

FOOD SERVICE- IN THE KITCHEN

The kitchen at school, just like in your home, contains a lot of necessary equipment to provide a range of hot, cold, fresh, and timely meals to students. However, equipment such as refrigerators, freezers, dishwashers, etc, can consume a great deal of energy. This is an area in the school which an energy audit should look closely into. Take the following example story...



In Minnesota, tight public education budgets coupled with increased energy costs forced the schools to look for creative solutions to save money. One Minnesota school district, Austin Public Schools, decided to balance its need for new kitchen equipment with its commitment to energy efficiency by purchasing ENERGY STAR® qualified food service equipment for kitchens at Austin High School, Southgate Elementary, Banfield Elementary, and Neveln Elementary. Each year, this new energy-efficient food service equipment is expected to save the district around 32,000 kilowatt hours (kWh) of electricity, 400 therms of natural gas, and 340,000 gallons of water. The new equipment will reduce the district's utility bills by more than \$3,500 per year and reduce greenhouse gas emissions that contribute to climate change. To support the district's investment in energy-efficient kitchen equipment, Austin Utilities provided a cash incentive of \$4,675. It was also figured that the simple payback would be after only 4 years. (www.smmpa.com/Upload/Austin Public Case Study.pdf)



In some areas you will pay more for the electricity used by some refrigerator models during their lifetimes than you paid for the refrigerator. You can work with vendors to find the availability and cost of alternative models. Would it be cost effective for the school to replace its existing equipment? Are there other options such as cooking in a central facility and transporting the food to the school? These are the types of things you want to be thinking about.

Think about it

Simple Laundry Tips

Wash only full loads. This saves hot water and electricity. Many items can be washed in cool water and almost everything can be rinsed in cold water.

Don't let the dryer sit. Warming up a clothes dryer takes energy. Save energy by drying loads one right after another without letting the dryer cool off.

Keep the lint filter of the dryer clean. A clogged filter keeps air from circulating and that means the dryer has to run longer to dry a load.

Simple Kitchen Tips

In an experiment, cooking the same recipes in the same kitchen with the same utensils, some cooks used twice as much energy as others. How? Read the hints below, and perhaps you can use some in your audit.

Pilot lights use as much as 30% of all the gas a range uses.

Use pots about the same diameter as the burner.

Use lids on the pots.

Use a pressure cooker instead of a regular pot

Turn the burner off a few minutes before the dish is done.

Decide what you want before opening the refrigerator door.

Take everything you need for a meal from the refrigerator all at once and quickly.

Run only full loads in the dishwasher.



BUILDING AUDIT CHALLENGE – FOOD SERVICE QUESTIONER (STEP 8)



Equipment and Information Needed:

- 1) Questioner answered by the person who is knowledgeable of the food service for the school



Outcome Required:

- 1) Well answered “Food Service Questioner” that will allow your audit team to make some possible suggestions that could save the school energy and money.
- 2) An easy to read display, chart or set-up of this information gathered.

Review the Questions below, what other do you think we can add?

Food Service Questioner

1. How many stoves do you have and what type are they?
 - a. How old are they?
2. How many ovens do you have and what type are they?
 - a. How old are they?
3. How many fryers do you have and what type are they?
 - a. How old are they?
4. How many microwaves do you have and what type are they?
 - a. How old are they?
5. How many domestic size refrigerators and freezers do you have?
 - a. How old are they?
6. How many commercial size refrigerators and freezers do you have?
 - a. How old are they?
7. Do you have all your refrigerator/ freezers in one location?
8. How many dish-washers do you have and what type are they?
9. Is there any other type of cooking equipment that you use, that has not been listed?
10. If there is a second fry unit, broiler, oven, etc. is it used only for peak business hours?
11. Does the oven preheat at desired temperature; not at a higher temperature?
12. Are smaller energy efficient ovens used whenever possible?
13. Are ovens loaded and unloaded quickly to avoid unnecessary heat loss. *Every second an oven is open it loses about one percent of its heat.*
14. Are cooking and heating units not used are turned off?
15. Is meat cooked slowly at low temperatures? *Cooking on roast for five hours at 250° F saves 25-50 percent of the energy used in cooking for three hours at 350° F.*
16. Are baking and roasting scheduled so that oven capacity can be fully utilized?
17. Are ovens opened during operation?
18. Is food cooked on the small part of grill, heating only portion being cooked on.
19. If bacon or sausage is being made, is weight placed on them to quicken their cooking time?
20. Are frozen foods thawed in refrigerator helping to reduce power demand for refrigerator?
21. Are all foods thawed before cooking unless product characteristics prohibit?

22. Are fryers cleaned and oil filtered at least once a day?
23. Are food warmers and hot plates turned on only as needed?
24. Are snack/ pop vending machines turned off during non-school hours?
25. Is the hot water heater turned down when closing the kitchen, and turned back up when opening?
26. Is hot water used only when necessary?
27. Is the dishwasher run only when there is a full load?
28. Are there any leaking faucets, if so how many?
29. Are there water pressure regulators on hot water lines to reduce wasted hot water?
30. Are the hot water pipes insulated?
31. Is cleaning of the kitchen done during daylight hours?
 - a. Is there any natural lighting/ windows in the kitchen?

Thank the person for their time to fill out the questioner. ☺