



Energy Saving Tips In the Kitchen: Cooking

Always reduce the flame once boiling starts.

Addition of more heat at the boiling stage causes further evaporation of the liquid without serving any useful purpose. Hence, when water or any other liquid is boiling, reduction in the flame will reduce wastage. This is possible in a gas stove by turning the knob to 'simmer' position. Experiments conducted have revealed a saving of 25% fuel when the flame is reduced after boiling had started.

A natural gas appliance is more economical to use than an electric model in almost every case.

The flame on your gas burner should be blue.

A yellow flame means the gas is not burning efficiently. make sure that the gas burners are cleaned regularly. Clogged burners from soot or overspills from pans lose efficiency, and could give off toxic fumes.

Keeping lids on saucepans when cooking saves energy.

It reduces evaporation and energy loss. A small pan of 100sq.cm. opening (~12cm diameter), containing hot water at 96°C would waste 7.2 gms of gas per hour. The heat loss would increase by 2.5 times if there is wind blowing through the kitchen (or an extractor hood is used). If the vessel is covered by a lid, the heat loss would drop appreciably to 1.45 gm. of gas per hour as heat is retained within the vessel.

Use a Pressure Cooker to save fuel.

Pressure cooking is one of the fastest and most economical ways of cooking. Experiments have shown fuel savings of 20% on rice, 46% on soaked gram dal and 41.5% on meat, as compared to ordinary cooking is possible. The savings in cooking time are equally high. To obtain further savings from a pressure cooker, use the separators of the cooker to cook different items such as rice, vegetable and dal, all at the same time.

Surplus water wastes fuel. The quantity of water used differs for various dishes.

An experiment on cooking rice with double the required quantity of water has revealed that fuel consumption increases by 65% so always prefer to use only the optimum quantity of water for cooking.

Soak dried foods (eg rice and beans) before cooking.

Experiments have shown that soaking ingredients such as dal and rice for various intervals of time before cooking saves fuel. 250 gm of chick peas when soaked overnight in water consumed 22% less fuel as compared to the fuel required for the same quantity unsoaked.

Use the correct ring and pan combination.

The small burner on a gas hob consumes 6% to 10% less gas than the big burner! An

experiment on cooking 250 gm of potatoes revealed that the small burner consumed 6.5% less gas but took 7 minutes more than the big burner.

Shallow, wide pans save fuel.

A visible flame touching the sides of the pan wastes fuel since it gives out heat to the surroundings. But if you cover the flame as much as possible by using a broad vessel, you will save fuel. Tests have established that for most stoves, a pan of 25 cm. diameter is ideal for cooking. A vessel of this diameter tends to cover the flame completely. Where a narrower pan cannot be avoided, try and reduce the flame so that it does not creep up on the sides of the vessel.

Allow frozen food to reach room temperature before cooking.

Cold milk, frozen meal or any other cold food-stuff from the refrigerator should not be taken straight to the cooking pot. Keep it out of the refrigerator for some time before putting it on the stove. Very cold food consumes a larger amount of fuel.

Convection ovens are more energy-efficient than standard ovens.

They continuously circulate heat around the food which distributes the heat more evenly so temperatures and cooking time can be decreased.

Microwaves use less energy than full-size ovens.

The microwave energy is attracted to the moisture in the food molecules, causing them to agitate at a very fast rate, thus heating up the food. This means the microwave energy is concentrated on the food, whereas conventional equipment also has to heat up the oven cavity. Similarly, in microwaves, the power is used only during the cooking time it's never left running with no food in.

Because microwaves cook the food much quicker than conventional ovens, the overall energy consumption can be cut by up to a third.

A typical consumer microwave oven consumes 1100 W of electricity in producing 700 W of microwave power, an efficiency of 64%. The other 400 W are dissipated as heat, mostly in the magnetron tube. This waste heat, along with heat from the food, is exhausted as warm air through cooling vents.

Microwaves will work more efficiently if the inside surfaces are clean.

Only boil as much water as you need.

Do not overfill the kettle. 67% of people boil more water in the kettle than is actually required for their drink. On average we use boil twice the amount required, so we are using twice the energy required.

Clean the kettle, and any pans.

A coating of undissolved salts is usually found on the insides of kettles and cookers. Even a millimetre thick coating can reduce the flow of heat to the vessel's contents. This increases your fuel consumption by as much as 10%.

Plan the meal timings.

If all members of the family eat together, which signifies togetherness and increases joy, frequent reheating of food before serving can be avoided. If eating together is not possible, store cooked, hot food in insulated containers to serve it hot later.