

# The Eco-Smart Kitchen

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# The Eco-Smart Kitchen

Saving energy, toxins, green house gas emissions and money without reducing your comfort or the quality of your meals

## Your Kitchen is a big CO2 Emitter!

Assume you are living in a normal family which eats most of its meals at home, (except lunches), has average-old appliances and is not especially energy conscious. You are probably using 5,000 - 6,000 Kwh (Kilo watt per hour) per year in the kitchen, excluding heating during winter months and possibly air conditioning during summer months. Of this:

- \* your cold storage of foods (fridge and freezer) takes about 1,500 Kwh;
- \* your cooking (the stove and micro wave) perhaps 1,000 Kwh
- the cleaning up afterwards (washing dishes whether by hand or machine) as much as 2,000 Kwh
- ✓ and the rest (lighting and other appliances) about 1,000 Kwh.

That amount of energy corresponds to about 3,000 kilos of CO<sub>2</sub> (if the electricity is fossil fuel generated). This is likely to be more than your car is emitting! In addition to energy, you use in the order of 25,000-30,000 litres of water (the energy for heating water is included above) which has its own cost in terms of resource use and energy requirements. You can substantially cut down on this amount of energy and water, maybe to less than half of what you use today, without reducing the quality of your meals or your comfort. Thereby you not only save money, but you are also kind to Mother Nature. You are smart, and Eco smart.



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## Storing Your Food – Fridges & Freezers

Your fridge/freezer is the most energy craving appliance you have in your kitchen. Reduce the energy for cooling and storage of food by:

- \* Keeping the freezer full and thus using less energy. However, don't fill your fridge so much that air ventilation is prevented.
- \* Sticking to 'just right' temperatures. A fridge should ideally be at 3-4 C (37-40 F) and a freezer at -18C (5 F). Temperatures below these levels waste energy and do not improve food storage quality. For every degree you lower the temperature, the refrigerator and freezer increase the use of energy by 5%.
- \* Changing your refrigerator or freezer if it is time. The most energy-efficient freezers and fridges today use only a third of the energy of those made 20 years ago and almost half of those made only 10 years ago. When you change, be careful to get a freezer/fridge that is the most energy efficient (check labels on new appliances).
- \* Defrosting regularly if your freezer/fridge does not have automatic defrosting. A clean fridge is more efficient than a dirty one.
- \* Opening the door to the fridge/freezer for the shortest possible time. Never let the door(s) stand open. Decide what you need before opening.

## Storing Your Food – Other Forms of Storage

We can get a little refrigerator-crazy these days but there are other ways to store things in an energy-saving manner.

- \* If you have a pantry – wonderful thing but less common these days – use it for everything that doesn't need to be in a fridge. If you are rebuilding your kitchen, consider building a well-sized pantry.
- \* If you are lucky enough to have an old-style earth or root cellar, use it for everything that needs to be cool, but not frozen. Are you considering building an earth or root cellar (cellar dug into steeply sloping ground with its entrance at ground level)? Do it! It is not only an excellent place for storage, but also an incentive for you and your family to make many more kinds of own-preserve foods at home and for cultivating your own vegetables and fruits. These keep well in root cellars. The number one benefit of a root cellar? It requires no energy at all to cool except for the energy that you use to build it.



## Cooking – Using the Microwave

There has been concern about the healthfulness of using microwave ovens due to microwave radiation leakage. Since microwave technology, specifically the door seal design has improved considerably there is usually no leakage unless you are not maintaining your microwave properly (keep the seals and interior of the microwave clean after each use). From a CO<sub>2</sub> emissions point of view a well-functioning microwave is more energy-efficient than a regular stove/oven. Use it when possible. Clearly it is better to thaw frozen food at room temperature than in the micro-wave from the point of view of energy use and CO<sub>2</sub> emissions. So, meal planning is an energy-saving strategy too!

## Cooking – Top of the stove

- ✳ When boiling, use lids on your pots (unless the dish requires otherwise).
- ✳ Match the size of the pot/pan to the burner/heating element and use the smallest pot/pan that the food requires. A mismatch of pot to burner might require up to 50 percent more energy than needed.
- ✳ Turn off an electric stove several minutes before the cooking time is out.
- ✳ Use a pressure cooker if you have one. It uses 70 percent less energy than a normal pot.

## Cooking – The oven

- ✳ An electric oven can be turned off up to ten minutes before cooking time is up.
- ✳ Don't open the oven door more than necessary when the oven is on. Each opening reduces the heat inside substantially, requiring additional energy.
- ✳ The higher up you place the tray in the oven, the faster it cooks, although slower cooking for evenness may be desirable for some types of dishes (cakes, etc.).

- ✳ Use a thermometer to determine when meat or fish has just the right temperature. This reduces the risk of over- or under-cooking, and the need to open the oven door unnecessarily.
- ✳ In winter, leave the oven open after the dish is taken out and the remaining heat will help to warm the kitchen.
- ✳ A clean oven uses less energy than a dirty one.
- ✳ Try to bake several things at the same time in the oven.

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## Boiling water

- ✳ Don't boil water for tea etc on the stove, but use an electric kettle.
  - ✳ When boiling water, do not boil more than you will use.
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## Cleaning up – Washing your dishes

Whether you wash your dishes by hand or in a dishwasher, the amount of energy a standard family uses in a year is in the order of 1,000-2,000 KWh and the amount of water about 20,000 - 30,000 litres (5283-7925 gallons). Here's how you can reduce your energy and water use as you clean up:

### Cleaning up – Your dishwasher

- Don't be afraid of using the dishwasher. A fully-loaded modern dishwasher uses less energy and water than washing by hand. In fact, you use less than half of the electricity and about one fifth of the water with a properly functioning modern dishwasher.
- Fill your dish washer completely before starting it. Don't run half full machines.
- Use the eco programme on the dishwasher, if available.
- Clean plates and pots by scraping leftovers into your compost (you do have one, don't you?) before starting the dishwasher. Don't use water to wash leftovers off before loading the machine.
- Let your clean dishes air-dry rather than in the dish washer drying programme (if possible).
- Today's most energy efficient dishwashers use only a third of the water and energy as compared to a ten-year-old model. So if it is time to change, change.
- Use the most environmentally friendly dishwasher detergents you can, particularly those with no phosphates.

## Cleaning up – Washing by Hand

- Don't wash or rinse under hot running water.
- Wash in the same hot water, starting with the cleanest items first.
- Rinse periodically under cold water.

Washing dishes by hand under running hot water uses as much as 100 litres (26 gallons) of water per hour and 2,5 KWh as compared to less than 30 litres (8 gallons) and 1 KWh if you follow the advice above. Over a year that is over 3,500 litres (925 gallons) and over 500 Kwh.

### Other forms of cleaning

Replace the conventional cleaners with organic non-toxic, biodegradable, plant-based detergents. The list of what goes into regular dishwashing liquids, detergents, floor and surface cleaners is enough to turn your stomach. Even better, create your own cleaning products using everyday ingredients such as vinegar and baking soda.

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## Taking care of waste

- ✓ Food waste is a major source of energy waste and greenhouse gases. As much as 30% of the food you buy might end up being thrown away. Reducing that waste saves a considerable amount of energy and greenhouses gases, as well as money.
  - ✓ Compost the organic leftovers and food waste (such as potato peel, coffee filters, fruit peel, cardboard packaging, old bread, etc. Composting can reduce your garbage by 70%.
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## Other snippets for saving energy and water in the kitchen

- ✓ Replace all light bulbs with low energy lamps. They use only a quarter of the energy and last ten times as long as a conventional light bulbs. You save in the order of 500 Kwh per year.
  - ✓ Fix dripping faucets. A kitchen faucet dripping one drop of hot water per second can waste 6,000 litres (1585 gallons) of water during a year and waste heating.
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## Are you saving the world now?

You have followed all the advice above, and wonder if you are saving the world now. Sorry, at least not directly. Even the most eco-smart family will not make a noticeable dent in the world's ecology. So, why are we providing you with these tips? By becoming eco-smart you become aware. When you are aware you make political choices and consumer choices. You influence and join others and eventually a mass movement is on its way. When this happens politicians who can bring about positive change for the world are elected and businesses realize that to survive they have to change. So you do in fact save the world by being eco-smart. Start today!



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