

Environmental Tip of the Month. January 2021

How to reduce your home electricity costs part 1: fridges and freezers

This tip is the first to look at what we can do to try and reduce our electricity bills, and at the same time reduce our home's carbon footprint.

Fridges and freezers remain on all the time, but the amount of energy they use depends on how much of the time the pump mechanism is running. This in turn depends on how well insulated they are. The better the insulation, the lower the amount of energy (kilowatt hours or kWh) it will use, and the lower the running cost.

A 30 year old freezer uses much more electricity than the new most highly rated (A+++ versions). How can you check on the power consumption of your fridge(s) &/or freezer(s)? One way is to look up the energy rating of your particular appliance, some of which also give an approximate figure for annual electricity consumption.

Typical annual running costs for an A+++ fridge freezer are £20 versus £120 for a C rated one, ie a difference of maybe £100 a year. Similarly, for a fridge the figures are £13 versus £43, ie a saving of around £30 a year. Chest freezers tend to be more efficient to run than upright ones.

However, actual electricity usage by fridges and freezers depends on a number of other things. You can reduce running costs to an extent by the following:

- having the appliance sited where it is not too warm,
- making sure there is at least a 4 inches gap behind the appliance,
- avoiding keeping the door open for longer than needed,
- leaving warm or hot things to cool before putting them in,
- keeping the fridge &/or freezer reasonably full (ie $\frac{3}{4}$ rather than crammed full), and avoiding having them nearly empty,
- making sure that the fridge is set to between plus 3 and 5 degrees, and your freezer at minus 18 degrees Centigrade.

Most fridges or freezers do not have a built in thermometer. Suitable thermometers have to be positioned correctly to get a meaningful reading.

Having done all that, it is now possible to check the actual electricity consumption using a plug in energy monitor that you place between the socket and the appliance. This can tell you the energy usage in kilowatt hours over whatever period of time you choose, be it part or all of a day, or a week, and with a relatively simple calculation you can get a good idea of how much the appliance is using over a whole year.

I have been using a plug in energy monitor to see how our fridges and freezers were performing. We couldn't assess the built in one under a worktop as it would have been a major exercise to remove it to get to the socket.

We found that the fridges and freezers that we could monitor were together consuming around 1/3rd of all the electricity we use! One old chest freezer and a poorly insulated fridge were especially expensive to run and together accounted for around half of the electricity consumed.

We managed to reorganise our arrangements and switch off 2 old fridges.

Unfortunately the most energy efficient freezers are very expensive. To buy a new A+++ rated small freezer of 80 litres would cost at least £340, and a similarly rated 120 litre fridge would be £265 upwards. However, we were able to find a 210 litre as new A+++ rated chest freezer for £450.

The whole exercise should have reduced the electricity costs from our fridges and freezers by around 2/3rds. It will take around 2 to 3 years to pay back in savings for the expenditure on the new freezer, but they do last well.

The fridge and freezer thermometer, and the energy monitor can be loaned free of charge by any parishioners wanting to see if you can reduce your electricity usage, and I will provide more tips from our own experience on how to go about using them. Just give me a ring or email me to arrange to borrow these devices.

In future tips of the month we will give advice including experiences of using a smart meter, using electricity monitors with other appliances, how to shop around for cheaper electricity tariffs, and where else to go for help and support in reducing your electricity bills.