

Introduction

As Europeans we use a significant percentage of the planet's supply of fossil fuels (oil, natural gas, coal and peat). The average person in the developed world uses 80 times more fuel in their lifetime than a person from the developing world. Burning these fuels causes air pollution and contributes to global warming and acid rain. Fossil fuels are non-renewable - when they are used up there will be no more. So how are we looking after these valuable non-renewable resources? Unfortunately, not very well.



In most developed countries we waste 50% of all energy generated through inefficiency and lack of awareness. That's only true waste - it's not even asking whether we really need the energy for non-essential uses. In fairness to other people on the planet now and in the future we need to reduce our energy use and focus our remaining fossil fuel resources on developing renewable energy supplies.

You have probably heard of "Sustainable Development". A common definition is:

"To meet our present needs without compromising the ability of future generations to meet their needs".

This is a call to really consider what our needs are and how we use energy to meet these needs. Will our actions enable our grandchildren to meet their needs?

The effectiveness of your actions will be much greater if you discuss them with the rest of your household and get them involved. One of the principles of the Greener Living course is that mutual support and encouragement at the meetings and in the home is a great help in changing our lifestyle patterns.

Why act?

How much are you using?

By taking a few minutes to record details of your energy bills you will get a much better idea of where your money goes. It will also show how effective your efforts to save energy and therefore money are.

Action!

Record the amount in units you use as well as the cost because your bills might go up due to increased charges even if you are using less.

⇒ Reading your meters and keeping a monthly record will help even more as it's a more accurate measure than your bills.

Why act?

Where your energy comes from

Checking your electricity bill will show you what proportion of your energy comes from renewables and other sources.

Action!

Switching to a supplier that uses 100% renewable generation, such as Energia or SSE Airtricity, will help support our transition away from fossil fuels.

Why act?

Keep up with new information and technologies

If you need to replace a household item, make sure you know about recent advances in energy saving technology. Standard items like fridges and washing machines have energy efficiency labelling, and since they have a life of 5 to 20 years it's worth the extra expense of getting high efficiency models as you will save money over their lifetime. A range of technologies are now generously grant-aided in Ireland such as heat pumps, wood pellet or log boilers and water heating solar panels.

Find out more about home heating and insulation grants from Sustainable Energy Authority of Ireland by calling 1850 927000 or visit www.seai.ie

In Cork we have 2 energy offices provided by the City and County Councils. They have lots of information and the staff will be able to answer your energy questions. They both have irregular office hours so phone first.

- City Energy Agency, City Hall, Cork. Tel. 021 492 4146 corkenergy@corkcity.ie
- County Energy Office, Mallow Recycling Centre, Quartertown Ind. Est., Mallow. Tel. 022 43610 colette.creedon@corkcoco.ie

Space heating – around 61% of household energy use

Why act?

Your bills through the roof

Heat rises! 25% of all the heating you pay for can be lost through a roof space that is poorly insulated. That could be up to 15% of your total energy bill.

Action!

The one-off job of insulating your loft with 300 mm (12 inches) of good quality insulation has a payback time of less than 4 years, even less if you make use of grants available. Your home will be cosier; it will warm up faster, stay warm longer and save you money.

- ⇒ If it is some years since you insulated your loft, chances are you don't have 300mm and it's worthwhile topping it up.
- ⇒ Check that the attic hatch door fits well and has no drafts. Attaching insulation to the upper side of the hatch will save even more energy.

Why act?

Check behind your radiators

Some of the heat from your radiators could be lost straight through your wall.

Action!

Purchase and fit foil-backed panels behind radiators on external walls.

- ⇒ Alternatively, make and fit your own panels from corrugated cardboard wrapped in tin foil.

Why act?

Heat your body, not the room

Putting on an extra layer of clothing instead of turning using the heating is an excellent energy saving alternative. It is free and very controllable! This is especially true when you have just got out of bed and need extra warmth for a short while.

Action!

Put on extra clothing when needed during the day.

- ⇒ Put an extra blanket on the bed and use a hot water bottle at night.

Why act?

Keep your boiler serviced

To run at maximum efficiency and for safety reasons oil-fired boilers need to be serviced annually and gas boilers every 2 years. The cost of the service should be recovered in lower fuel and repair bills.

Action!

Have your boiler serviced regularly.

- ⇒ If you need to replace your boiler, investigate modern high-efficiency condensing types. Even if your old boiler is working well it is worth getting an estimate to see if a modern one would save enough money to justify the expense. There are also new developments for home heating including air source and ground source heat pumps, solar water heating systems and combined heat and power units. Although these options require a larger initial investment, they will save money in the long run. Grants are available for many of these options, including improving controls.

Why act?

Stop drafts

Drafts can account for up to 50% of heat loss. Stopping drafts is therefore a very important money saving action especially as many of the actions are very quick, easy and cheap.

Action!

Seal gaps in the floor, skirting and ceiling.

- ⇒ Fit draft excluding strips around doors and windows.
- ⇒ Hang heavy curtains over doors and windows.
- ⇒ Close off unused fireplaces.
- ⇒ Close doors between rooms.
- ⇒ Check the attic hatch for drafts.

Warning: Never block air vents or ventilation bricks.

Why act?

Check your thermostats and timers

Turning down room or boiler thermostats by one degree could lower your energy consumption by 5%. After taking the other actions on this sheet you should be able to turn down thermostats without any feeling of discomfort, especially if the changes are gradual. Stored hot water will start to cool down even if the tank is well lagged. It therefore makes sense to use a timer to coordinate water heating with hot water usage.

Action!

Try turning down the room and boiler thermostats a little.

- ⇒ Close down radiator valves and keep the curtains shut in rooms that are rarely used.
- ⇒ Investigate the timing of your hot water and heating usage and set timers to deliver when you need it most. Experiment a little!
- ⇒ When the central heating is on, hot water might be heated at the same time. You might consider coordinating when you have baths or showers to fit in with this hot water availability.

Water heating – typically 19% of your use

Why act?

Lag your tank

Heating water accounts for between 15 and 20% of your household energy use. By lagging your hot water storage tank with an 80mm-thick insulation jacket you can save 30% of the energy needed to heat your water, that's about 5% of your total energy consumption. Purchasing an insulation jacket will therefore pay for itself in about 6 months. In addition to saving you money you will also heat your water much faster and it will stay warmer for longer.

Action!

Purchase and fit an insulation jacket for your hot water storage tank. They only take a few minutes to fit.

- ⇒ Purchase lengths of foam insulation for hot water pipes and fit wherever pipes are accessible.
- ⇒ Set your hot water thermostat to 60°C (140°F) or less.

Why act?

Use bowls and basins, not running water

Washing up using a bowl will use less water than a running tap even if you need to change the water a few times. A cool water rinse bowl can be used to remove any soap. Actions such as washing, shaving and washing clothes by hand can also be done in a bowl rather than under running water. This saves water as well as energy.

Appliances and lighting – typically 17% of your energy

Why act?

Turn it off

Turning things off when you are not using them saves energy and will save you money by reducing your electricity bill and reducing wear on the appliance. Especially older appliances left on standby account for a surprising proportion of all electricity used.

Action!

Turn off appliances completely rather than leaving them on standby.

- ⇒ If you are the last one to leave a room then turn off the light.
- ⇒ Do you need to have outside lights on all night? Consider fitting a movement sensor so that your outside light comes on only when someone needs it.
- ⇒ If you are concerned about security whilst you are away consider buying a timer to turn the lights on and off. Not only does this use less electricity than leaving lights on, it gives the impression that someone is home.

Why act?

Fridge physical

Your fridge and freezer account for approximately 5% of your total household energy use and so it makes good sense to minimise their power consumption by keeping these appliances in good condition and using them wisely.

Action!

Check the seal on your fridge/freezer. It should be flat and in contact with the body of the fridge along its entire length. To test the seal, place a piece of paper between the door seal and the fridge and close the door. If the paper can be pulled out easily then the seal may need replacing. Try this in different places around the seal. Seals can be purchased via the fridge supplier, or a parts supplier. You can replace it yourself or call in a repair person.

- ⇒ Every six months clean the coils on the back of the fridge to ensure that they can work efficiently to dissipate heat.
- ⇒ Defrost your freezer regularly. This helps it to run more efficiently.
- ⇒ Check that the fridge is not too close to the cooker or other heat sources so that it does not have to work even harder to keep cool.
- ⇒ Make sure there is plenty of airflow around the fridge, and if it's built into a unit there needs to be good ventilation.
- ⇒ Use empty milk containers/ polystyrene to fill empty space in the freezer. This reduces cold air loss when the door is opened.
- ⇒ Let warm leftovers cool down before putting them into the fridge. Defrost items from the freezer in the fridge.
- ⇒ Decide what you want to take out of the fridge before opening the door. The longer the door is open the more energy is needed to cool the fridge again.
- ⇒ If you are going away for more than a week try to empty the fridge so that you can leave it turned off (with the door open). This is a great chance to defrost the fridge.
- ⇒ If you need to replace your fridge or freezer, consider one with the highest efficiency rating. The extra expense will be recovered in lower electricity bills.

Why act?

Replace light bulbs with energy efficient ones

When your standard light bulbs need replacing, purchase energy efficient ones. You can move light bulbs around so that the energy efficient ones are in the areas you use most often. There is a very common myth that leaving light bulbs on is more efficient than switching them off and on, and it's **not true!** Turn them off whenever they are not in use.

Action!

When replacing, purchase LED light bulbs, which are more convenient and appealing even than older energy saving light bulbs. Replace bulbs in high use areas first but hang onto the ones that you change out and you can use these if needed in low use areas.

- ⇒ In order of energy efficiency replacement bulb types would be LED (most efficient) > Compact Fluorescent (CFL) > halogen > incandescent (tradition light bulb). It is worth not getting the very cheapest of lightbulbs of any of these types as the cheap ones may not last as long as advertised.

Remember All kinds of bulbs should be disposed of correctly, especially CFL bulbs, ideally in a light bulb recycling bin.

Why act?

Washing machines, dishwashers and tumble dryers

These labour-saving devices can consume a considerable amount of energy, but this can be reduced by simple actions.

Action!

Always fill the washing machine or dishwasher (avoid half loads).

- ⇒ Wash clothes on a lower temperature (40 or 30°C is usually fine).
- ⇒ Hand wash small amounts of clothes and dishes in a bowl.
- ⇒ Dry clothes outside whenever possible.
- ⇒ Consider allowing your dishes drip dry in the machine rather than using an inefficient drying cycle.
- ⇒ If you need to replace these items, consider models with a high efficiency rating. The extra expense should be recovered in lower electricity bills.

Why act?

Reduce energy use when cooking

Cooking accounts for 3% of total household energy use.

Action!

Only boil the water that you need. Eggs and potatoes only need to be just under water.

- ⇒ Don't boil a whole kettle full of water for one cup of tea.
- ⇒ Use lids on saucepans when possible. This saves energy, speeds up cooking times and reduces condensation problems.
- ⇒ Try and fill the oven by combining bread making with cooking dinner, etc.
- ⇒ Turn the cooker off towards the end of cooking. Soups, spuds and items in the oven continue to cook in their own heat.
- ⇒ Use rings that are smaller than the pan to save heat escaping up the sides.
- ⇒ Cook green vegetables for a shorter time and with less water to retain flavour and nutrients.
- ⇒ Use steamers and pressure cookers, they use less energy.
- ⇒ Try to avoid the need to reheat food, it uses energy and the food will lose flavour and nutrients.

	Action	I will try this action before the next meeting	Action taken	Comments
	Talk about these actions with others at home			
	Record your energy bills/read meters			
	Move to a 100% renewable energy supplier			
	Check the attic insulation; 300 mm is the recommended thickness			4-year payback! 60% saving.
Heating	Keep doors closed			
	Turn down room thermostats (Recommended 18°C)			1°C reduction can cut consumption by 5%
	Keep unused rooms cooler			
	Use extra clothing, blankets and a hot water bottle to keep warm			
	Check central heating and hot water timers and adjust for best and minimum times			
Drafts	Seal gaps in the floor skirting and ceiling.			Drafts account for up to 50% of home heat loss. Warning: never block vents or air bricks
	Fit draft excluding strips around doors and windows.			
	Hang heavy curtains over doors and windows.			
	Close off fireplaces when not in use.			
Hot water	Buy or check the lagging jacket on the hot water tank			6-month payback! Save 30% of water heating costs (80mm jacket)
	Use bowls instead of hot taps running (washing-up, etc.)			
Fridge/Freezer	Check door seals			Fridges should be kept at 5°C and freezers at -18°C to balance efficiency with food safety.
	Defrost regularly			
	Use thermometer to check temperature			
	Clean coils on the back			
	Fill empty space in the freezer to stop cold air escaping			
Washing	Fill washing machine & dishwasher (avoid half loads)			
	Dry clothes outside on the line			Tumble dryers use lots of energy
	Wash at a lower temperature			30°C is often enough
	Turn off lights in empty rooms			
	Buy and fit at least one energy efficient light bulb			
	Turn off appliances not in use, don't leave on standby			
	Only boil amount of water needed, kettle or saucepan			
	Use lids on saucepans			
	Thank you for joining this course. Links to further information at www.cef.ie/projects/greenerliving/			