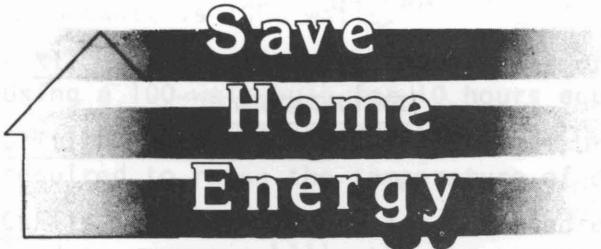


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# Save Appliance Energy

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## SAVE APPLIANCE ENERGY...SAVE HOME ENERGY

Saving appliance energy plays an important role in saving home energy and reducing consumer demand for energy sources. Heating and cooling appliances are the major energy users, followed by hot water heaters and other appliances.

A first step in saving home energy is to become familiar with the amount of energy appliances in your home consume. Check appliance labels and instruction manuals to determine the wattage or Btu rating of your appliances.

The cost of operating an appliance is determined by four factors:

- the wattage or Btu rating of the appliance
- the number of hours the appliance operates
- the cost of electricity or gas used
- how the appliance is used

Because these factors vary according to the appliance model and family use, the chart inside this leaflet provides averages. Averages can be helpful in comparing the potential energy use and operating cost of appliances in the home.

The operating cost of an appliance can be affected greatly by the way the appliance is used. A recent study conducted by the National Bureau of Standards found that the way homemakers use kitchen appliances can affect energy use by as much as 50 percent.

## HOT WATER AUDIT:

Save home energy by using a hot water heater that has a capacity matched to your family's hot water use. Fill in the chart below to estimate your family's hot water consumption for a week.

### ESTIMATED OPERATING COST FOR MAJOR HOME APPLIANCES

APPLIANCE FUNCTION	ESTIMATED USE (kwh or Th)*	ENERGY COST (3.5¢/kwh) (17¢/Th)
<b>LIGHTING</b>		
General household	3 kwh/day	10.5¢/day
Outdoor gas light, single mantle	1/2 Th/day	8.5¢/day
<b>FOOD PREPARATION</b>		
Dishwasher, electricity for normal cycle	1 kwh/load	3.5¢/load
Electricity required for hot water	3 kwh/load	10.5¢/load
Gas required for hot water (hot water consumption - 15 gals.)	1/6 Th/load	3¢/load
Freezer - frostless, 15 cu. ft.	5 kwh/day	17.5¢/day
Freezer - manual defrost, 15 cu. ft.	3 kwh/day	10.5¢/day
Microwave oven, 5 min.	1/10 kwh/use	.35¢/use
Oven, electric, self-cleaning feature	6 kwh/clean	21¢/clean
Oven, gas, self-cleaning feature	1/2 Th/clean	8.5¢/clean
Range, electric	1 kwh/meal	3.5¢/meal
Range, gas - total usage	1/10 Th/meal	1.5¢/meal
Pilot light usage (800 Btu/hr)	1/5 Th/day	3.5¢/day
Refrigerator - frostless, 16 cu. ft.	5 kwh/day	17.5¢/day
Refrigerator - frostless, 20 cu. ft.	6 kwh/day	21¢/day
Refrigerator - partial auto., 12 cu. ft.	3 kwh/day	10.5¢/day
Refrigerator - manual, 10 cu. ft.	2 kwh/day	7¢/day
Refrigerator - gas	1/2 Th/day	8.5¢/day
Waste disposer	1/100 kwh/load	0.035¢/load
<b>LAUNDRY</b>		
Clothes dryer, electric	3 kwh/load	10.5¢/load
Clothes dryer, gas - total usage with electric ignition	1/4 kwh + 1/16 Th/load	4¢/load
(if with pilot, 650 Btu/hr)	1/6 Th/day	3¢/day
Washing machine, cold water (50 gals.)	1/4 kwh/load	1¢/load
Electricity used for hot water or	6 kwh/load	21¢/load
Gas required for hot water	1/3 kwh/day	5.5¢/day
Water heater, electric	13 kwh/day	45.5¢/day
(Will heat about 52 gals. of water)		
Water heater, gas	1 Th/day	17¢/day
(Will heat about 100 gals. of water - includes pilot usage of 750 Btu/hr)		
<b>COMFORT</b>		
Air conditioner, central, electric (36,000 Btu/hr, EER = 7)*	5 kwh/hr	17.5¢/hr
Air conditioner, central, gas, total usage (36,000 Btu/hr, C.O.P. = 0.5)	1 1/2 kwh + 3/4 Th/hr	17¢/hr
pilot usage (1,100 Btu/hr)	1/4 Th/day	4¢/day
Air conditioner, room (12,000 Btu/hr, EER = 8)	1 1/2 kwh/hr	5¢/hr
Floor, wall heater, gas, total usage	1/3 Th/hr	5.5¢/hr
Pilot usage (1,000 Btu/hr)	1/4 Th/day	4¢/day
Furnace, gas, central forced air, total usage (100,000 Btu/hr rating)	1/2 kwh + 1 Th/hr	19¢/hr
Pilot usage (1,100 Btu/hr)	1/4 Th/day	4¢/day
Portable heater, electric, 1,500 watt	1 1/2 kwh/hr	5¢/hr
<b>ENTERTAINMENT</b>		
Radio - phonograph	1/10 kwh/hr	.35¢/hr
TV - black and white	1/4 kwh/hr	1¢/hr
TV - color	1/3 kwh/hr	1¢/hr
TV - Instant-on feature	From 4-43 kwh/mo.	14¢-\$1.50/mo.

**NOTE:** Solid-state units use less. Applies to all entertainment appliances.

\* Rounded to the highest half cent.

Task	I Number of times per week	II Multiplier (in gallons)	III Quantity of Hot Water (in gallons)
laundry loads		15	
tub baths		25	
showers		20	
dishwasher loads		10	
washing dishes (hand)		5 ?	

Tally the number of times a week each task using hot water occurs. Multiply the total for each task by the corresponding figure in column II to determine the quantity of hot water in gallons used for each task in one week. The total of column III is an estimate of the amount of hot water your family uses each week. The average family of four members uses about 350 gallons. The water heater capacity a family needs can be estimated by dividing the monthly hot water use, in gallons, by 30. Multiply the weekly use by 52 and divide the answer by 12 to figure the family's monthly hot water use.

### Example:

Gallons used Weekly: 350

350 X 52 = 18200 gallons yearly

12 /  $\overline{18200}$  = 1517 gallons a month

30 /  $\overline{1517}$  = 50 gallon capacity

*Making these computations will help you see the difference in the amount of hot water heating energy your family uses routinely. What adjustments can be made in your use of hot water to reduce your family's home energy use?*

The following terms are used on utility bills and in explanations of energy cost.

- . A watt is a measurement of electricity. A 100 watt light bulb uses 100 watts of electricity when lighted. Appliances and light bulbs are labeled with the watts or wattages they use.
- . A kilowatt is 1000 watts.
- . A kilowatt-hour (KWH) is 1000 watts or a kilowatt of electricity used for one hour. Using a 100-watt bulb for 10 hours equals 1 KWH.
- . British Thermal Units (Btu) are measures of heat. One Btu is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit.
- . CCF is the abbreviation for one hundred cubic feet of gas. If this abbreviation is used on your gas bill, the gas company charges you a set rate for each 100 CCF of gas used each month.
- . MCF is the abbreviation for one thousand cubic feet of gas. Most gas companies base their rates on the number of MCF a customer uses each month.
- . Therm (Th) refers to the heat energy of a fuel. One therm of natural gas is approximately the heat energy produced by 100 cubic feet of natural gas.

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