Codema
Dublin's Energy Agency

Guide to Home Energy Savings

Simple tips to get you saving today

Acknowledgement

We would like to thank the INTERREG IVB North West Europe Programme for their support. INTERREG IVB NWE is a Programme of the European Union, which promotes the economic, environmental, social and territorial future of the North-West Europe area. It funds activities based on the cooperation of partners from eight countries: Belgium, France, Germany, Ireland, Luxembourg, The Netherlands, Switzerland and the United Kingdom.

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Contents

Background

The Guide to Home Energy Savings has been developed by Codema, Dublin's energy agency, in cooperation with Dublin City Council and Dublin City libraries. Codema aims to improve energy efficiencies in buildings and promotes the use of sustainable and renewable energy in Dublin City as part of its involvement in the European initiative ACE (Academy of Champions for Energy), which is co-funded under the INTERREG IVB North West Europe Programme. ACE aims at increasing the uptake of sustainable and renewable energy across North West Europe through citizen engagement and community energy. To find out more about the initiative, please visit www.aceforenergy.eu.

Introduction

The aim of this guide is to help you make your home more comfortable while saving money on your energy bills. A range of energy saving guides in the past have been developed to suit home owners and are only accessible to the techy-minded people among us. However, you don't have to be an engineer to understand the energy use of your home!

Whether you are renting accommodation or own a house, it is important that you are comfortable in the place you call HOME! And of course your utility bills shouldn't break the bank either! So why not start with the top energy saving tips provided in this guide or choose from the list of no, low, medium or high cost measures to find out how you can make your home more energy efficient. You can save up to 20% of your energy consumption!

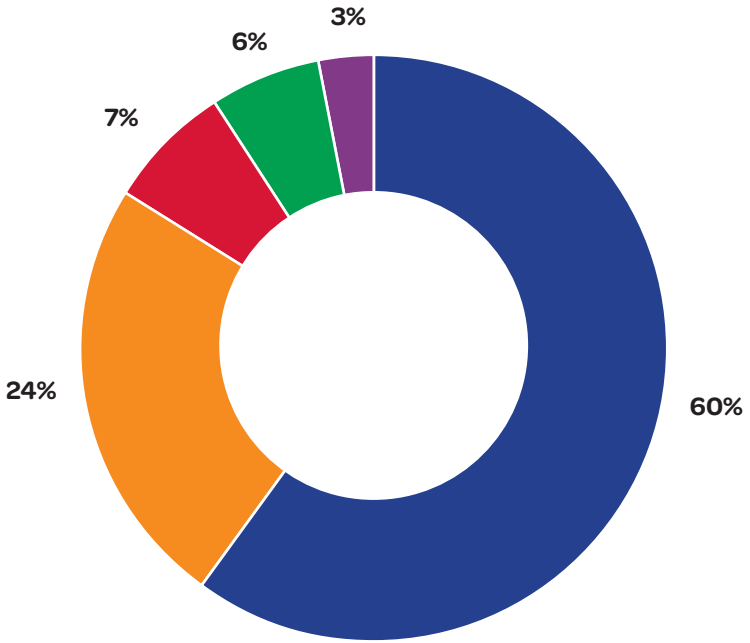
If you like to get a better understanding of where you currently waste most energy in your home, why not take your own home energy audit by renting one of the Home Energy Saving Kits from your local library!

And remember – every change, no matter how small, will make a difference!

How do we use energy at home?

The Guide to Home Energy Savings provides useful energy saving tips for key areas in your home. The pie chart below provides an overview of the average energy use in an Irish home.

When starting to implement energy efficiency measures, focus on the largest energy users to make the most savings!



- **Space Heating**
- **Domestic hot water**
- **Electrical Appliances** (TV, laptop, kitchen appliances, etc)
- **Lighting**
- **Cooking**

Understanding the cost reference in this guide

The guide is filled with handy tips on how to save energy at home. The scale below gives a simple indication of how much the energy-saving measure costs to implement.

The Top Tips in each section of the guide are energy-saving measures that don't cost you anything and also contribute to the most energy-savings.

Free **Free**

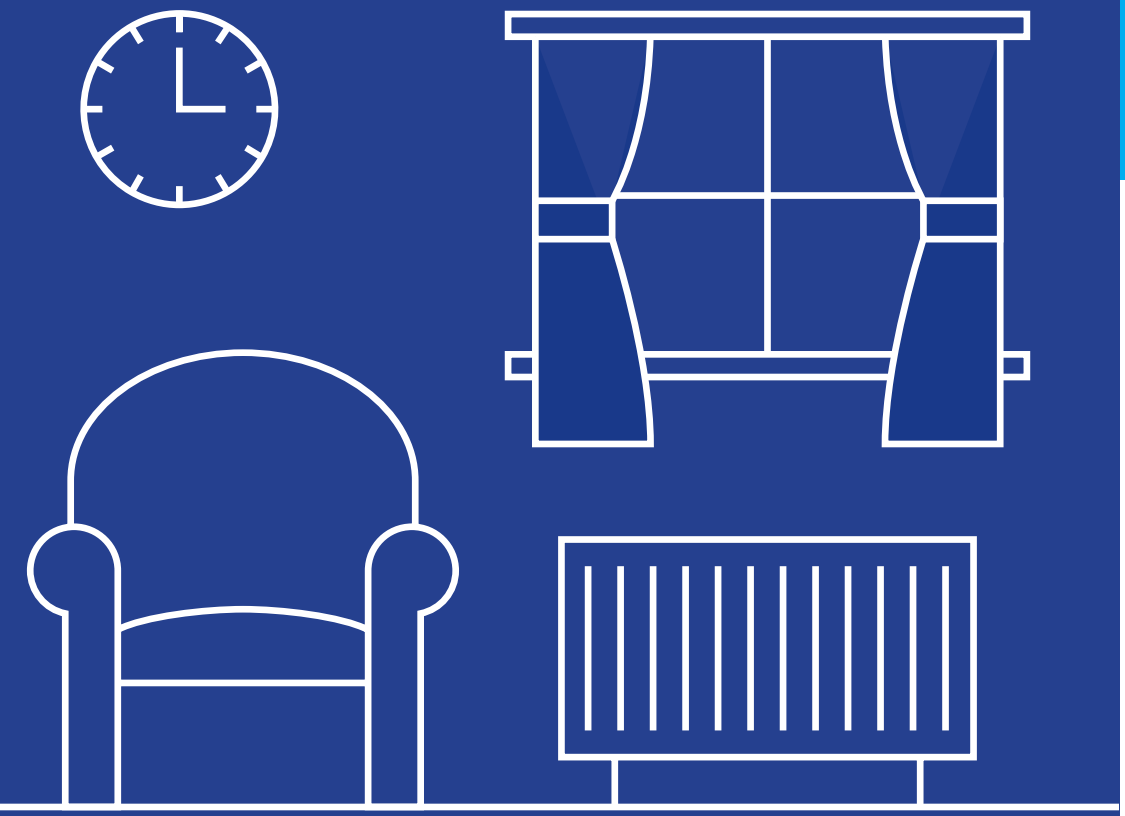
€ **Low Cost**

€€ **Medium Cost**

€€€ **High Cost**

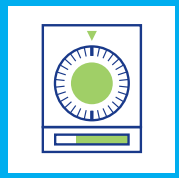
Section 1

Space Heating



Top Tips

1 Free

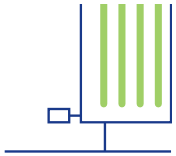


Use a heating timer to set the heating times for different days in the week. Ensure that the heating is turned off when leaving the house and remember that radiators will continue to heat your home for some time after turning off the central heating.

2 Free

Turn down your room thermostats. Aim for 18-20°C in your living room and 15-18°C in your bedroom.

3 Free

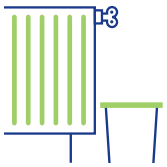


Turn your radiators down or off in rooms that you don't use.

4 Free

Close doors to unused rooms so you only heat the smallest possible area.

5 Free



Bleed your radiator if your home runs on a wet central heating system, as trapped air can cause the radiators to run inefficiently.

6

Free

Put on an extra jumper or cardigan or use a blanket on the couch. You can get cold quickly from not moving around even though the temperature in your home is ideal.

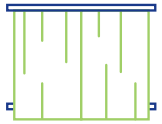
7

Free

Make use of the sun during the winter by opening up curtains, blinds and external shades.

8

Free



Avoid the sun during the summer to prevent heat from entering your home by closing curtains, and shade windows.

9

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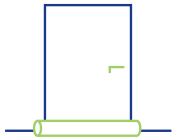

You can **buy draught excluders** for your doors and windows or simply make them yourself.

10

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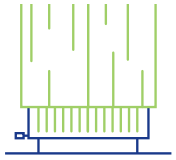

Prevent curtains from hanging over radiators as this channels heat towards the window.

11

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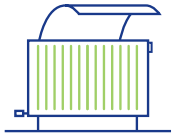

Use a radiator foil behind your heater to ensure the heat is not escaping through the wall (especially when they are external walls). The foil will reflect heat back into the room. You can also use aluminium foil.

12

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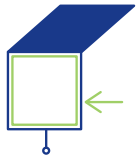

Fit **draught excluders around your attic door** or consider a loft tent or additional insulation.

13

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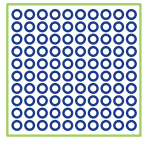

Try bubble wrap as window insulation. You can simple attach it with water and remove easily during the summer.

14

€

Decorate with carpets and rugs to help insulate cold floors.

15

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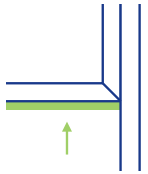
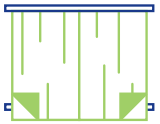


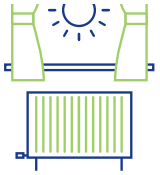
Use window seals or gap fillers to prevent draughts around doors and windows.

16 €€



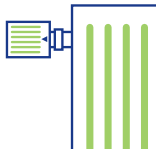
Buy thermal insulated curtains for your windows and/or front door to avoid draught and heat loss. Use these specifically at night.

17 €€



Place window sills or longer window ledges over radiators which are located directly under the window to deflect heat back into the room.

18 €€

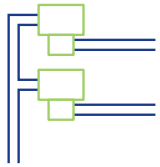


Install Thermostatic Radiator Valves (TRVs) in order to adjust the heating in each room.

19 €€

Get your boiler serviced once a year to ensure it is running on optimal efficiency.

20 €€



Fit central heating zone valves to take control of your heating and enable you to set different temperatures in different areas of the house. This is also called zoning.

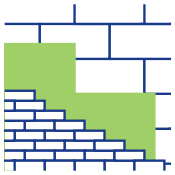
21 €€€

Replace your windows with more energy efficient options (double/triple glazing). You may also consider refilling or resealing your existing windows.

22 €€€

Install attic insulation as you may be losing you 25% of heat through your roof. Ensure that the joists are covered as well.

23 €€€



Install wall insulation to reduce your heating needs. Consider internal wall insulation (dry-lining) or external or cavity wall insulation.

!

Why not borrow the Home Energy Saving Kit from your local library. The following energy saving tools contained in the kit may help you tackle the temperature in your home!

Low humidity tips

24 Free

Put a bowl of water on top of your radiator
or use a wet towel on your radiator.

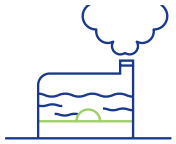
25 €

Buy plants to purify the air in your home. Peace lilies are particularly good for air quality.

26 €

Use a ceramic humidifier
on your radiators.

27 €€



Buy an energy-efficient humidifier
if the air in your home is very dry. Remember that the operating cost could be high, so choose an energy efficient humidifier ('A' rated).

High humidity tips

28 Free

Hang up the washing outside or ensure that room is sufficiently aired.

29 Free

Ensure your heating is set sufficiently.

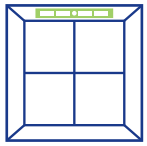
30 Free

Ensure sufficient ventilation to prevent mould growth. Especially bathrooms can have higher humidity levels as residual moisture remains on surfaces.

31 €

Buy a moisture absorber for your room or closet. Ensure you can refill it easily.

32 €€



Fit window vents to ensure you have adequate ventilation.

33

€€

Use a de-humidifier if you are experiencing damp, mould build up or condensation on your windows. Ensure to choose an energy efficient humidifier ('A' rated), as they can cost a lot of money to run.

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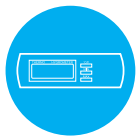
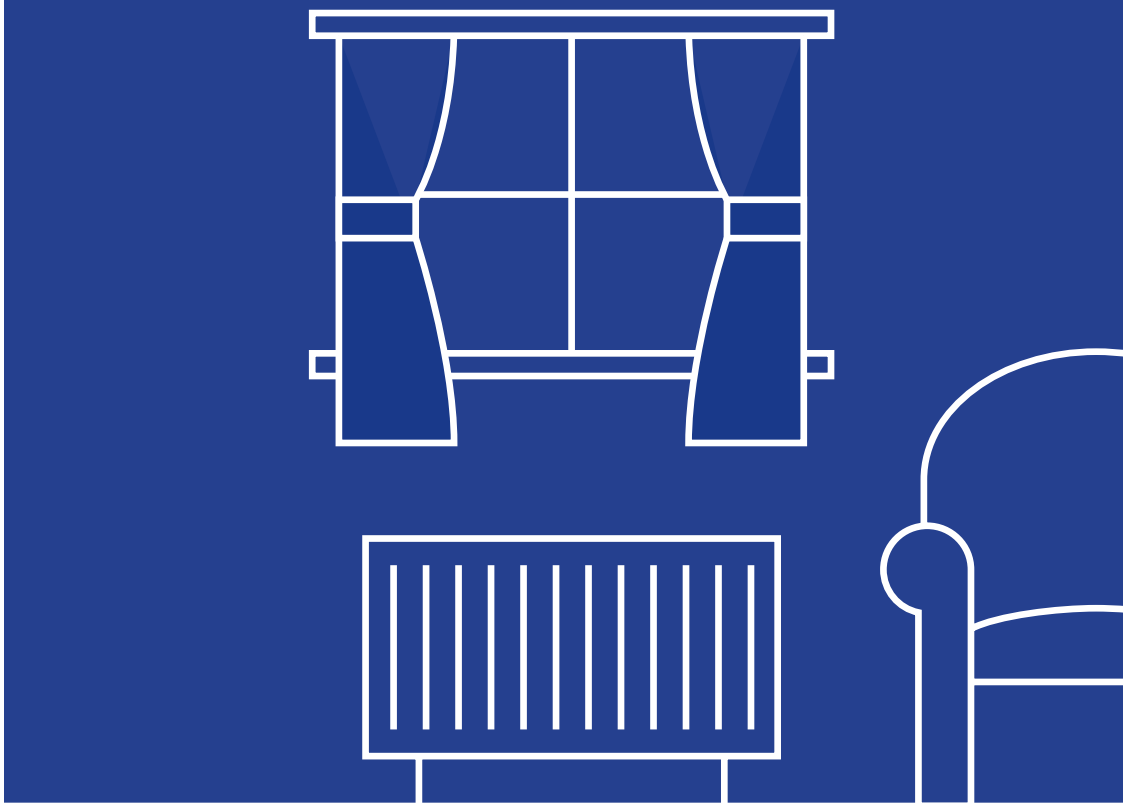
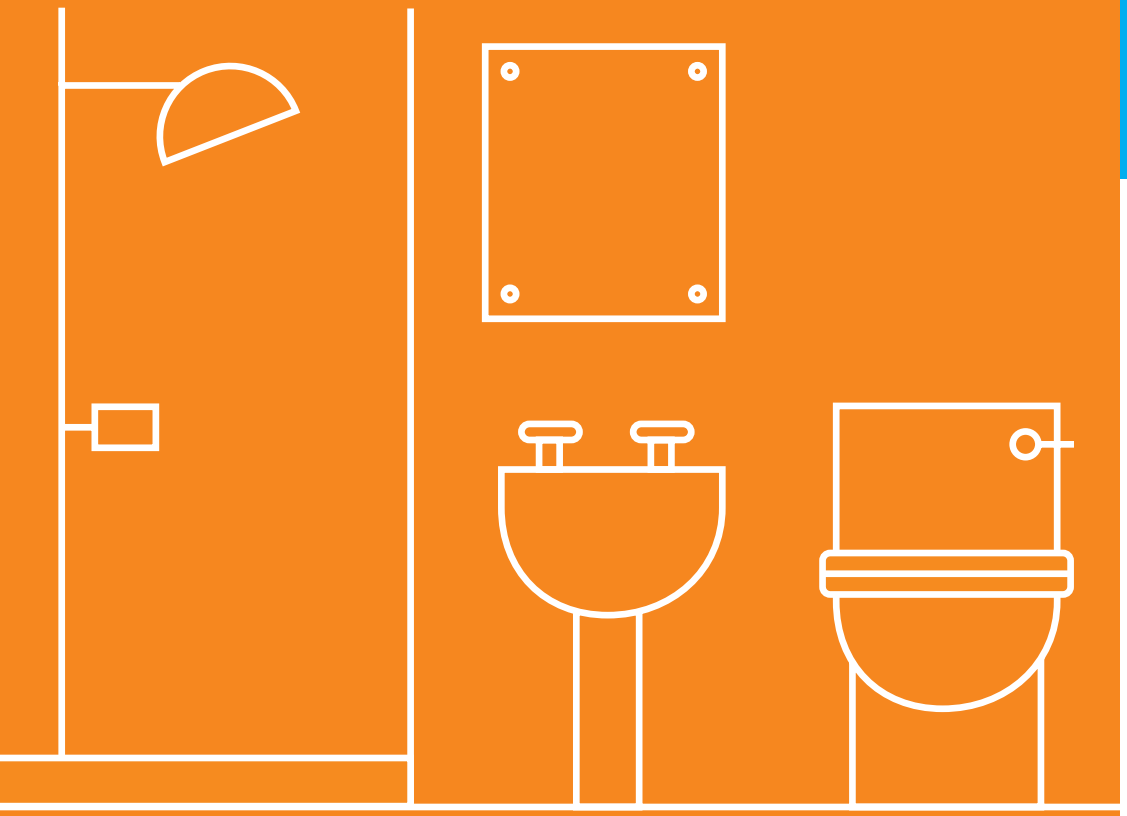
Why not borrow the Home Energy Saving Kit from your local library. The following energy saving tool contained in the kit may help you tackle the humidity in your home!





Section 2

Domestic Hot Water



Top Tips

34

Free

Adjust the temperature of your water heating. Your water temperature should be set to 60-65°C, so that energy is not wasted by overheating water.

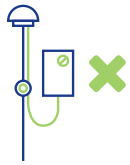
35

Free

Prioritise shower over bath. A regular shower uses only 20% of the energy of a full bath.

36

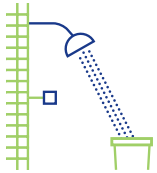
Free



Avoid power showers as they use 125 litres of water in less than 5min. A regular shower only uses 35 litres.

37

Free



Reduce your shower flow rate to 9 litres per minute or less. Simply measure the flow rate with a stop watch.

38

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Fix hot dripping pipes immediately. They don't just waste water but energy too.

39

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Use a shower timer to reduce the amount of water you have to heat for your daily shower. Try and aim for 5min!

40

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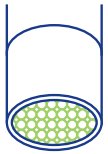

Install aerated tabs as they reduce the water flow from your taps without reducing the water pressure.

41

€

Install an aerated shower head which will save you water and energy without compromising the water pressure.

42

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Insulate pipes with foam tubing (lagging) to prevent heat loss, especially in unheated areas such as the attic.

43

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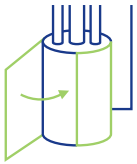

Fit a lagging jacket around your hot water cylinder. It will keep water hotter for longer.

44

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Replace your water cylinder with a modern, energy-efficient model which has an integrated insulation blanket.

45

€€€

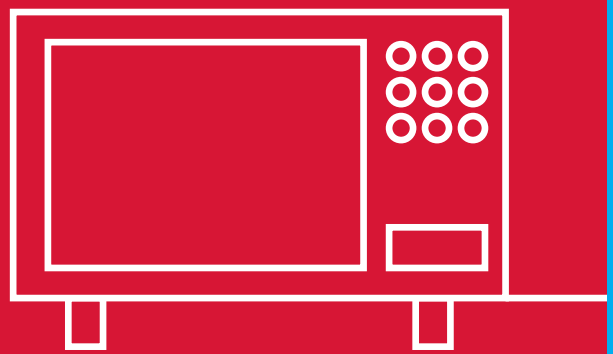
Consider a solar hot water system for your roof to meet 50-60% of your hot water requirement per year.

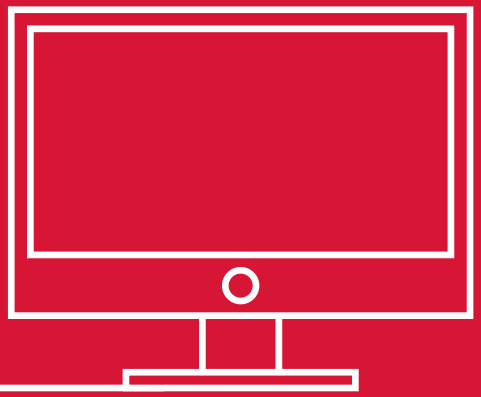
!

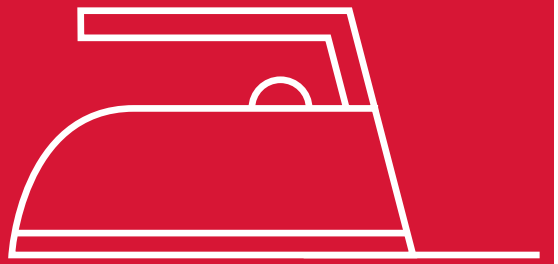
Why not borrow the Home Energy Saving Kit from your local library. The following energy saving tools contained in the kit may help you tackle the hot water in your home!

Section 3

Electrical appliances





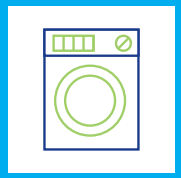


Top Tips

46 Free

Run your dishwasher on low temperature and ensure it is always full before turning it on. You may need to rinse the dishes beforehand. If your electricity is cheaper at night, try to run the appliance over night to save on cost. If you can, turn off the dishwasher before the drying cycle and let the dishes air dry instead.

47 Free



Run your washing machine on a cooler cycle and only with full loads to ensure fewer washes overall to reduce water and energy use.

48 Free

Adjust your fridge/freezer temperature. Your fridge should be between 3-5 degrees and your freezer between -15 to -18 degrees.

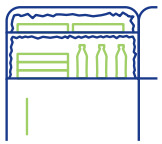
49 Free

Put washing out to dry and avoid the use of a dryer as they can be very expensive to run.

50 Free

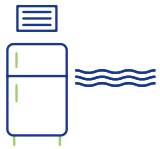
Keep your freezer full as it will consume less energy. You could fill it with water bottles or newspaper to achieve this.

51 Free



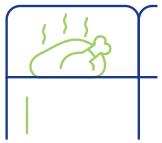
Defrost your fridge and freezer at least every 6 months to ensure it runs efficiently. There should be less than 5mm of frost build up.

52 Free



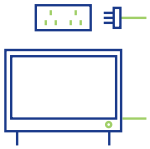
Move your fridge/freezer to a cooler location if possible to stop direct sunlight or heat from your cooker. This will ensure higher efficiencies. The area should be well ventilated. Alternatively you could shade windows to stop direct sunlight.

53 Free



Cool hot food before placing into your fridge or freezer as they have to work extra hard to chill it.

54 Free

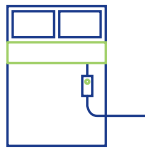


Turn off all appliances at night or when not in use, as they can use a lot of energy on standby mode (e.g. TV, computer).

55 Free

Use the energy saving mode on your computer and ensure it is turned off fully overnight and when not in use.

56 Free

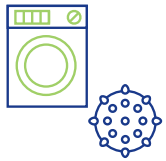


Turn on your **electric blanket for half hour** before you go to bed and switch it off immediately when you get into bed. Don't leave it on all night!

57 €

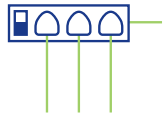
Boil as much water as you need in the kettle when making coffee or tea. You may also consider an eco-kettle which will help you only boil as much water as you require.

58 €



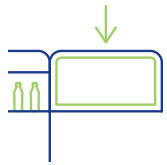
Use dryer balls if you need to run your dryer to speed up drying time.

59 €



Buy appliance power strips so that you can turn all appliances off at the same time. Some of these also come with a remote control, which can be useful for your TV or Christmas lights.

60 €



Replace door seals on fridge or freezer if they are worn, split or broken, as this can let warm air inside the fridge or freezer and cost extra energy to run the appliance.

61

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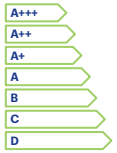

Upgrade appliances to A+++ rated. The low cost appliances may not necessarily work out cheaper over their lifetime.

62

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Consider solar PV panels for your home to generate free and clean electricity from the sun.

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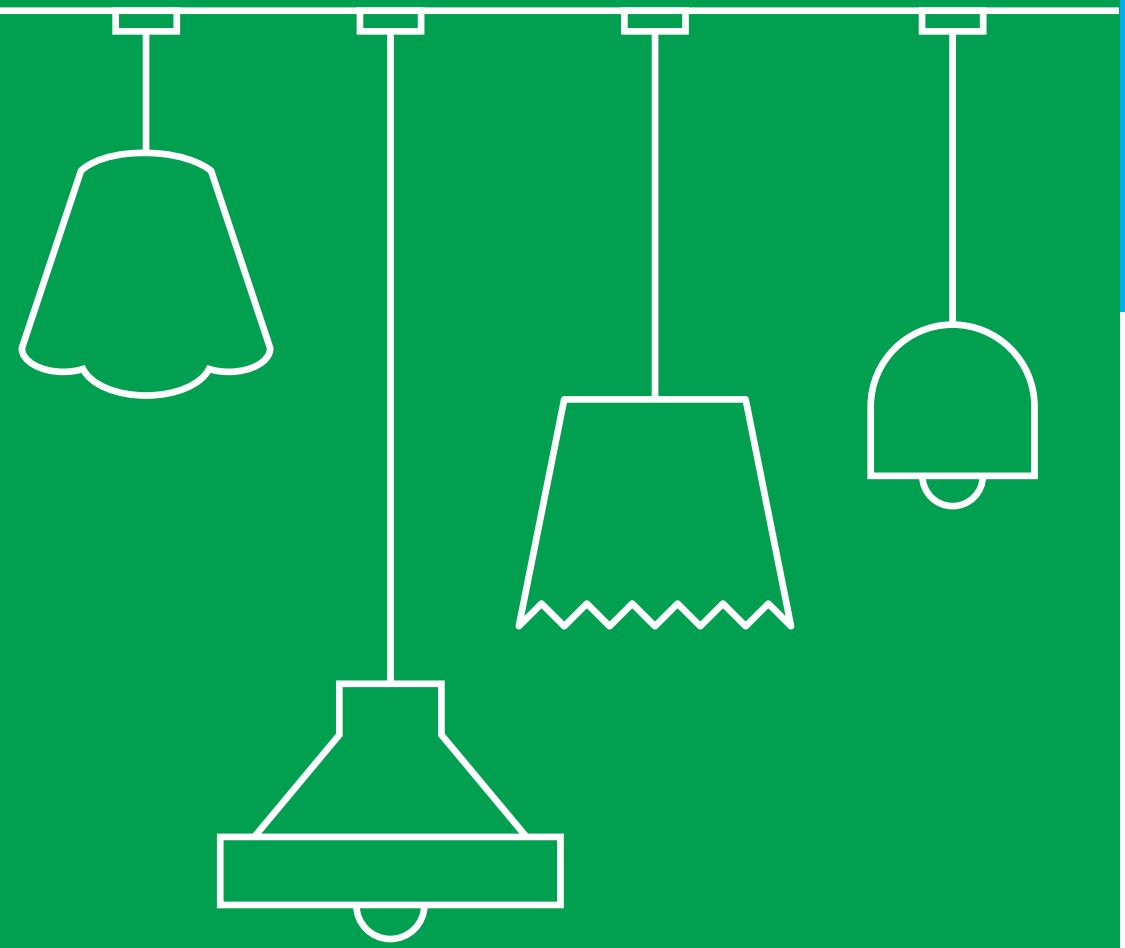
Why not borrow the Home Energy Saving Kit from your local library. The following energy saving tools contained in the kit may help you tackle the energy used by electrical appliances in your home!

Section 4

Lighting

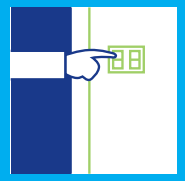


Top Tips

63 Free

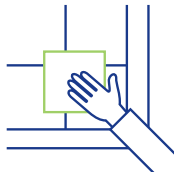
Maximise use of daylight. Hold off switching on lights in the evening until necessary.

64 Free



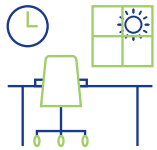
Turn off the lights after leaving a room and where you don't need them.

65 Free



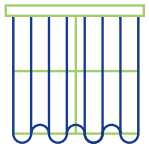
Clean your windows to take advantage of maximum sunlight from the sun.

66 Free



Furnish your room to allow maximum daylight for specific activities. E.g. desk near window for reading.

67 Free



Avoid net curtains or blinds which reduce daylight penetration of the room.

68 Free

Clean your lights, bulbs and shades to increase brightness.

69 Free

Make use of task lighting. Only use the lights that are required for the task and avoid lighting the whole room.

70 Free

Use dimmer switches and multiple light switches effectively to avoid lighting the whole room.

71 €€

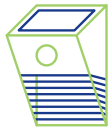
Use CFL or LED lights to replace old inefficient lights. Start with the living room or kitchen where you use most energy throughout the day.

72 €€

Paint walls in bright colours as they reflect 80% of light while dark colours reflect less than 10%.

Section 4 – Lighting

73 €€

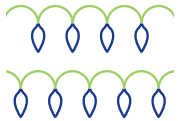


Consider motion sensors specifically for outdoor lighting or hallways to reduce energy. You can also buy solar powered sensor lights, which use zero electricity and don't require cables.

74 €€

Install mirrors around skylights as they can reflect sunlight into the room.

75 €€

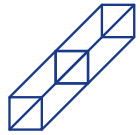


Buy **LED or solar fairy lights** to decorate your garden or home at Christmas.

76 €€€

Install a skylight to take advantage of natural daylight. Ensure to keep them clean.

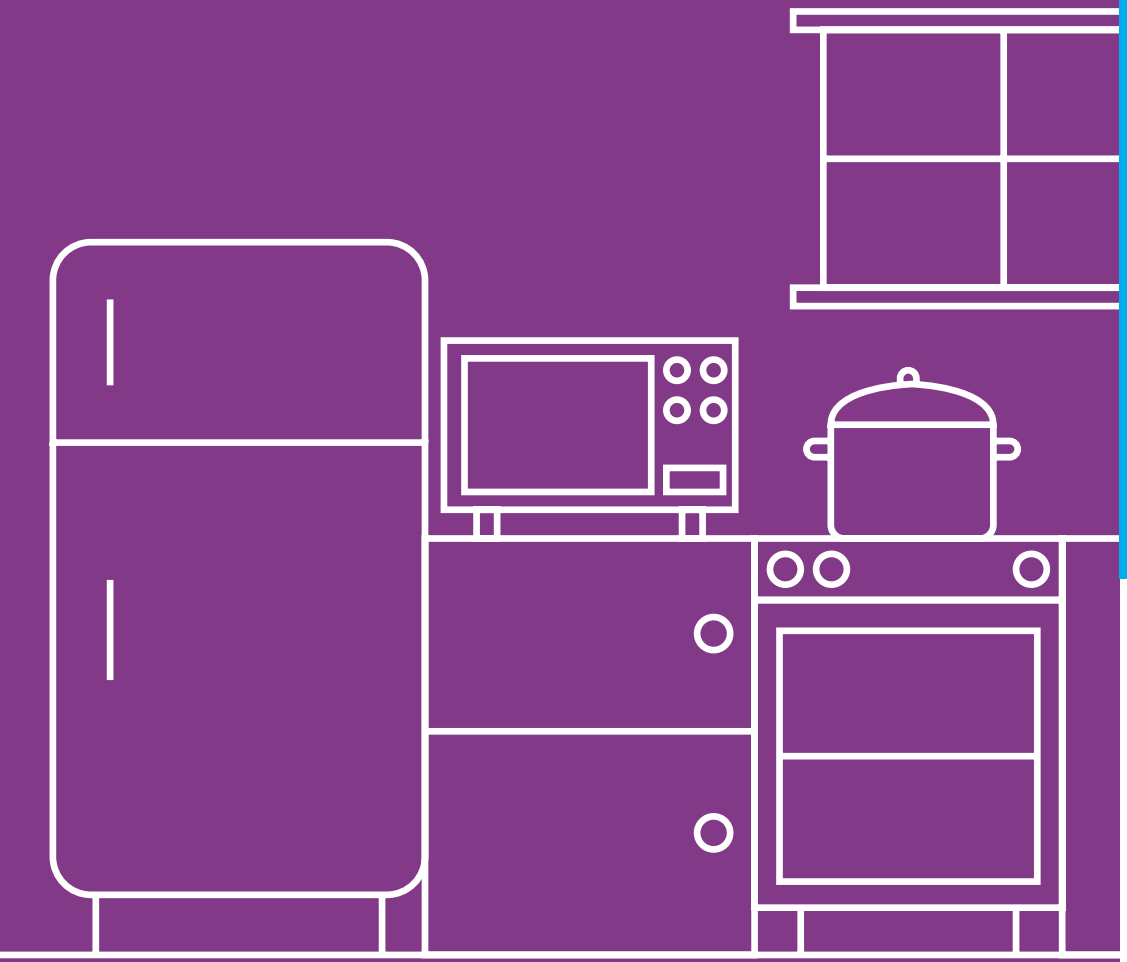
77 €€€



Consider glass bricks for any external walls you build to increase solar gain into the room.

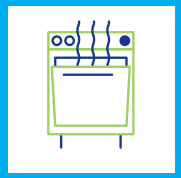
Section 5

Cooking



Top Tips

78 Free

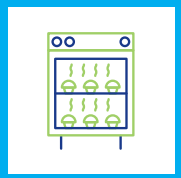


Don't open your oven door too often during cooking times, as you can lose 20% of the accumulated heat.

79 Free

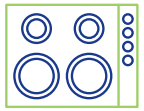
Cook meals together. Aim at cooking everything at once (e.g. apple pie and lasagne). Remember that you can cook at a higher temperature at the top of the oven, and at the same time at a lower temperature at the bottom.

80 Free



Make use of residual heat from your oven by turning off the oven for the last 10min of cooking time. Or simply leave the oven door open to heat your room.

81 Free



Use pots and pans that cover the whole of the **size of the cooker ring.** At a certain time of cooking, turn off the rings and use their residual heat to finish cooking.

82 Free

Use lids on pots and pans while cooking. This will speed up cooking time and save energy.

83 Free

Boil the water in your kettle before using it for cooking. This will speed up cooking time.

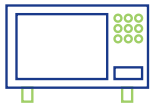
84 Free

Use the toaster instead of the grill for toasting bread.

85 Free

Be careful in your approach to using general kitchen appliances, e.g. food processor or sandwich maker. Make sure to only use at the correct temperature and for the required amount of time.

86 Free



Use a microwave for smaller meal amounts instead of using your oven or stove.

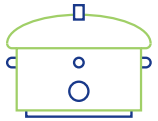
87 Free

Keep your oven clean to reduce cooking time.

88 Free

Replace door seals of your oven if they are worn, split or broken, as this can decrease the efficiency of your oven.

89 Free



Consider using a slow cooker or pressure cooker as they save both energy and time while producing great food.

!

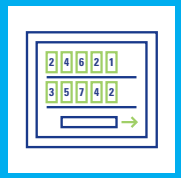
Why not borrow the Home Energy Saving Kit from your local library. The following energy saving tool contained in the kit may help you tackle the energy used by electrical appliances in your home!

Section 6

Energy Consumption

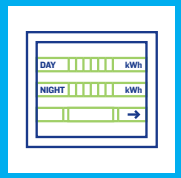
Top Tips

90 Free



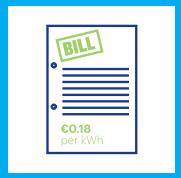
Read your electricity and gas meter and submit the readings to your utility on a weekly basis.

91 Free



Find out what tariff you are on. If you use most of your appliances at night, you may consider switching to dual tariff. Find out from your utility what is most suited to your needs and what time the night tariff starts and ends.

92 Free



Read your energy bill. Check the unit price of electricity and your current standing charge.

93 Free

Compare tariffs of other utilities. You can save a lot of money by just switching providers. Simply check a price comparison website for more information.

94 Free

Set yourself a target for energy reductions to help you focus on implementing energy-saving measures.

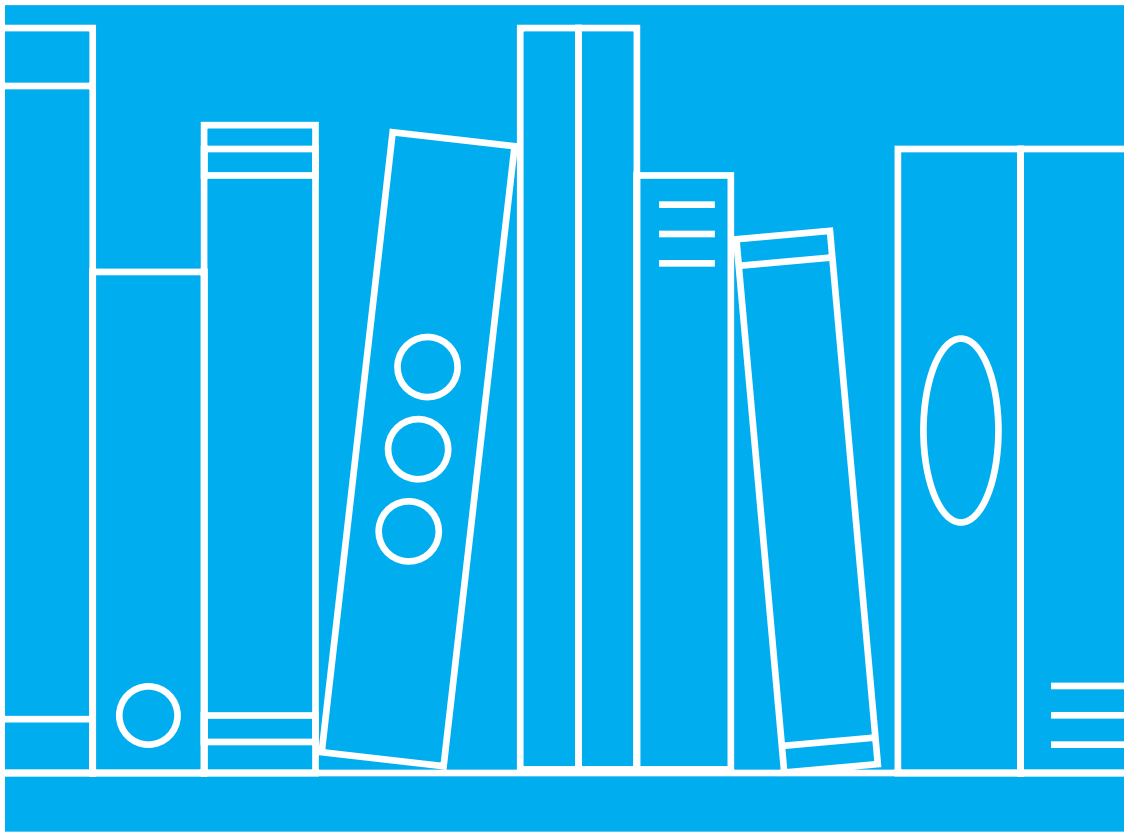
95

€€

Get the BER for your home. See how you compare with the national average and find out what steps are needed to improve.

Section 7

Energy Glossary



Energy Glossary

A	**Amp**	The ampere often shortened to 'amp' is the unit of electric current and is therefore used to express the flow rate of electric charge. Example: A 100 watt light bulb connected to a 120 volt line draws almost 1 amp in current.
GPRN	**Gas Point Reference Number**	The GPRN is a unique reference number assigned to every gas point on the natural gas network. GPRNs have up to 7 digits (Example: 2354868).
K	**Kelvin**	Colour temperature is a characteristic of visible light and is stated in units of absolute temperature, known as Kelvin (K). Example: A 2,700K light bulb produces a warm light whereas a 5,000K bulb will produce a colour temperature closer to daylight.
kWh	**Kilowatt hour**	The kilowatt-hour (kWh) is a unit of energy equivalent to one kilowatt of power expended for one hour. Example: A 1000 Watt microwave will use 1 kilowatt per hour of use, which is displayed as 1 kWh.
L	**Lumen**	The lumen is a unit of luminous flux, a measure of the total "amount" of visible light emitted by a source.
MPRN	**Meter Point Reference Number**	The MPRN is a unique 11-digit number (i.e. 10009998888) assigned to every single electricity connection and meter in the country. Each individual meter has its own MPRN.
V	**Volt**	The voltage is the change in electric potential between two positions. Voltage is always measured between two points, for example between the positive and negative ends of a battery, or between a wire and ground. Appliances built for use in North America are designed to operate on 110-120V. Most of the world, however, operates on 220-240V. It is therefore important to bring a suitable adapter when travelling as failure to do so can severely damage or destroy your appliance.
W	**Watt**	The Watt of an appliance is the rate at which it uses electrical energy. This amount does not change but varies a lot across appliances. Only kWh will measure the energy consumed by the appliance over time.

Section 7

Now that you have reduced your energy consumption, why not choose from a range of renewable energy sources to go carbon-neutral!

Anaerobic Digestion
Anaerobic digestion produces a clean form of energy (known as biogas) from organic materials such as cattle manure.

Biomass
Low-carbon biomass fuels like woodchips or wood pellets contain stored energy that is released as heat when it is burned.

Hydro Power
Hydropower is fuelled by water which is a clean fuel source. It creates zero air pollution in comparison to power plants run on coal or natural gas.

Solar Hot Water
Solar thermal energy systems use the sun to generate low-cost and low-carbon energy which is used to heat water.

Solar PV
Solar photovoltaics (PV) convert sunlight into a clean and efficient form of electricity for your home.

Tidal energy
Tidal energy is produced by the surge of ocean waters during the fall and rise of tides and can be a reliable and predictable source of energy.

Wind energy
Wind energy is a clean and sustainable alternative to fossil fuels as it releases no pollution into the air or water.

Sources

Sources

www.aei.ie
www.bonkers.ie
www.bordgaisenergy.ie
www.bordgaisenergy.ie/energy-efficiency
www.electricireland.ie
www.epa.ie
www.flogas.ie/residential/home-energy
www.seai.ie/Power_of_One
www.uswitch.ie
www.pinergy.ie
www.energia.ie

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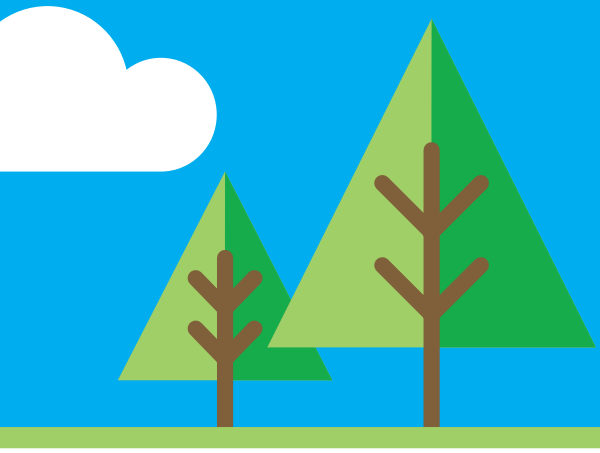

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