

Climate Change

The Afternoon Show Tips



1 Introduction

1.1

Everybody has a role to play in reducing their impact on climate change and indeed many of the changes can save, rather than cost you money. Families and individuals do not have to make huge investments in order make a difference.

Some of the simple changes do not require any investment and are more about changing behaviour rather than implementing high-tech solutions; these can include walking instead of using the car where possible, switching off lights and appliances when they are not in use, buying items with less packaging and placing a bottle of water or a small brick in your cistern to reduce the amount of water needlessly used in each flush.

There are also a number of solutions that won't cost the earth and can result in a significant saving in the pocket and for the environment. These include replacing bulbs in your house with CFL long life bulbs, insulating your hot water tank with lagging jacket and trying to use public transport where possible instead of driving.

Everyone can make some changes to reduce their impact; these changes big and small all contribute to reducing our impact on climate change.

2 Energy Saving Tips

We all use energy as part of our daily lives. This section will provide you with tips on how to reduce your energy consumption at home.

2.1 Heating

2.1.1 Changes for under €50

- Turn down your thermostat by 1 degree Celsius. 20 degrees is the optimum temperature for living rooms and 18 degrees is best for bedrooms. Turning down the thermostat in your home by just 1° will save up to 300kg of CO₂ per household a year. Programming it to a lower temperature at certain times of the day will cut it even more.
- Close doors and stop draughts between heated and unheated rooms.
- Only heat rooms that are in use.
- Use timers and thermostats to ensure that the heating is on when you need it, where you need it and at a comfortable temperature.
- Insulate your hot water cylinder with a lagging jacket- this can be done for just €10-15.
- Fit draught excluders under all external doors, attic door, letterbox and cat/dog flap. However to ensure your safety ensure that there is adequate ventilation for a healthy air supply for occupants, in particular where there are fuel-burning appliances.
- Put reflective insulation sheeting behind radiators mounted on external walls to deflect heat back into the room.
- Fitting a shelf above a radiator under a window will deflect most of the heat from a radiator back into a room.
- Close your curtains to minimise heat lost through windows.
- New LED (light emitting diodes) Christmas lights are available that are very energy efficient, durable and never get hot.

2.1.2 Changes for €100-€500

- Get your boiler serviced regularly to ensure it is working properly and not wasting your money.
- Install thermostatic radiator valves (TRVs), especially in rooms like the kitchen. TRVs control the temperature of the

rooms by switching the radiator off and on as appropriate therefore maintaining the chosen temperature.

- Make sure that your heaters are the right size for the rooms they are to heat, and that they have thermostatic controls and timers.

2.1.3 Changes for €500-€1000

- Insulate or re-insulate your attic. The cost of this depends on the size of your attic and the type of insulation you use. For more information on insulating your home check out the SEI insulation guide at <http://www.sei.ie/uploadedfiles/InfoCentre/Insulatingyourhome.pdf>

2.1.4 Changes for €1000-€5000

- If you are considering upgrading or replacing your current heating system then see what options exist for using renewable heating systems such as wood pellet stoves or ground source heating.
- Consider insulating your walls. Up to half of the heat lost from a house is lost through your walls. For information on the best type of insulation for your home check out the SEI insulation guide at <http://www.sei.ie/uploadedfiles/InfoCentre/Insulatingyourhome.pdf>

2.2 Electricity

- Always switch off appliances fully when they are not in use. Appliances in standby mode can use up to 20% of the energy required when fully on.
- Turn off lights in rooms that are not being used.
- Reduce the number of washes you do by always washing with a full load and reducing your temperature. Wash at 30 rather than 40 and dry clothes outside where possible rather than using the tumble dryer which is an intensive energy user.

2.2.1 Changes for under €50

- CFL bulbs last up to five times as long as traditional bulbs. Costing less in the long run, they use one fifth of the electricity used by an incandescent bulb. This can

be done as your current bulbs become exhausted.

2.2.2 Changes for €100-€500

- Choose A rated appliances when you are buying new ones or replacing old ones.
- If your fridge is over 12 years old and you change to an A++ rated fridge you save a massive 123 kgCO₂/year and a lot of money!

2.3 DIY options

2.3.1 Sealing draughts with draught proofing

- Fitting draught proofing around external doors and the attic hatch is an easy DIY option. This will cost you very little, typically €20-30 euro.
- For sealing gaps around your windows, use the candle test, where by you use a candle (always use caution with a naked flame) to test for little draughts. Watch for the flame deflecting when you find a crack. An inexpensive sealant (under €5) will seal the gap, once wiped with a damp cloth to smooth out.
- This also applies to skirting boards; again sealant should be applied where there is a noticeable draught.

2.3.2 Hot water pipes, insulation and other things to do

- Lagging all hot water pipes will minimise heat loss. Check the size of pipes before purchasing any materials..
- Insulating your water tank in the attic. Fit insulation boards around the tank and fit it with an insulation cover. Do not insulate underneath the tank..
- Insulating your hot water cylinder, if appropriate.
- Fitting reflective foil behind radiators mounted on external walls, available from DIY stores..
- Buy a radiator key and bleed your radiators to ensure that they are functioning to their optimum potential..
- Fit thermostatic radiator valves. Available from DIY stores.
- Fit short extension leads to make difficult power switches

more accessible..

- Insulate the attic; this can be carried out once caution is taken. The cost will vary with the size of the attic space in question, see SEIs guide to insulating your home for detail information on how to carry this out. <http://www.sei.ie/uploadedfiles/InfoCentre/Insulatingyourhome.pdf>

2.4 Energy performance of building directive

- The Energy Performance of Building Directive (SEI, 2006) requires that when a building (residential and non-residential) is constructed, sold or rented out, a Building Energy Rating (BER) is provided by the owner to the prospective buyer or tenant.
- All new and existing, domestic and commercial, buildings must have an energy label if they are to be sold or rented.

If you require a BER assessor to carry out an energy audit visit www.sei.ie for information on BER assessors.

2.5 Building an energy efficient home

It is best to ensure that the most up to date building materials are used and perhaps look into designing a passive house. This will be subject to local planning laws and standards of course.

2.5.1 Insulation

- Ensure that there is cavity wall insulation, attic insulation and under floor insulation.

2.5.2 Windows

- Double or triple glazing.

2.5.3 Home heating system

- Renewable technologies,.
- There are grants available for solar water and space heating systems.
- Look at Sustainable Energy Ireland (SEI) guide to home heating to find out the most practical solution.

2.5.4 Are there professionals I can hire to do an energy audit?

Yes, there are professionals that carry out energy audits, though you can identify some of the key aspects yourself. Lists of registered personnel are available on the SEI website at www.sei.ie

2.6 SEI grants

Are there grants in place for such renewable technologies?

Yes, there are grants available from Sustainable Energy Ireland for building and housing.

The Greener Homes Scheme provides assistance to homeowners who intend to purchase a new renewable energy heating system for existing homes. The scheme is administered by Sustainable Energy Ireland and aims to increase the use of sustainable energy technologies within Irish homes.

2.6.1 Systems covered under the greener homes scheme include

- Solar Heating
 - Solar hot water system and / or
 - Solar space heating system
- Heat Pumps
- Horizontal ground collector
- Vertical ground collector
- Water (well) to water
- Air source

- Wood Chip or Pellet Stoves – with or without integral boiler
- Wood Chip or Pellet Boilers – with bulk fuel storage installed
- Wood Gasification Boiler

2.6.2 Other schemes

There are other schemes such as:

- The Low Carbon Homes Scheme- applicable to those building 5 units or more.
- The Warmer Homes Scheme: this scheme aims to improve the energy efficiency and comfort conditions of homes occupied by low-income households.
- There are also public and commercial sector grants available. For more information on grants and details on how to apply check out <http://www.sei.ie/Grants/>

3 Transport tips

A significant portion of your carbon footprint comes from your day-to-day travel. This section will give you tips on how to reduce the impact your travel has on climate change.

- 60% of all car journeys are less than 2 miles. Consider cycling or walking where possible. This will improve your health, as well as reduce your carbon footprint. Ensure you have the appropriate safety gear (helmets for cycling, reflective clothing for both).
- Walk the children to school when you can. You could create a walking bus with children and parents from your neighbourhood, in order to guarantee children get to school safely and in a low-carbon manner.
- Check if you can complete your journey using public transport
- Work from home, if practical. If you can reduce the amount of days you travel into the office, you can reduce your carbon emissions significantly.
- Try carpooling! Whether it is to work or school, you probably have a few neighbours or friends that are heading in the same direction. This way, if public transportation isn't suitable for you, you can at least lessen the number of cars on the road by driving with a full car.
- Limit and plan your car trips. If you're running errands, try to do them all in one location or trip. This will reduce the amount of driving you need to do from place to place. Try to figure out how many unnecessary journeys you make every week. Keep a log and try to reduce your weekly car trips.
- Plan your journey ahead of time in order to avoid traffic and take the most efficient route. Any map website should help you..

3.1 When driving your car

- Driving at high speed (over 80 km and especially over 100 km) uses more fuel and causes more pollution. Driving at an average speeds of 65 to 80 km/hr (where safe and practical) leads to the lowest emissions per kilometre than at slower or faster speeds.
- An aggressive driving style can lead to an increased fuel consumption of 10-12% above average. In contrast, an energy aware driving style can save up to 13% on fuel consumption and is better for the environment and for your wallet.

There are some simple steps you can take when driving to

reduce fuel consumption and improve efficiency:

• Starting the Car

Turn the engine on then drive off gently and without delay. This will reduce excessive fuel consumption and pollution.

• What affects fuel consumption most?

Driving style, unnecessary short trips, cold engine, poor car maintenance, rapid acceleration and incorrect tyre pressure all affect fuel consumption adversely.

• Maintain your car regularly

A properly maintained car will have good engine lubrication, wheel alignment and well-adjusted brakes which reduce your fuel consumption.

• Reading the road

By watching the roads ahead and anticipating any likely problems, your driving style will become smoother, more controlled and be safer for you and other road users.

• Maintaining your distance

Safe and economical driving requires you to maintain a sufficient distance behind the car in front - a minimum of 10m for every 15km/h speed. This way you can brake and accelerate more smoothly.

• Saving fuel in town

Avoid over-revving the engine and drive in as high a gear as is suitable to road conditions.

• Reduce unnecessary drag

Take off unused bike racks or roof boxes and save 15-40%. Use the car's vents rather than leaving the windows or sunroof open, saving you a further 3-5%.

3.2 Did you know?

- Even if you only have to wait 30 seconds, it is more economical to switch the engine off and start it again when necessary.
- Tyres at 0.5 bar below manufacturers recommended pressure increase wear and fuel consumption by 2-3%..
- At bends, reducing speed gently and in time and accelerating smoothly when you are halfway through will reduce excessive fuel consumption.
- A cold engine uses significantly more fuel than a warm engine – try to avoid using your car for very short journeys.
- When in use the rear window demister uses 3-5% more fuel. Remember to switch it off when the window is clear.

4 Waste

Reducing the amount of waste you produce can reduce your impact on climate change in the following way:

- Reduce the emissions from energy – recycling of material requires significantly less energy than producing products from raw materials. Prevention or re-use of materials is even better, thereby decreasing the energy required to extract, transport and manufacture products.
- Reduced emissions from landfill – by preventing, reusing, recycling and composting.

The following tips will help you reduce the amount of waste you produce.

1. Avoid using disposable products such as

- Kitchen towels.
- Face wipes.
- Disposable Razors.
- Paper and plastic cups.

2. Avoid Excess Packaging and unnecessary waste

- Block Junk Mail from your letter box.
- Many products have excess packaging, look out for similar products with less packaging.
- Most fruit and veg do not need packaging.
- Use refillable containers and buy in bulk.
- Where possible buy products in returnable containers.

3. Reuse products or extend the lifetime of products where possible, such as:

- Use reusable shopping bags for all shopping trips – Clothes, toys, CD's and groceries.
- Use rechargeable instead of disposable batteries.
- Used clothing can be passed on to friends or family or to used clothing shops.
- If you are replacing furniture or household goods, offer the old one to a local school or charity or use one of the free trade websites to pass it on.
- Use reusable food containers.

4. When buying products with packaging, choose packaging that is easily recyclable e.g. glass rather than plastic bottles.

5. Get a compost bin - this can reduce the waste disposed of in your rubbish bin by almost one third.

6. Set up a number of bins in your home:

- a. One for organic waste that can be easily composted.
- b. One for glass.
- c. One for dry recyclables like paper, plastic etc.
- d. One for household hazardous waste e.g. batteries.
- e. One for waste that cannot be recycled.

7. Make sure you use your recycling bin fully and correctly.

8. If you do not have a recycling bin, make optimum use of your nearest recycling centre – try incorporating visits into other activities such as shopping, school run etc.

9. Where possible, buy products made from recycled material.

5 Shopping

We all contribute to carbon dioxide emissions through “embedded” energy that has been used to produce and transport consumer products and food. These indirect emissions are also important. The tips in this section will help you to reduce the impact your purchases have on climate change.

5.1 Before you shop

Before you buy something ask yourself, do you really need it?

Bring your own shopping bag to avoid having to purchase plastic shopping bags.

5.2 When shopping

5.2.1 Choose products with little or no packaging

Choose products with minimal packaging to reduce waste: Packaging materials account for a significant amount of the rubbish we generate. Considerable amounts of fossil fuels are used to produce this packaging, especially for plastic. Consider buying items in bulk which require less packaging. Items such as fruit, vegetables, and even tools are available without packaging.

5.2.2 Buy reusable and long lasting items such as:

- Rechargeable batteries.
- Cloth napkins instead of paper.
- Washable plates, cups etc for parties instead of disposable ones.
- Borrow, rent, or share items used infrequently - Before you buy seldom-used items, like certain power tools and party goods, first consider renting or borrowing them.
- Buy used or re-furbished products: used books save trees and re-furbished electronics save you money.
- Buy products in the largest size you can use to avoid excess packaging.
- Try to buy products in packaging that is reusable – e.g. containers to store food in again.

5.2.3 Buy products and packaging that can be recycled easily

- Buy products in containers that you know you will be able to recycle.
- Select products made from recycled materials - Look for recycled content whenever possible, including paper, glass, metal, plastic, and other items. Understand product labeling and know how to identify recycled products.

5.3 Food

5.3.1 Transporting food

To judge whether the food you eat is sustainable, you have to consider more than just the food miles involved in transporting the goods. However, where food has been produced and stored under similar conditions, food that has travelled a shorter distance is likely to have less impact on climate change.

Healthy eating is also important and many people could benefit from eating a larger proportion of fruit and vegetables and less saturated fat in their diet.

Fresh and seasonal

Buying fresh unprocessed or lightly processed food and drink will generally mean that less energy has been used in its production. This is also a much healthier option than highly processed food.

If food comes from a long way away it doesn't necessarily mean it has a big impact on climate change. Long distance transportation of produce by boat - for example, bananas - or food imported when in season, can have lower impact on climate change than food produced out of season or stored for long periods.

Buying direct from producers is a good way to source fresh, seasonal produce and reduce packaging. Buying directly from the producer also means that you can ask them how their food was produced.

Buy less processed food

Buying less processed food will lessen your impact on climate change. Processing of food generally uses fossil fuels leading to carbon emissions.

Ask your retailer

Showing an interest, and choosing food from retailers who are trying to reduce the environmental impact of their products will give you greener choices and help encourage them to do more.

Some things you could ask retailers include:

- Do their food production standards include environmental criteria?
- What are they doing to reduce waste in their supply chain?
- Are the premium prices often charged for greener food passed on to producers to encourage this type of production?

If you cannot find greener choices like sustainably sourced fish or recycled products, then you could ask managers in your local shops to start stocking them.

5.3.2 Buy Local

Buy locally produced products, especially food. Check out the local farmer's market. This cuts down on the air miles that the food travels and also ensures that you get food when it is at its freshest.

5.4 Furniture

5.4.1 Choose wood products from sustainable sources

You can find wooden furniture or flooring products made from sustainable timber by looking for labels from the Forest Stewardship Council (FSC), or other forest certification schemes. You can ask your retailer about certification schemes.

5.4.2 Re-use and renovate furniture and flooring

Consider options besides buying new products:

- Buying second-hand or vintage furniture or exchanging

items for free is good for the environment, as it saves on new materials (but old foam-filled furniture may be a fire risk and should be disposed of).

- Renovating old wooden floors can look great and add value to your home.
- Using reclaimed floorboards instead of buying new saves valuable resources.

5.4.3 Buy furniture and flooring that lasts

Producing all types of floor coverings and furniture uses energy and resources and may do environmental harm in other ways.

- As a general rule, if you have the choice, buy to last rather than replacing often.
- When you do decide to replace your fixtures and fittings, try to consider second-hand, reclaimed or renewable materials.

5.5 Electrical items

When buying electrical items be sure to look out for the energy ratings label. Energy Ratings labelling has been in Ireland since 1995, as required by EU legislation. Appliances are rated from A-G with A being the most energy efficient and G the least. An A rated appliance uses about 55% less electricity than a similar D rated appliance.

When replacing light bulbs ensure to buy low-energy / CFL bulbs. These are available in all supermarkets now.

5.6 Cleaning products

When buying cleaning products try to buy an environmentally friendly product range. These are now available in many supermarkets and contain no chemicals which can harm the environment.

Alternatively you could create your own cleaning products like the ones outlined below:

- **All Purpose Cleaning Spray**

4 tablespoons of baking soda.

1 quart of warm water.

Add a drop of lemon juice or lavender oil for a pleasant scent.

Shake together and use anywhere from the sink to the fridge!

- **Copper and Brass Cleaner**

2 tablespoons salt.

White vinegar.

Add vinegar to salt until you've created a paste. Adding some flour will help to reduce abrasiveness. Apply with a rag and rub the bottoms of pots, door handles, and any other copper or brass items sparkling clean!

- **Bleach Alternatives for Laundry**

Soak white laundry in 1 part lemon juice and 1 part water and hang in the sun to dry. The lemon juice will "bleach" away all stains.

- **Air Fresheners**

Mix 1/4 cup baking soda with water in a spray bottle.

Add 10 drops or so of your favourite essential oil like Pine, Frankincense or Cedarwood. Shake well and spray.

The baking soda will absorb the odour and the essential oils will add a unique scent to the room.

5.7 Getting to the shops

Getting to the shops can also impact on climate change.

Try to walk to shops if just picking up a small number of items.

Do a big shop for non-perishable items so that you don't have to go too often.

Combine your shopping journey with a number of other journeys.

On if you use a delivery service rather than driving yourself there is a 70% reduction in emissions.

6 In the kitchen

One of the places where the impact of climate change is most commonly forgotten is the kitchen. This topic focuses on considering the impact that food products, energy and water use in the kitchen has on climate change.

6.1 Energy

The kitchen and utility rooms tend to be where the most electricity is used. The lighting requirements are often high in these rooms and the large numbers of appliances typically consume the greatest amount of electricity. The following tips will help you to reduce your energy use in this room:

- If you are purchasing a new appliance look for the energy label. Purchase appliances with an A or B rated label where possible. For more information on energy rating labels check out http://www.sei.ie/Your_Home/Appliance_Labelling/
- Reduce the number of times you use your washing machine and dishwasher by only using them when they are full. A washing machine on full cycle uses up to 65 litres of water; dishwashers 20 litres. You'll conserve water and save money by reducing your energy bill.
- Choose the lowest temperature wash possible, as lower temperature washes saves energy.
- Use pots and pans that cover the whole of the cooker ring.
- Where possible cook with the lid on, this reduces the heat loss from the pot.
- Where possible use the toaster rather than the grill.
- Microwave ovens and pressure cookers use less energy than conventional ovens.
- Keep fridges and freezers away from cookers/ovens. Defrost regularly to save energy and extend the operating life.
- Avoid putting hot/warm food directly into the fridge.
- Avoid leaving the fridge and freezer doors open.
- Use energy efficient lighting. Fluorescent tubes are considerably more energy efficient than traditional tungsten filament bulbs. Where this is not suitable install CFLs.
- There is usually a large heat output in the kitchen from electrical equipment, particularly cookers. Installing a thermostatic radiator valve on the kitchen radiator will allow the heat output to be varied with demand.

6.2 Water

- Instead of letting the tap run when waiting for cold water, fill a jug of water and keep it in the fridge.
- Fill the kettle with enough water for your needs. You will save energy and water.
- Instead of letting the tap run, use a basin to wash your fruit and vegetables. You can use the leftover water to give your potted plants a drink.
- Don't wash up under a running tap, use a plug or a basin.

6.3 Food

- Plan your shopping meal by meal. Pay close attention to use-by dates and don't over-buy perishables. This will reduce wastage and help you to save money.
- Try to source fresh, locally-grown produce. Farmers will be able to offer you in-season produce, as well as give you a background on how it was grown. You'll be ensuring that your food hasn't travelled long distances, as well as supporting local community initiatives.
- If you have a garden, consider growing your own fruit and vegetables. If you plant a small vegetable patch and choose appropriate seeds, you can have fresh vegetables all year-round.
- Cook large portions, so that you can have leftovers for another meal. Not only will this make your week easier, as you won't have to cook again every night, but you will limit the amount of energy you use storing or cooking food. By reheating these leftovers in the microwave rather than cooking a new meal in the oven, you'll significantly reduce your energy usage.
- Save your extra leftovers or rotten food for compost. If you have a garden or even just flowerpots, leftover food waste can be composted. This homemade compost will not only lessen the amount of waste that you send to landfill, but will also improve your garden. Just make sure to leave out any animal by-products, as they can attract unwanted creatures.
- If you buy extra food that you don't finish before it goes off, freeze it! You can buy reusable freezer containers that will keep your food fresh until you're ready to eat it.

7 Other rooms in the home

This sections includes tips on how to reduce your impact on climate change in other rooms in the home.

7.1 Bathroom

7.1.1 Toilet

Don't flush it all away

A third of all the water used in the house is flushed down the toilet. Some larger toilet cisterns can continue to work effectively with a smaller flush. If you are replacing your toilet, opt for a modern dual flush, alternatively, place a displacement device such as a hippo bag, brick or a bottle filled with water into the cistern.

Place a small bin in your bathroom and do not use your toilet to dispose of waste such as cotton wool, tissues etc. Extra flushes waste water.

7.1.2 Sink

Don't leave the tap running while brushing your teeth or washing your face.

Turning the tap off when brushing your teeth can save over 7,000 litres of water per year.

7.1.3 In the shower

Reduce the time you spend in the shower. A regular shower will use about 35 litres of water in 5 mins. But beware a power shower will use over 125 litres in the same time.

If you can bear it turn off the shower when shampooing your hair or lathering up.

Consider investing in a low flow showerhead.

Reduce the amount of shower gel or soap you use buy using a shower sponge or face cloth.

If the water is too hot, use less hot water not more cold water.

Consider taking a shower instead of a bath.

If you do take a bath, put the plug in as soon as you turn on the water, rather than waiting for it to warm up.

7.2 Furnishings

7.2.1 Draughts:

Make a draught excluder from old tights or clothes and some fabric scraps and put it against front and back doors etc.

This could be a fun activity to involve the whole family.

7.2.2 Curtains:

Consider putting heavier lining on your curtains to keep your home warm in the winter.

Close your curtains at dusk, to keep the house warm.

If your radiators are under a window, place your curtains behind the radiator to prevent the heat escaping out the window.

7.2.3 Wardrobe

If you are updating your wardrobe make sure you clean it out first. You may find some forgotten gems. Other items that you no longer wear can be traded with friends, sold to a second-hand store or donated to charity. Items beyond repair can also be recycled.

If you are buying clothing, don't forget to check out second-hand shops.

8 In the garden

This section focuses on ways to reduce the impact your garden has on climate change. The following section will look at the areas of water conservation, correct selection of plants and composting.

8.1 Watering

- Set your mower blades to high and always keep them sharp - Dull blades will tear the grass, damaging the plant, making it require more water than healthy plants.
- In a drought, don't waste water on a lawn - If your lawn is beginning to turn brown during drought, you do not need to water it, it will revive after normal rainfall resumes.

If you must water your garden the following tips will help you cut down:

- Water your plants in the evening. Watering at this time reduces water evaporation during the day, which ensures that the maximum amount of water goes to the plant, not the air.
- Fit your garden hose with a trigger spray system or use a watering can to reduce your water usage. Using a spray system uses much less water than using an ordinary hose. It also saves you time, which equals more time spent enjoying your garden!
- Watch the weather. If you pay attention to your weather forecasts, you'll know if a rainstorm is coming. By depending on nature to water your garden, you'll save yourself time and water.
- Collect water for your garden in a Water Butt, these vary in price and size. You can make your own, or purchase one from your local DIY store.

8.2 Plants

- Research your plants. It is important to ensure that the plants in your garden are either native to Ireland or support Irish wildlife. The use of alien species can have many detrimental effects on other species, as has been seen with Rhododendrons. To ensure that you do not grow invasive alien species in your garden, before choosing plants for your garden or pond, make sure that they are not invasive, non-native species. Ask for advice in your garden and request

plants from local origin and from certified sources. See the Invasive Species Ireland Horticulture Guidelines. Find out more on Invasive Species in our special feature http://www.noticenature.ie/Invasive_Species_Homepage.html

- Rather than purchasing new seeds, get clippings from your friends! You'll reduce your carbon footprint by limiting the need for packaging, transport, and processing of the seeds and you'll diversify your garden with new plants. As a social activity, you could set up a "Clipping Club" where you meet with friends to trade clippings and discuss what is best suited to your gardens.
- Don't forget that your garden can also be a source of food.
- Plant a native tree - Trees create important habitats for many insects, birds and plants and are important for air purification. Make sure that the trees, bushes and flowers that you plant are native species.
- Plant more trees. Each tree varies, but up to one tonne of carbon can be absorbed by an average tree by the time it reaches maturity. These trees will help reduce your carbon footprint, provide you with shade throughout the summer, and increase the value of your home. A great investment!
- Create a wildlife area in your garden - let part of your garden grow freely and see what plants and animals appear. You could consider planting some of the following native species in your wildlife area: grasses such as sweet vernal, meadow foxtail, red fescue and common bent, along with wildflowers such as cowslip, lady's smock, cat's ear, ox-eye daisy, and meadow buttercup. This wild area should be cut once a year in early July and the cuttings removed. A wildlife area such as this will attract butterflies and it will also provide cover for frogs, mammals and insects.

8.3 Composting

- Don't collect your grass after cutting. This mulch will put extra nutrients back into the lawn. This also has an added advantage of reducing water evaporation from the lawn, thereby reducing the need to water it regularly.
- Compost your waste. In many counties there is now a brown bin collection for organic material. If you don't have this

facility you can easily set up your own composting bin in the garden, which will create fantastic fertiliser.

- Create a wormery. This system uses worms in a sealed, hygienic, and non-smelling unit to compost your waste, which can then be used to fertilise your garden. This small unit can sit on your balcony or even in your kitchen. But, please note, the worms do need a sheltered and reasonably warm place to live.
- Reduce your fertiliser use. By limiting your fertiliser usage and using natural compost instead, you'll be benefiting the environment, as well as making your garden a safer place for your family.

8.4 Other

- Avoid using patio heaters, as these produce enormous amounts of CO₂. Put a jumper on instead!
- Use solar powered lights to brighten your garden at night. There are a huge variety of solar powered garden lights available in nearly all garden and DIY stores around the country. These are reasonably cheap to buy and can add a very pretty glow to your garden without all the messy wires.
- Don't use electrical equipment like leaf-blowers - they consume so much energy for so little gain. Use a rake instead - it's better for your health too!
- Avoid using pesticides and fertilisers - Don't feel bad about not weeding or feeding your lawn, it's better for biodiversity!
- Do not use slug pellets - these will not only kill slugs, they will also kill the birds who feed on slugs and subsequently absorb the toxic pellets.
- Attract birds to your garden - Get a bird box, bird table or hanging feeder for your garden / balcony. Birds eat aphids and other gardeners' pests and play an important part in the web of biodiversity in the garden.

8.5 General information on plant selection

8.5.1 Think native!

If you plant a native Irish tree such as oak, rowan or birch, it will support more native plants, birds, animals and insects than an exotic tree would. For example, a native oak tree growing

in Ireland can support about 290 different species of plants, animals, birds and insects for food and shelter. Our native trees are also an important part of Ireland's rich natural heritage.

Trees provide countless benefits to the earth and to humans; they produce oxygen, absorb carbon dioxide, protect soil, prevent flooding, store and recycle nutrients and provide a vital raw material. This makes them vital in the fight against climate change.

Depending on your size of garden, here are some suggested native Irish trees and shrubs that are widely available:

8.5.2 Flowers for all gardens

Bluebell (*Hyacinoides non-scripta*), Cowslips (*Primula veris*), Primrose (*Primula vulgaris*), Oxeye daisy (*Leucanthemum vulgare*), St. Johns wort (*Hypericum*), Cornflower (*Centaurea cyanus*).

8.5.3 Shrubs for all gardens

Holly (*Ilex aquifolium*), Guelder Rose (*Viburnum opulus*), Honeysuckle (*Lonicera periclymenum*), Dog Rose (*Rosa canina*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*).

8.5.4 Trees

Small Gardens – suitable trees

Silver Birch (*Betula pendula*), Rowan / Mountain Ash (*Sorbus aucuparia*), Wild cherry (*Prunus avium*), Crab Apple (*Malus sylvestris*), Strawberry Tree (*Arbutus unedo*).

Medium gardens – suitable trees

Willow (*Salix*), Blackthorn (*Prunus spinosa*), Wild cherry (*Prunus avium*), Silver Birch (*Betula pendula*), Rowan / Mountain Ash (*Sorbus aucuparia*), Hazel (*Corylus avellana*), Yew (*Taxus baccata*).

Large gardens – suitable trees

Oak (*Quercus robur*), Crab Apple (*Malus sylvestris*), Rowan / Mountain Ash (*Sorbus aucuparia*), Wild Cherry (*Prunus avium*), Silver Birch (*Betula pendula*), Ash (*Fraxinus*), Aspen (*Populus tremula*), Scots Pine (*Pinus sylvestris*).