hour to operate, or \$7,344 per year for a typical restaurant operating 12 hours per day.

Some other potential guzzlers include steamers, pasta cookers, non-thermostatic griddles, hot-top ranges, conveyor, deck, and combination ovens. Combination ovens can cost up to twice as much to operate in combination mode, so follow the manufacturer's recommendations and use the combination mode only as needed.

Maintain your range tops by keeping the burner heads clean and maximizing the flame. Remove the range knobs and faceplate to expose the airflow shutters. Adjust the shutter on each burner until the flame is rigid and blue. A wavy or yellow flame is a sign the burner needs attention. Never drill-out or modify the orifice that controls the gas flow to the burner.

2. Specify ENERGY STAR Steamers and Fryers

When purchasing new equipment, an easy way to identify energy efficient steamers and fryers is to look for the ENERGY STAR logo. An ENERGY STAR qualified appliance will save thousands of dollars in utilities over its lifetime.

3. Pay attention to the thermostat

Install an ENERGY STAR programmable thermostat with a locking cover and make sure it is set properly. If there is already a programmable thermostat installed, double-check to make sure it is programmed properly and cannot be tampered with. Pay attention to the temperature settings and on/off times and take advantage of the "unoccupied" or "night set-back" feature to turn the heat down when the facility is closed. Thermostats should be set to 68°F for occupied hours and 55°F for unoccupied hours.

4. Check the ductwork for leaks

It is common for ventilation ductwork to become loose or separated, spilling heat into crawl spaces or the space above the ceiling tiles where it is simply wasted. Inspect your ducts to make sure they are tightly connected from heater to diffuser, or better yet, hire a qualified HVAC contractor to test and repair any leaky ducts.

5. Set heated make-up air duct thermostats to 55°F

If your kitchen make-up air is heated, there's a good chance you have a "duct" thermostat that is set too high. As most California restaurants are in relatively mild climates, there is no need to heat kitchen make-up air – the kitchen is hot enough as it is! The make-up air thermostat is typically located on or near the heating unit itself. Setting the thermostat to 55°F can save thousands in make-up air heating costs.

6. Install low-flow pre-rinse spray valves

The simplest, most cost effective energy and water-saving strategy that you can adopt is to install a low-flow pre-rinse spray valve in your dishroom. The pre-rinse sprayer is what you use to remove food from soiled dishes before placing them in the dishwashing machine. Replace your high-flow pre-rinse spray valve (2.5 gallons per minute (gpm) to 5.0 gpm) with a low-flow unit (1.6 gpm or less) and you will save anywhere from \$200 to \$600 a month on a typical 1 to 3 hour per day usage.

And while you're at it, make sure that you have a high-pressure nozzle on your hot water hose. A hose without a nozzle will flow about 5 gpm and cost you \$6 an hour to operate. A hose nozzle with an insulated handle (for hot water use) and on/off grip will drop that cost by about 75%.

7. Repair all water leaks

That small amount of water that is dripping from a leaky faucet, spray valve, or hose valve may seem insignificant, but the water is leaking all day, every day! Even a constant drip from a hot water faucet can add up to 17,000 gallons by year's end, costing you over \$100 in water and \$200 in natural gas. A steady leak, the kind caused by a split or worn-out washer, can total 100,000 gallons, costing you \$700 in water alone. If it's a hot water leak, then count on spending an additional \$1,300 on energy. Repairing a water leak is usually as simple as replacing a washer. The bottom line is that water leaks are a drain on your profits and should be a priority maintenance item.

8. Maintain the dishwasher and use it wisely

A poorly maintained dishmachine will waste precious hot water. Fix any leaks and replace worn rinse nozzles. Make sure that the rinse-water pressure is set to 20 psi and no higher and calibrate the rinse time to the manufacturer's specs. If you have a conveyor machine, adjust the rinse bypass valve so the rinse tank stays full. If you do not have an in-house maintenance crew, then hire a professional to help you tune-up the dishmachine.

Fully loading dishracks reduces the total number of racks washed each day, saving water and the natural gas needed to heat that water. Eliminating 10 racks per day will save a minimum of \$60 annually in gas costs and \$350 in total system operating costs.

9. Tune up the hot water heater

Heating water is expensive; so maximize the performance of your hot water heating system to minimize natural gas use. Set the water heater thermostat to 140°F and verify by measuring the temperature at the pot-sink or pre-rinse station closest to the dishmachine. Insulate as many feet of the hot water pipes as possible and regularly check the pressure relief valve to ensure it is not leaking. If there is a re-circulation pump, install a timer and shut down the pump after hours. If purchasing a new hot water heater, invest in a high efficiency unit with a thermal efficiency of 90% or higher.

10. Use your patio heaters wisely

Patio heaters are an excellent way to increase serving space and revenue, but they can consume significant amounts of natural gas. Use your patio heaters wisely and turn them down or off whenever you can.

These energy saving tips are offered by the PG&E Food Service Technology Center (FSTC), an unbiased food service resource center located in San Ramon, CA. The FSTC program is funded by California utility customers and administered by the Pacific Gas and Electric Company under the auspices of the California Public Utilities Commission..