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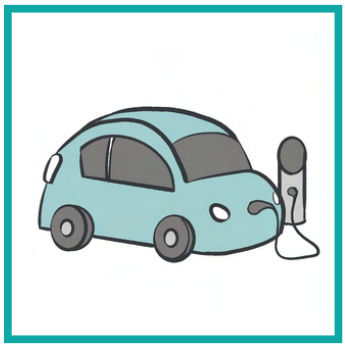
Energy Saving Handbook

How to save money and energy in your home



INTRODUCTION

The way we use energy can have a significant impact on our bills. There is an opportunity for all of us to save money by changing the way we use energy in our day-to-day lives; whether it's changing our behaviours, or investing in new technology to heat our homes, we can all make a difference.

Nowadays, it's difficult to know what activities can have the greatest impact. To guide you on this journey, our Energy Saving Handbook spells out a comprehensive set of accessible actions you can take to reduce the amount of energy you use to reduce your energy bills and to live a greener life. The Energy Saving Handbook has 5 chapters:

1 **Easy changes to make an impact (p.3-7)**
Everyday changes you can make to have a big impact on your energy bills and the environment.

2 **Small investments with BIG savings (p.8-12)**
You don't have to make huge investments to have an impact. This section outlines how replacing bulbs with LEDs, draft proofing your windows/doors, and installing radiator reflector panels can have a big impact on your energy bills.

3 **Spend more save more (p.13-31)**
Transform the way you use energy at home by investing in long-term measures ranging from insulating your home to adopting green technologies for your electricity and heating.

4 **Wider actions to make an impact (p.32-35)**
Looking beyond the way we consume energy, there's more that we can do such as changing the way our pensions are invested and promoting future electric vehicle charge points.

5 **Get involved: Local initiatives (p.36-39)**
Feeling inspired after reading the handbook? There are ways for you to get involved locally and help others to make a difference too.

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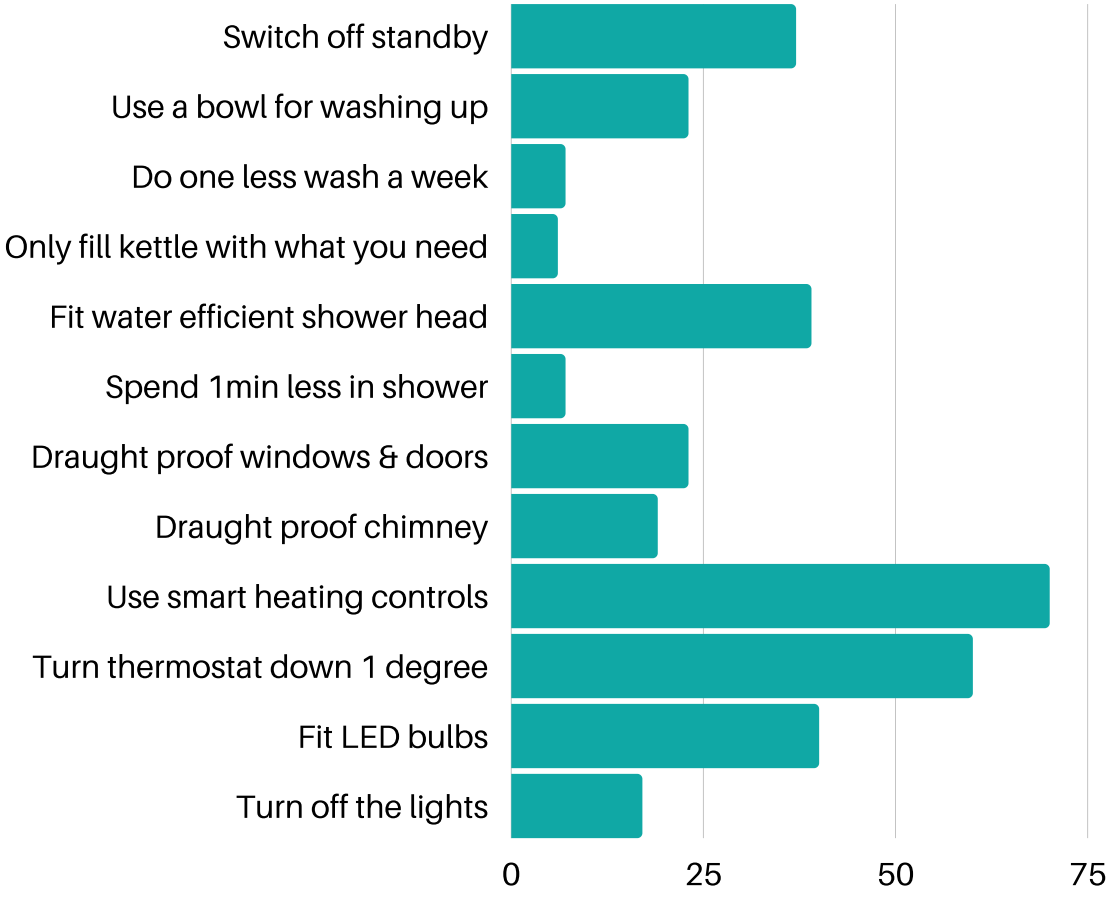
1. EASY CHANGES TO MAKE AN IMPACT

Energy savings in your home aren't all about big investments. The way you heat your home, wash clothes and dishes, and manage electrical devices influences your energy usage and bills. Making small tweaks to your day-to-day behaviour can really add up to reduce your energy bills and carbon emissions. Over the next few pages, we've outlined some of our top tips that you can implement today, and how you can use a smart meter to track the impact!

If you want to find out more, The Energy Saving Trust has pulled together a set of "Quick Tips to Save Energy" that provides further details on activities that you can do. Here's how much you could save by implementing simple measures:



Source: The Energy Saving Trust

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SAVE ON YOUR HEATING BILL

What is it, how do you do it and what are the benefits?

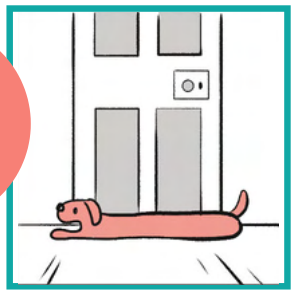
Across Europe, heating accounts for the majority of energy usage within the home, contributing up to 64% of all household energy consumption, representing a significant contributor to both energy bills and household emissions.[1] This presents a great opportunity to save money and reduce your impact on the environment by being savvy in how you heat your home. By turning your heating down by only 1 degree, you can save up to £60 per year on your energy bills! [2]

1 **Thermostatic Valves:** Heating controls that allow you to set and maintain the temperature on a room-by-room basis help to reduce waste and focus on the rooms that are occupied. A set-up like this including smart thermostats and heating controls could save you up to £75 a year.[2]

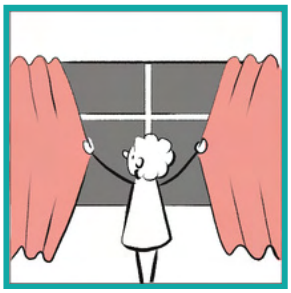
Save up to £75 a year!

2 **Draughtproof doors and windows:** Heat loss to draught could save a further £25 per year on your heating bill and keep you warmer.[2]

Save up to £25 a year!



3 **Close Curtains:** Closing curtains or blinds at night can have a surprising impact on energy loss, reducing energy bills by up to 2.5% a year.



Where can you find out more?

These actions, combined with more comprehensive housing changes (see pages 8-31 for examples) can help to significantly reduce the cost of heating the home. If you'd like to find out more, the Energy Saving Trust has written an extensive **guide** into managing heating within the home.

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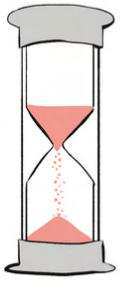
SAVE ON YOUR WATER BILL

Heating water for bathing and household chores can be a significant contributor to energy bills and usage. By reducing the amount of hot water you can reduce energy bills, without significantly impacting your lifestyle. In addition to saving energy, reducing water usage will further reduce your environmental impact! The water industry alone contributes up to 0.8% of the UK's greenhouse gas emissions. [3]

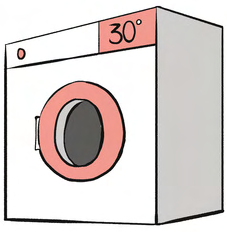
Switch to a more efficient shower head: you can save up to £38 per year just by using less water and wasting less energy. [2]

Bath less, shower more: A 5-minute shower uses about ⅓ the water of a bath, so switch away from baths to use a fraction of the energy! [4]

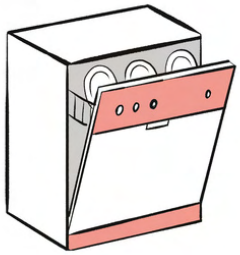
Reduce shower time: Cutting shower times by just 1 minute per day will save £7 per person per year. [2]



Use a washing-up bowl: You can save around £25 a year by washing up in a bowl rather than using a running tap. [2]

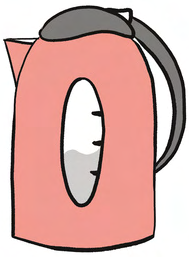


Wash clothing colder: Washing at 30˚C rather than at a higher temperature can help reduce your energy usage by up to 40%. [2]



Use the dishwasher less: Shaving 1 dishwasher cycle off per week will help to reduce your annual energy bill by £9. [5, 6]

Only boil what you need: By mindfully making your hot drinks, and only boiling the water you need, you can save up to £7 per year. [6]



Heat water efficiently: The most efficient way to heat liquid is an induction hob and kettle, with microwave being the least energy efficient. [7]

Where can you find out more?

The Energy Saving Trust has written a **comprehensive guide** on saving energy through reducing water use. They have also published a **blog** on "energy efficiency in the kitchen", and a **detailed guide** to getting the most out of your kitchen appliances.

SAVE ENERGY FROM ELECTRICALS

What is it and what are the benefits?

98% of households leave appliances such as TVs on standby.[8] The average household spends up to £45 + per year on devices and lights that are not in use (i.e. by leaving devices on standby, and by leaving the lights on in rooms that are not in use). As a result of this, there's a substantial opportunity to reduce your energy bills and environmental impact by tweaking your habits around the home.

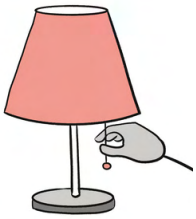
How do you do it?

Through a few behavioural changes and tweaks, electricity consumption can be substantially reduced. For example:

Turn appliances off at the plug and overnight: The Energy Saving Trust found that households could save an average of £35 a year by not leaving devices on standby, and it's safer too! An easy way to do this is to use plug sockets that can be turned on and off via your phone, to make sure you switch unused appliances off. Alternatively, you could use cheaper timer plugs to schedule turning appliances off.[9] [10]

Where possible, use energy efficient devices: Energy efficient devices can use significantly less energy and last longer than conventional devices. For example, an energy efficient fridge freezer could save around £200 in energy bills over its lifetime compared to a less efficient model.[8]

Turn off lights when not in use: By making sure that everyone turns off lights when leaving a room you could wipe up to £15 of your energy bill each year![2]



Where can you find out more?

The Energy Saving Trust has published a **comprehensive guide** to choosing energy efficient household appliances as well as a **guide** for saving energy while you are stuck at home.

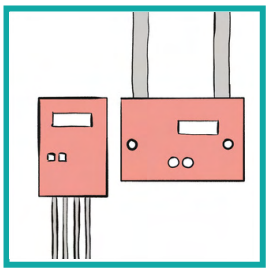
TRACK YOUR ENERGY USAGE

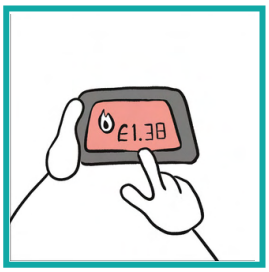
What is it and how do you do it?

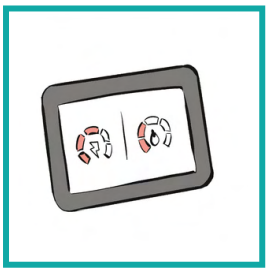
In the UK, one in four homes already have a smart meter and by June 2025 every home in England, Wales and Scotland will have been offered one. Smart meters measure the amount of electricity and gas that you use, securely showing you the energy that you use in real time. This can help you to see and understand the amount of energy you consume, and identify the key behaviours that may be driving up your energy bill.[11]

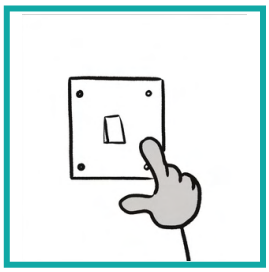
The Government estimates that an energy monitor could help reduce household electricity use by 2.8% and gas use by 2%.[12] This shows that, when combined with the behaviour changes outlined in this handbook, a smart meter could help you to identify the activities that will change (and hopefully reduce!) energy consumption within your home.

Contact your energy supplier to find out more about getting a smart meter installed at your home









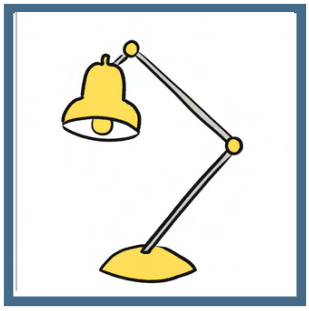
Where can you find out more?

Smart Energy GB has lots of information on smart meters, their benefits and how to get one. The Energy Saving Trust has written a **comprehensive guide** on all you need to know about smart meters.

2. SMALL INVESTMENTS WITH BIG SAVINGS

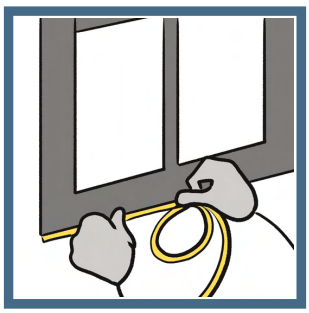
You don't need to make huge investments to make a difference. From replacing light bulbs with low energy alternatives to draught-proofing your doors and windows, there are lots of small purchases that can help to reduce your energy usage.

These small investments and adaptions can improve the comfort of your home, while paying their way in the long term by reducing your energy bills. Plus these items are widely available and should last for years, with minimal maintenance or replacement requirements.



Replace inefficient light bulbs - p.9

If you have old, energy-inefficient lighting you could lower your electricity bills and carbon dioxide emissions by switching to efficient light bulbs. They are widely available online or at your local hardware store.



Draught-proof your home - p.10-11

Draughty windows, doors and chimneys can make homes uncomfortable and expensive to heat. On page 10 we have suggestions of cheap and easy ways to reduce draughts.

Install radiator panels - p.12

It's easy to forget about the heat from radiators that is lost through your walls, but it's also straightforward to reduce this heat loss. Page 12 explains how this can be done.

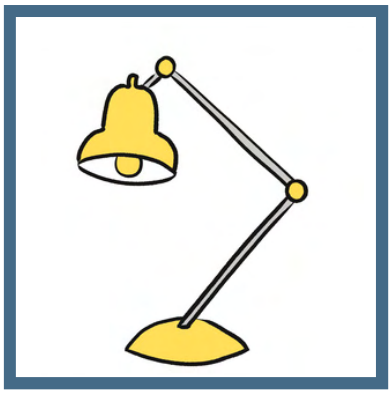
REPLACE INEFFICIENT LIGHT BULBS

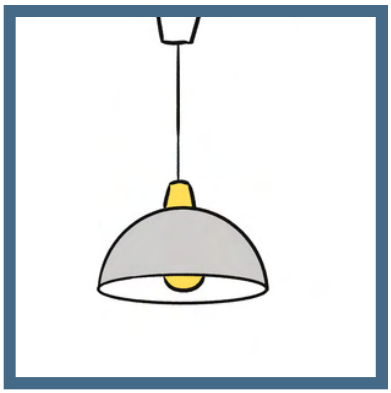
What is it and how do you do it?

Energy-efficient lighting helps lower electricity bills and carbon dioxide emissions, all without reducing the quality of light in our homes.

If you replace all the bulbs in your home with LED lights, you could reduce your carbon dioxide emissions by up to 65kg a year. This is equivalent to the carbon dioxide emitted by driving your car around 220 miles.

Lighting makes up 20% of the average UK household electricity bill, so making the switch could help you save money too.





Why is it worth doing?

- Reduce your lighting bills
- Lower your carbon footprint
- Make your home light and bright

When to do it - should you replace your bulbs now or wait until they fail?

A **study from University of Michigan researchers** recommends replacing all incandescent and halogen light bulbs in your home now with compact fluorescent lamps (CFLs) or LEDs but hold on to CFLs and older LEDs until they fail.

Where can you find out more?

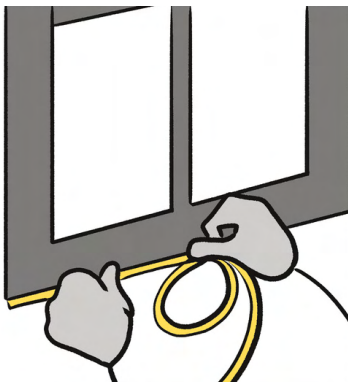
Check out the **Energy Saving Trust** and Sustainable Merton's **blog** for more information.

DRAUGHT-PROOF YOUR HOME

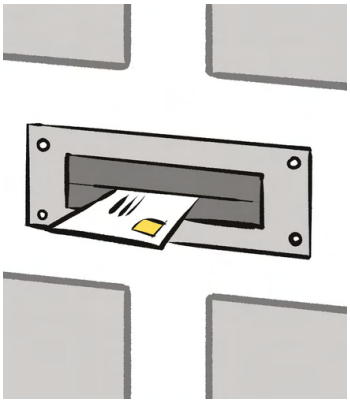
What is it and how do you do it?

Many houses and flats let in a lot more air than is necessary and in the winter this will bring the cold with it. Many of these unwanted draughts come from gaps around windows and doors that don't fit properly.

Self adhesive foam strips can be fitted between the opening window and the frame (see right), and around a poorly fitting door.



Doors can be fitted with a number of different devices such as letter box flaps or brushes and keyhole covers (see below).



For the gap at the bottom of a door you can fit a brush draught excluder or make yourself a fabric 'sausage' that can lie at the bottom of the door using some old clothes!

Also consider fitting some heavy curtains behind draughty doors or windows. This will help with draughts and radiative heat loss.

Top Tip! One easy way to see if you have any drafts is to use a lit candle. Carefully walk this around a room and you will soon be able to see where the draughts are coming from!

Chimneys can be temporarily blocked if not in use - either from the top, which may be a professional job or from the bottom with some form of purpose-made draught excluder like a chimney balloon (right).

DRAUGHT-PROOF YOUR HOME CONTINUED

Why is it worth doing?

Draught proofing your house is one of the most efficient ways of saving energy and money in your home.

Draught-proofing around windows and doors could save you **around £20 a year**. If you have an open chimney, draught-proofing your chimney when you're not using it could save **around £15 a year**.

Draught-free homes are comfortable at lower temperatures – so you may be able to turn down your thermostat, saving even more on your energy bills.

Note of caution!

Some rooms need good ventilation such as those with a boiler or open fire. Never block vents or extractors without taking professional advice and always have a working carbon monoxide alarm in these rooms. Other rooms may need good temporary ventilation like bathrooms, so make sure your extractor fan is working well and have a good draught excluder on the outside of the building to stop unwanted draughts!

Where can you find out more?

For relatively small amounts of money and effort you can make a big difference to the comfort of your home by blocking these gaps with some simple products. The **Energy Saving Trust** has loads of top advice on how to tackle those pesky draughts.

INSTALL RADIATOR PANELS

What is it and how do you do it?

Have you noticed that many radiators are mounted on external walls? This means that heat from your radiator will be directly lost through your walls, especially if you have solid brick walls like many homes in the UK.

Radiator reflector panels are cheap and effective at reflecting heat back into the room so it is not lost through the wall.

Why is it worth doing?

Radiator reflectors can reduce heat loss by up to 45% and the payback period can be under a year. They are very easy to install and widely available - your local DIY store should stock them.

Dai's story

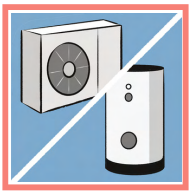
"As a DIY version of radiator reflector panels, I decided to try putting aluminium foil behind the radiator to keep in a bit of extra heat. It was simple to install and the room seems to heat up a lot faster than before since less heat is being lost to the walls."

Where can you find out more?

Radflek are one of the leading manufacturers and endorsed by the Energy Saving Trust. Find out more at their **website** (other similar products are available!).

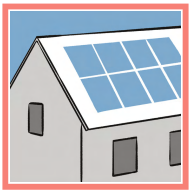
3. SPEND MORE, SAVE MORE

If you have already taken your first steps towards making your home more energy efficient, you might be ready for a bigger leap. From generating your own renewable energy to insulating your home, the next few pages will shed some light on what these changes could mean to you and how to make them happen. We know some of these actions can seem complicated, so we've broken them down for you.



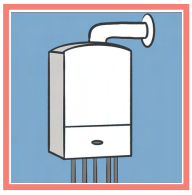
Heat pumps - p.14-16

When upgrading your heating system you could consider transitioning to a heat pump, a low carbon system and an alternative to gas central heating.



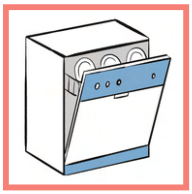
Solar panels - p.17-19

Solar panels can be used to generate your own carbon-free electricity. See page 17 for details on what they are, whether they are worth having and how you can go about getting them.



Upgrading your boiler - p.20-21

If your boiler is more than 10 years old, you may want to consider replacing it with a modern high efficiency model. Page 20 has details of what you should be looking for.

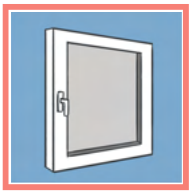


Energy efficient appliances - p.22-23

If you are considering buying a new appliance for your home, it's worth checking its energy performance. Pages 22-23 walk you through the options for different appliances.

Home insulation - p.24-29

Wall and loft insulation are great ways to reduce energy consumption if your property is currently uninsulated. Details can be found on pages 24-29.



Energy efficient windows - p.30-31

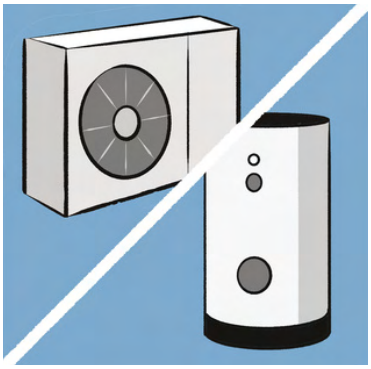
You can make your windows more energy efficient by installing double or triple glazing. See page 30 for what to consider and how to go about it.

HEAT PUMPS

What are they?
Heat pumps are devices that transfer heat from a source of heat or warmth (e.g. heat of the soil in the garden) to another location (e.g. hot water system of a house). They effectively 'pump' heat from one place to another. [13, 14]

The two main types of heat pumps are:

- **Air Source Heat Pumps (ASHPs):** they absorb heat from the outside air to heat your home and hot water. They can extract heat even when the outside temperatures are as low as -15˚C.[15]
- **Ground Source Heat Pumps (GSHPs):** they extract heat from the ground or water through pipes that are buried underground.[16, 17]



Why is it worth doing?

Financial savings

Heat pumps will likely bring significant financial savings on your annual fuel bills due to their high energy efficiency ratings, but also because of their very low running costs. The Energy Saving Trust provides estimates of how much you could save on your fuel bill when installing either a **standard air source heat pump** or a **ground source heat pump** in an average sized, four-bedroom detached home.[15, 17]

In addition to the monthly savings on your energy bills, you can also get paid for every unit of energy your heat pump system produces via the government's Domestic Renewable Heat Incentive (RHI).[18] You can find more information about this **in the 'Financial Support' section on the Ofgem website**.

Carbon savings

Depending on which fuel you are replacing, a heat pump system will likely help you to significantly reduce your household carbon footprint. This is due to the fact that it does not directly use combustion to generate heat and it creates no carbon emissions other than those at the point of the electricity production. The Energy Saving Trust provides estimates of how many tonnes of CO_2 emissions you could save when installing either a **standard air source heat pump** or a **ground source heat pump** in an average sized, four-bedroom detached home.[15, 17, 18]

How do you do it? (Things to consider)

1. Get a full assessment of the current energy performance of your house

The level of insulation of your property is a particularly important aspect of the size and efficiency of the heat pump you choose. You can find out how energy efficient your house is by employing an independent energy assessor, who can issue you with an **Energy Performance Certificate (EPC)**, giving your house a rating from A (most efficient) to G (least efficient).[19]

2. Air or Ground Source Heat Pump?

Air Source Heat Pump	Ground Source Heat Pump
Easier and less expensive to install	More expensive for equipment and installation
Slightly less efficient (so more expensive to run)	Slightly more efficient (so cheaper to run)
External space needed to accommodate main pump unit	External space needed for external pipes. These require excavation work.[19]

3. Do you need planning permission?

Although the installation of heat pumps is usually considered to be permitted development, there are some exceptions so it's best if you check with your local planning authority if you need planning permission.[15 20 21] You can check the **Merton planning portal** for more local details.

4. Costs and financial support

The installation costs are:

£ For an air source heat pump: between £9,000 and £11,000[15]

£ For a ground source heat pump: between £14,000 and £19,000[17]

Green Homes Grant Scheme

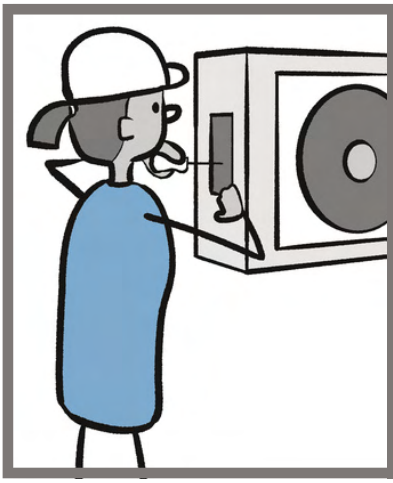
The Green Homes Grant (GHG) scheme is now closed for new applications. If you submitted your GHG application before 5pm on 31st March 2021, make sure that you redeem your voucher before its expiry date. Part of the funding previously allocated for the GHG scheme will be allocated to a programme administered by local authorities and targeted at lower income households.[22] [23]

Domestic Renewable Heat Incentive (RHI)

The Domestic RHI is a government financial incentive to encourage the use of renewable heat. If you join this scheme and follow its rules, you will receive quarterly payments for seven years for the estimated amount of clean, green renewable heat that your system produces. Both air source heat pumps and ground source heat pumps are eligible for the Domestic RHI. You should also check that the make and model of your product appears on the **Product Eligibility List**. You can find more information about applying for this scheme on the **Ofgem website**. [24] [25]

5. Finding a suitable installer

You can use the **Renewable Energy Hub database** to look up a list of installers close to your postcode. It is recommended to get at least three quotes for the installation work and making sure you have looked into the technology in advance so you can ask the right questions.[19]



6. Maintenance

Heat pump systems normally have a warranty of two to three years and you may also be offered the option to have an extension of warranty for a fee. Workmanship warranties can last up to 10 years (see **Quality Assured National Warranties**). You can expect heat pump systems to operate for at least 20-30 years but regular scheduled maintenance will be required. The Energy Saving Trust recommends a yearly check by you and a more detailed check by a professional installer every three to five years[15, 17, 26]

SOLAR PANELS

What are they?

Solar energy is one of the most effective types of renewable energy in the world. Solar electricity panels capture the sun's energy and convert it into electricity which you can use in your home. Solar panels are made up of individual photovoltaic (PV) cells, usually made from silicon, which are joined together to form the solar panel systems. When sunlight shines on the PV cells, a flow of electricity is created. Direct sunlight is not required for the PV cells to work, they can still produce electricity on a cloudy day. However, the stronger the sunshine, the more electricity is generated. Most PV systems are made up of panels that can be fitted on top of your roof, but you can also install them on the ground, or fit solar tiles. [27, 28]

Why is it worth doing?

Financial savings

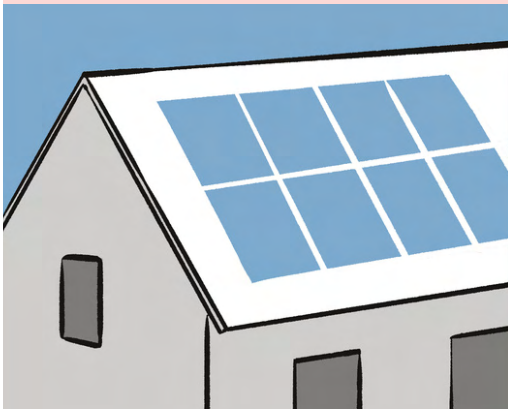
Sunlight is free so, once you have paid for the initial installation costs, solar panels will bring significant financial savings on your annual electricity costs. [27 28]

In addition to the savings on your electricity bills, you can also get paid for the surplus renewable energy you generate and export to the grid via the Smart Export Guarantee (SEG) scheme (which has replaced the Feed-in Tariff scheme)[29]. There are a range of tariffs available and metering may be required in some cases. You can find more information about SEG on the **Ofgem website**.

The '**Solar Energy Calculator**' created by the Energy Saving Trust provides estimates for fuel bill savings and financial payments you may receive via SEG by installing a solar PV system.[30]

Carbon savings

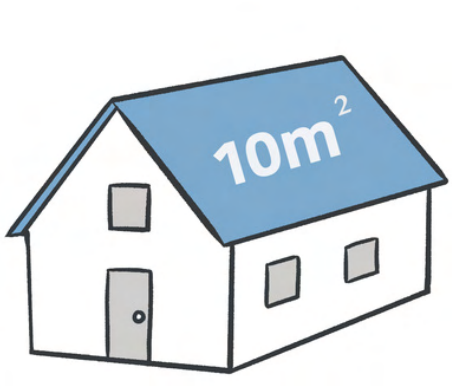
The average domestic solar PV system is 3.5kWp system, which, in the South of England, can generate around 3,700 kilowatt hours of electricity a year. Depending on where you are in the UK, a typical home solar PV system could save around 1.3 to 1.6 tonnes of carbon per year.[28]



How do you do it? (Things to consider)

1. Do you have enough space?

Space should be a key consideration. The Energy Saving Trust recommends, as a general guide, a roof area of 10-20 square metres should be enough to deliver between 20% and 45% of the typical household's electricity needs.[28]



2. Choosing a site

The roof space should ideally face South, be unshaded and at a pitch angle of about 30 to 40 degrees. Roofs facing East or West could still be considered but North-facing roofs are not recommended.[28 31]

3. Do you need planning permission?

Although solar PV installations are classed as permitted developments, you should always check with your local planning authority before installing in case there are any applicable limits or restrictions.[28] You can check the **Merton planning portal** for more local details.

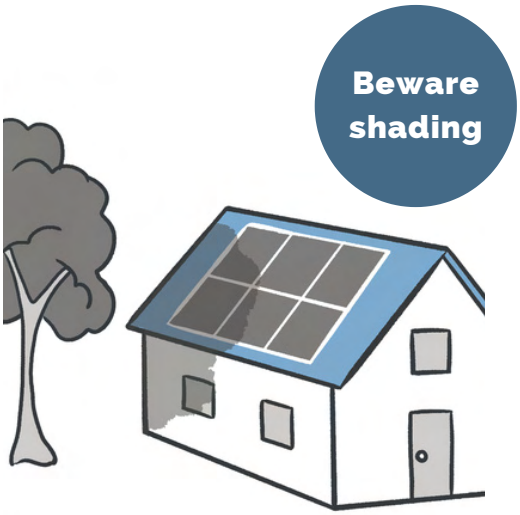
4. Costs and financial support

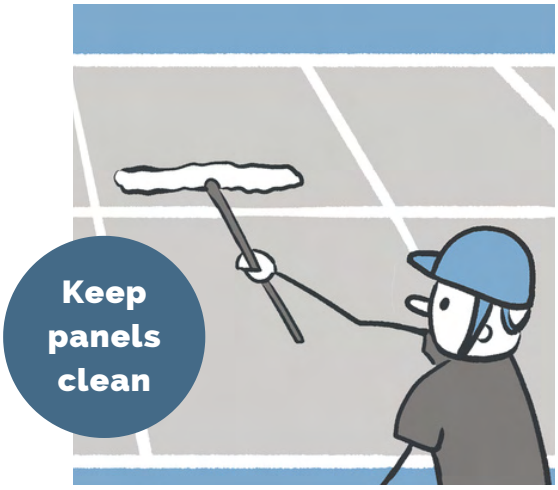
The average domestic solar PV system costs approximately £4,800. PV installation costs can be affected by factors such as the amount of electricity the system can generate and the type of panels (e.g. panels built into a roof are more expensive than those that sit on top of the roof).[28]

In addition to the Smart Export Guarantee scheme (see Financial Savings section), solar panels are eligible for a reduced VAT rate of 5% under the VAT pricing system for energy-saving products. If you are over 60 or are receiving benefits, you may qualify for this tax reduction.[32] Further details can be found on the **UK government website**.

5. Finding the right installer

You can use the **Renewable Energy Hub database** to look up a list of installers close to your postcode. The Renewable Energy Hub recommends getting at least three quotes for the installation work. Some of the factors that could shape your quote are the type and quality of the solar panels, efficiency, your type of property and its location.[33]





6. Maintenance

Solar PV panels require little maintenance. You should keep an eye on nearby trees to make sure they don't start overshadowing your solar panels, as any obstruction to the panels can significantly reduce their output. Panels that are tilted at 15 degrees or more have the added benefit of being cleaned by rainfall to ensure optimal performance. Depending on the area where you live, however, you might still need to have the panels cleaned. Your installer should leave written details of any maintenance checks you might need to carry out occasionally.[28]

The solar panels usually last 25 years or more. The inverter is likely to need replacing during this time, which costs approximately £800.[28]

UPGRADING YOUR BOILER

If your boiler is more than 10 years old, you may want to consider replacing it with a modern high efficiency model.

Why is it worth doing?

Financial savings

Modern central heating boilers are all condensing boilers and they are more efficient than older models. A more efficient boiler will help you save significantly on your energy bills. **The Energy Saving Trust provides estimates** of how much you could save on your fuel bill when replacing an old gas boiler with a new A-rated condensing boiler. [34, 35]

Carbon savings

Upgrading your boiler to a modern one will help you cut your household carbon footprint. All modern boilers are condensing boilers, which means they recover more heat that would otherwise be wasted and thus require burning less fuel. [34]

How do you do it? (Things to consider)

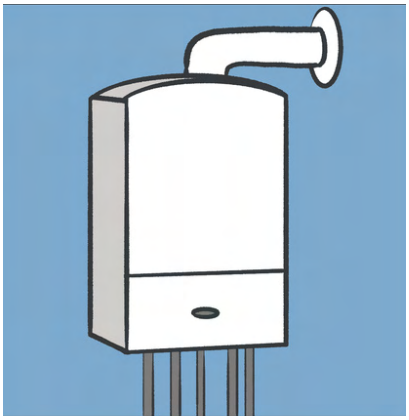
1. Energy source

If you have mains gas, a gas boiler is likely to be the cheapest option when compared to other fuels such as oil or electric heating. If you don't have a gas supply connected to your home, you could either consider getting a gas connection or, alternatively look at a form of low carbon heating (see sections on heat pumps and solar panels). [34]

2. Boiler type

Regular boilers will provide your central heating but they have a separate hot water cylinder to store hot water until required rather than producing hot water as and when required.

'Combi' boilers will provide your central heating and produce hot water on demand without needing a separate cylinder.[34 35]



3. Improving your central heating

You should also consider whether you can improve your central heating system by making some of the following adjustments to your heating:

- Heating controls
- Heat recovery devices and systems
- New hot water cylinders, or more insulation for an existing cylinder
- Chemical inhibitors and central heating additives[36, 37]
- Radiator reflectors

You can find more information about these adjustments on the **Energy Saving Trust website**.

4. Costs and financial support

The costs for replacing a gas boiler will vary but, typically, they will be around £2,300, excluding radiators. You should aim to get at least three quotes from qualified heating engineers.[34, 35]

You can also call your local authority who may be aware of any local initiatives that can provide financial support.[36]

ECO funding

If anyone in your household is receiving benefits, or if you are living in social housing with a low EPC rating (below D) you may be eligible for financial support through the Energy Company Obligation (ECO) scheme. ECO is a government energy efficiency scheme aimed at tackling fuel poverty whilst helping to reduce carbon emissions.[38] Further details about ECO can be found on the **Simple Energy Advice and Ofgem websites**.

5. Finding an installer

You can find a list of registered installers via **Competent Persons Register**, **SNIPEF**, or **Installers First**. The installer for gas and LPG boilers must be **Gas Safe registered**. For oil boilers, it is recommended that you use an **OFTEC registered installer**.[34 35]

ENERGY EFFICIENT APPLIANCES

Energy rating - what is it?

The energy ratings of appliances are indicated through energy labels. The size of the product is also a key consideration when it comes to its energy efficiency. If you are considering buying a new appliance for your home, you should check energy labels on appliances and choose the product with the best energy rating for the size you require. The yearly energy consumption of appliances is displayed in KWh/annum on the bottom right of the energy label. [39]

Energy rating labels are changing from the original A+++ to D standard to a new A-G class. You can find more about this on the **Energy Saving Trust website** and on the **Label 2020 page**.[39]

Read on for a list of common home appliances and some of the key energy efficiency-related considerations for each type of appliance:

Ovens

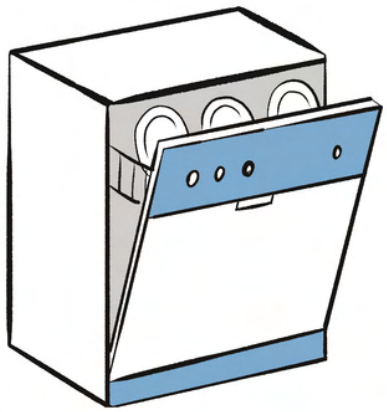
The Energy Saving Trust recommends choosing an oven with an energy rating of A+. The energy label can now be found on both electric and gas ovens, helping you to make the most efficient choice for either fuel. Some ovens have a pyrolytic (self-cleaning) function, which can be energy intensive and contribute to higher running costs. [39]

Hobs

An induction hob directly transfers electromagnetic energy to a pan without waste and uses about 50% less energy than a gas or old-school electric plate hob.[40]

Dishwashers

The most efficient dishwashers on the market have an A+++ rating, they use less water and they have lower running costs when compared to lower rated dishwashers.[39]

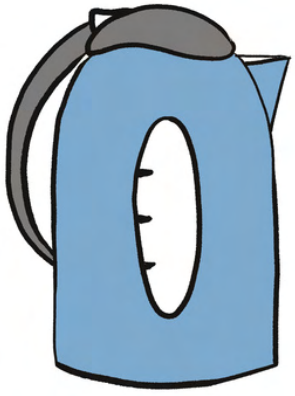


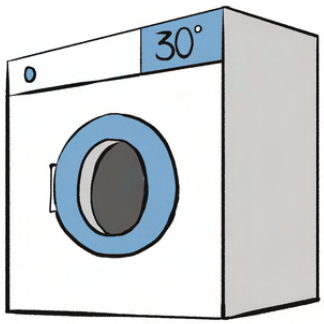
Fridges & freezers

Choosing an A+++ fridge-freezer instead of an A+ unit will typically save you around £190 in energy bills over the 17-year lifetime of the product. As energy rating is categorised by size, choosing a smaller fridge will also use less energy when compared to a large fridge with the same energy rating.[39]

Kettles

ECO kettles, which only boil the amount of water you require, can use 20% less energy than a conventional electric kettle.[39]





Washing machines

Choosing an energy efficient washing machine will save you money on your electricity bill as well as water bill (if you have a meter). An A+++ washing machine instead of an A+ one could save you around £65 over its 11-year lifetime.[39]

Desktop, laptops & tablets

Choosing a laptop over a desktop PC and reducing standby could save you up to £17 per year as laptops typically use 85% less electricity over a year than desktop PCs. Tablets have even lower energy usage, on average using 70% less power than laptops.[39]

Televisions

Televisions, particularly the largest ones, can be the most power-hungry of all entertainment equipment. The **Energy Saving Trust provides a table** which includes examples of annual running costs depending on the size and energy rating of your TV.[39]

'Right to Repair' Law

From summer 2021, you will have a right to repair the goods you buy. This means that manufacturers of goods such as fridges, washing machines and TVs will be obliged by law to make spare parts for products available to consumers. This new law could extend the lifespan of appliances by up to 10 years and save you an average of £75 a year on bills.[41]

HOME INSULATION

Installing insulation will help you to reduce your home heat loss whilst lowering your energy bills. There are different ways to insulate your home and we will explore some of them here.[42]

Cavity Wall Insulation

What is it?

Houses built from the 1990s onwards have wall insulation but older houses may not have any wall insulation at all. If your house was built after the 1920s, it will likely have cavity walls. A cavity wall is made up of two walls with a gap in between, known as the cavity.[43]

Cavity walls can be insulated by injecting insulation material into the cavity from the outside. The material is usually either mineral wool or polystyrene beads.[43]

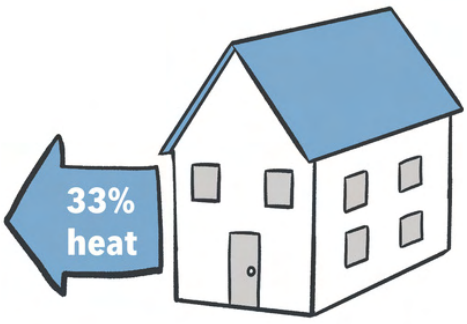
Why is it worth doing?

Financial savings

About a third of all the heat lost in an uninsulated home escapes through the walls. Cavity wall insulation should save you energy and significantly lower your heating bill. **The Energy Saving Trust provides estimates** of how much you could save on your energy bill with cavity wall insulation, depending on your type of house.[43]

CO2 savings

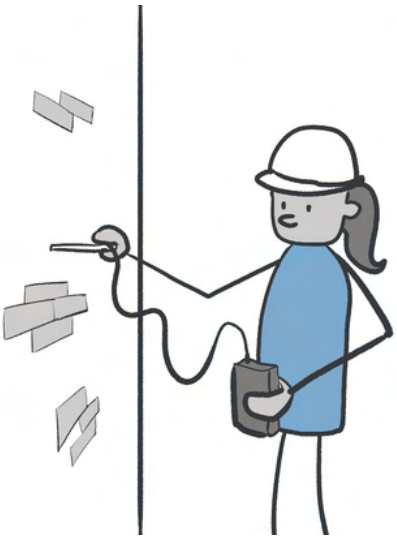
Installing cavity wall insulation will also help you reduce your carbon emissions as it significantly reduces heat loss.[42] The **Energy Saving Trust** provides estimates of how many tonnes of CO2 emissions you could save when installing cavity wall insulation, depending on your type of house.[43]



How do you do it? (Things to consider)

1

If your house was built in the last 20 years or so, it's likely the walls are already insulated. You can find out whether your walls are insulated by asking a registered installer for a borescope inspection or checking with your local authority's building control department.



2

An installer will need to carry out a survey to check that your house is suitable for cavity wall insulation and a number of **criteria** will need to be met.

Costs and financial support available

3

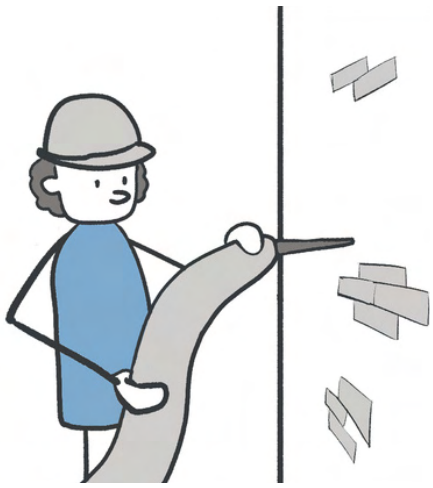
Installation costs of cavity wall insulation will vary depending on the size of your home. The **Energy Saving Trust provides** estimates of the typical installation costs for the different types of homes. You should be able to make back the installation costs in 5 years or less thanks to the savings you will make on your annual energy bill.[43]

Measure eligible for

ECO

funding (see p.21)

The Green Homes Grant (GHG) scheme is now closed for new applications. If you submitted your GHG application before 5pm on 31st March 2021, make sure that you redeem your voucher before its expiry date. Part of the funding previously allocated for the GHG scheme will be allocated to a programme administered by local authorities and targeted at lower income households.[22, 23]



Find a suitable installer

4

Filling cavity walls is not something you can do yourself, you need to employ a registered installer. The installer should be a member of one of the following organisations: **National Insulation Association** (NIA), the **Cavity Insulation Guarantee Agency** (CIGA) or the **British Board of Agrément** (BBA).

The installer will drill holes in the outside walls, inject the insulation material through the holes and then seal them with cement. This should take about two hours for an average house with easily accessible walls and it shouldn't make any mess! [43]

Solid Wall Insulation

What is it?[44]

If your house was built before the 1920s, it's likely that its external walls are solid walls rather than cavity walls. Solid walls have no gap in between, which means they can't be filled with cavity wall insulation.

Solid walls can be insulated either from the inside or the outside.

Internal wall insulation is done by fitting rigid insulation boards to the wall, or by building a stud wall filled with insulation material. You can find out more about internal wall insulation on the **Energy Saving Trust website**.

External wall insulation is done by fixing a layer of insulation material to the wall and covering it with plasterwork or cladding. You can find out more about external wall insulation on the **Energy Saving Trust website**.

Why is it worth doing?[44]

Financial savings

Insulating your solid walls should significantly cut your heating cost. **The Energy Saving Trust provides estimates** of how much you could save on your annual energy bill with solid wall insulation, depending on your type of house.

Carbon savings

Solid wall insulation will also help you lower your carbon footprint as it significantly reduces heat loss. The **Energy Saving Trust provides estimates** of how many tonnes of CO_2 emissions you could save when insulating solid walls, depending on your type of house.

How do you do it? (Things to consider)[44]

1 Internal wall insulation cannot be done before fixing any rising or dampness issues.

2 External wall insulation may need planning permission – you should check this with your local council. Have a look at the **Merton planning portal** for more local details.

3 Before fitting solid wall insulation, you need to consider water vapour movement to make sure you don't create new damp issues in the future (e.g. consider using 'breathable' insulation materials).

Measure eligible for

ECO

funding

(see p.21)

4

Costs

Installation costs of solid wall insulation can typically vary as follows:

- External wall insulation: around £10,000
- Internal wall insulation: around £8,200

You can lower your costs by fitting insulation at the same time as carrying out other home improvements or by not insulating the whole house at once.

5

Find a suitable installer[44, 45, 46]

Internal solid wall insulation usually needs a professional installer and you can search for companies which specialise in internal wall insulation via websites such as the **National Insulation Association (NIA)**.

External solid wall insulation should be fitted by a specialist installer. You can find a list of external wall insulation installers through one of the relevant trade associations, **NIA** or **Insulated Render & Cladding Association**.

You should check with your installer that the solid wall insulation work is covered by an appropriate 25-year guarantee scheme. You can find here a list of **Ofgem approved guarantee schemes**.

Roof and Loft Insulation[47]

What is it?
Insulating your loft, attic or flat roof is an effective way to reduce heat loss. If you have easy access to your loft and regular loft joists (horizontal beams that make up the floor of the loft), you can use rolls of mineral wool insulation. The first layer should be laid between the joists and another layer should be laid at right angles to cover the joists and insulate up to the required depth.

Why is it worth doing?

Financial savings
A quarter of all the heat in an uninsulated home escapes through the roof. Loft insulation will help you reduce this heat loss and significantly lower your heating bill. **The Energy Saving Trust provides estimates** of how much you could save on your annual energy bill by insulating a loft with 270mm of loft insulation, depending on your house type.

Carbon savings
Loft insulation will also help you reduce your carbon emissions as it significantly reduces heat loss. **The Energy Saving Trust provide estimates** of how many tonnes of CO_2 emissions you could save by insulating a loft with 270mm of loft insulation, depending on your house type.

How do you do it? (Things to consider)

1 If you have easy access to your loft and you don't have damp problems, you could probably insulate the loft yourself. A professional installer should be used if you have damp issues or require a more complex insulation system.

2 Flat roof insulation always requires a professional installer and this should preferably be insulated from above.

3 If your loft is unheated and has less than 200mm (8inches) of insulation at the floor level, you should think about adding another layer of insulating material.[48]

4 If you plan to use the loft or attic as storage space, you should lay boards over the joists. When you fit the boards, make sure you don't squash the mineral wool as this would reduce its insulation value!

5 **Costs**

Energy Saving Trust provides estimates of the typical installation costs for insulating a loft with 270mm of loft insulation depending on your type of home. Loft insulation is effective for at least 40 years and it should pay for itself many times over.

Measure eligible for ECO funding **(see p.21)**

6 **Finding a suitable installer**

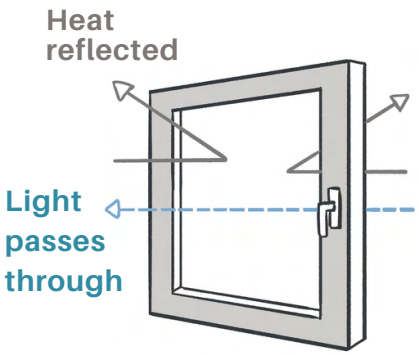
In cases where you need a professional installer, you will find a list of installers via websites such as the **National Insulation Association (NIA)**.

ENERGY EFFICIENT WINDOWS

What is it?

You can make your windows more energy efficient by installing double or triple glazing. This means that your windows will have two or more glass panes in a sealed unit which is surrounded by a frame made from uPVC, wood or another material.[49]

The energy performance of a window is affected by many factors (e.g., frame design, material). Window manufacturers use an energy-rating scale from A++ to E which will show you the energy efficiency of their products. You can find more information about this on the **Energy Saving Trust website**.[49]



The most energy efficient type of glass for both double and triple glazing is low emissivity (low-E) glass. This is because it has a thin coating of metal oxide on one of the internal glass surfaces which reflects heat back into the home.[49]

Why is it worth doing?

Financial savings

Installing more energy efficient windows will help you make significant financial savings on your energy bills. **The Energy Saving Trust provides estimates** of how much you could save on your annual fuel bill by installing double glazing in an entirely single-glazed property. The savings will also depend on your property type and energy rating of the windows.

Carbon savings

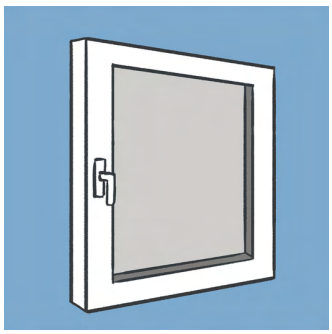
Making your windows more energy efficient will help you cut your household carbon footprint as they will reduce the amount of heat lost to the atmosphere. For example, installing double glazing in a 3 bed semi-detached house has the potential to lower CO_2 emissions by 680kg per year.[50]

How do you do it? (Things to consider)

1

Check with your local planning authority if any of the following apply to your property:

- You live in a conservation area
- You have an Article 4 direction on your property (this removes the right of permitted development)
- You live in a listed building[50]



Measure eligible for ECO funding **(see p.21)**

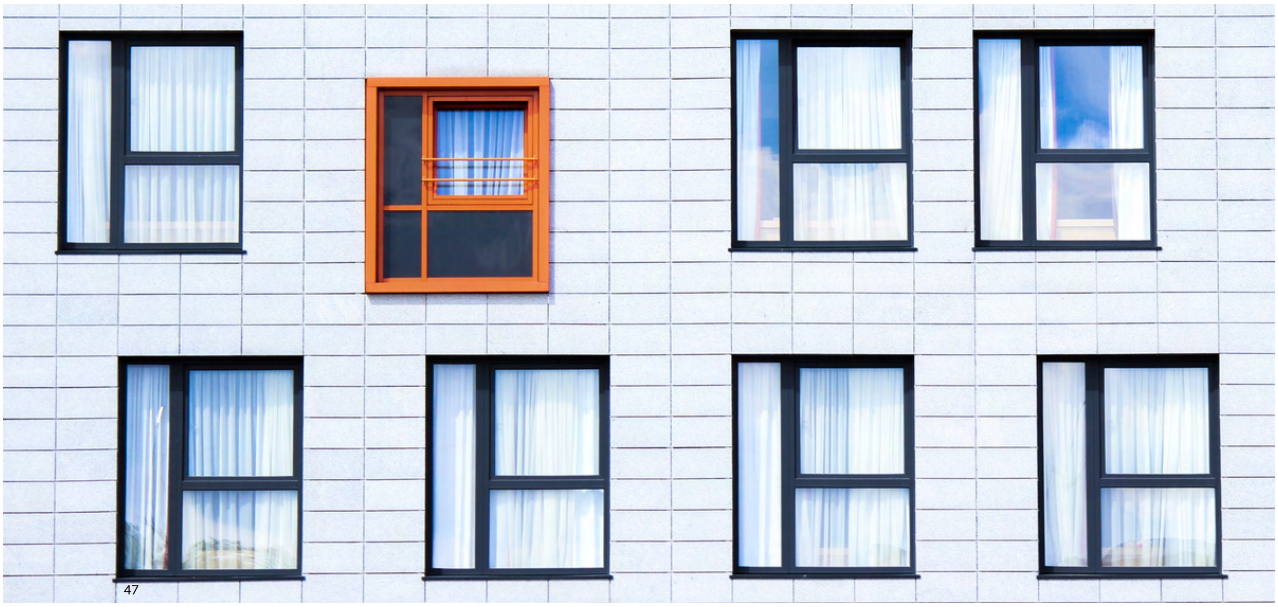
On average, the costs for double glazing windows are £640 per window.[51]
Triple glazing for a two-bedroom house costs around £2,000 – £2,500.[52]

2

3

Finding a suitable installer

Most people use a professional installer to fit their double or triple glazing. You should choose an installer registered with one of the **official competent person schemes** to make sure your windows are fitted to the UK Government's building regulations standards.[49]



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4. WIDER ACTIONS

Looking beyond the way we consume energy, there's more that we can do to help the transition to a more sustainable society. There are simple, straightforward changes you can make that reduce emissions and send a signal that you are serious about tackling climate change.

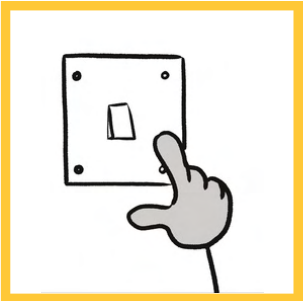
By changing the way our pensions are invested, switching to a greener energy supplier tariff, and promoting future electric vehicle charge points you can help create a greener society beyond your home.

Electric vehicle charging points - p.33

Looking to get an electric car? Page 33 explains the process for enquiring about electric vehicle charging on your street.

Ethical investments - p.34

Your investments - including pensions - have the potential to help drive the transition to a low carbon economy. Find out more on page 34.



Switch to a green(er) energy supplier - p.35

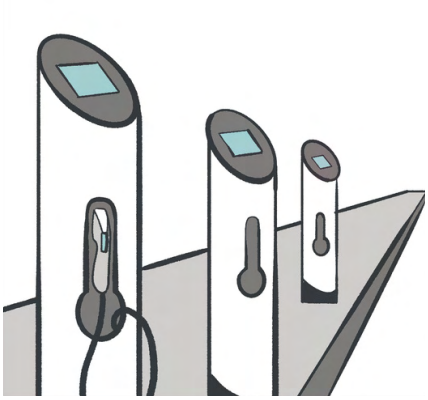
Switching to a green energy supplier signals to the energy industry that you support the increasing use of low carbon technologies. See how you can do this on page 35.

ELECTRIC VEHICLE CHARGING POINTS

What is it and how do you do it?

If you are not fortunate enough to have a drive where you can charge an electric vehicle, but are thinking of buying one and need somewhere to charge, all is not lost.

You can now apply to Merton Council to install one on your road (if they get enough demand). So get chatting with your neighbours to make this happen on your street - the more voices the better! [53]

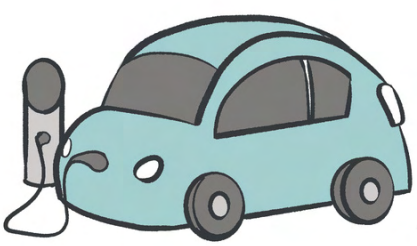


Where can you find out more?

Merton Council says that it is currently accepting requests for electric vehicle on-street charging points in Merton. However this will be at their discretion, so make a request before you make any purchasing decisions!

Make your requests here.

Thinking about purchasing an electric vehicle? Sustainable Merton has your questions answered in this mini blog series.
Check out our blogs on:
What's it really like to own an electric vehicle?
Top things you should know when thinking about purchasing an electric vehicle



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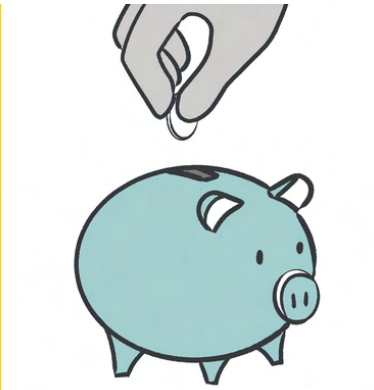
ETHICAL INVESTMENTS

MAKING YOUR MONEY MATTER

What is it and how do you do it?

If you have a pension, do you know where it is invested? Many of us probably have a limited understanding of our pension(s), let alone know where they are actually invested.

Whilst we can all make efforts to save energy and live more sustainably, one of the places we can make a big impact is by changing how our savings and pensions are invested. Do a little research and you may be shocked to find out that your retirement is being paid for by the profits of Big Oil, arms manufacturers or tobacco companies!



What is it and how do you do it?

The value of UK pensions is around £3,000,000,000,000! That's £3 trillion to save you counting the zeros. This amount of money invested in the right companies can make a huge difference.

Where can you find out more?

Whilst we cannot provide investment advice, we do strongly recommend you do a bit of your own research into where your money is invested. If in doubt, take independent financial advice, but be clear in your environmental objectives when having that discussion.

In the meantime here are some case studies from Make My Money Matter you might find interesting.

SWITCH TO A GREEN(ER) ENERGY SUPPLIER

What is it and how do you do it?

Your energy supplier is responsible for supplying energy to your home. Switching to a green energy supplier signals to the energy industry that you support the increasing use of low carbon technologies. Three green energy suppliers identified by the **Energy Saving Trust** as having their supply generated by low carbon technologies are Good Energy, Green Energy UK and Ecotricity.

What are the benefits?

Good Energy found that a typical consumer (using 2,900 kWh of electricity, the average for households in the UK) would save 525 kilogrammes of CO2 every year compared to the average consumer. Furthermore, by using renewable gas, there is the opportunity to save a further 220kg of CO2. This makes a grand total of 745 kilogrammes CO2 saved across the year. Plus a lot of green tariffs are very cost-competitive too.

Where can you find out more?

The Energy Saving Trust have published a detailed **blog** with advice on how to choose an energy supplier. Citizens advice also provides **guidance** for switching energy suppliers, making it easy for you!

There are lots of switching sites out there that can help you change tariff or supplier. Big Clean Switch, uSwitch and Money Supermarket all allow you to look specifically for greener tariffs.

5. GET INVOLVED: LOCAL INITIATIVES

Sustainable Merton Community Champions

Sustainable Merton's Community Champions are a group of over 200 local volunteers, passionate about contributing to a healthier, happier, and more sustainable Merton community. Join us and work within your community to encourage residents to live more sustainably for the benefit of themselves, their children, and the environment. As a Community Champion, you will have the opportunity to get involved with a wide range of sustainability focused activities relating to air quality, waste, energy, and food.

Why get involved?

- Make friends
- Get active and enjoy the wellbeing benefits of nature
- Learn employable skills
- Give back to your community
- Help the planet

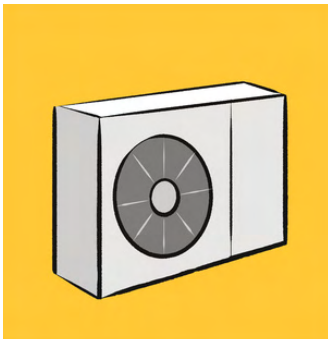
Find out more and register to become a Community Champion here.

Big Energy Saving Week

Big Energy Saving Week is a national campaign that highlights actions through which you can overcome energy-related difficulties. It focuses on helping people save money on their energy bills and get the financial support they are entitled to. The campaign usually runs during a single week in January, but in 2020 it ran as the 'Big Energy Saving Winter' for three months from 2 November 2020, focusing on three key themes: Check in November, Switch in December, Save in January. Big Energy Saving Winter is run by Citizens Advice and the Energy Saving Trust, in collaboration with the Department of Business, Energy and Industrial Strategy.

CREW Energy

CREW Energy is a volunteer-led community group based in Wandsworth and Merton, founded in 2014. The founding principles of CREW are to make this corner of London more resilient and sustainable through low-carbon tech and energy advice cafes that benefit the local community - helping local people to save money while reducing the overall carbon footprint of London.



Low-carbon technologies

CREW helps install low-carbon technology such as LED lights, solar panels, heat pumps and more in commercial, community and residential buildings. These systems help make our local buildings more energy efficient - saving carbon and cash that can be better spent in our local area!

Their projects are funded through grants and, more recently, community share offers; money is invested in the community, by the community, for the community. They most notably work with local councils and community organisations, and are currently working with a range of schools to carry out feasibility studies for solar panels.

Energy advice and community outreach

The second part of CREW's mission is to combat what is known as fuel poverty in south-west London by running energy advice sessions in Wandsworth, Merton and Lambeth. These cafes show how saving energy doesn't have to be expensive! They are designed to help people reduce their energy spend, either by trying out simple, more efficient tips and swaps or by switching bill providers.

CREW Energy continued

Throughout the COVID-19 pandemic, CREW have converted this programme into an energy advice phone line to support those affected by the second-hand energy effects of lockdown. For updates on their latest energy cafes and energy advisor training sessions, click **here**.

But the outreach doesn't stop there! CREW also hosts Eco Action games sessions with local schools and youth organisations, engaging younger audiences in the climate conversation through fun energy games such as giant snakes and ladders, teaching children that energy is important and little changes can make a difference. To book a session at your school or centre, contact info@crewenergy.london.

Like what you see? There are many ways to get involved with CREW!

If you are keen to become a supporter, you can subscribe to their newsletter and follow CREW Energy on social media (Facebook, Twitter, LinkedIn, Instagram). They host regular events such as watch parties and talks and produce regular accessible blog posts on the themes of energy efficiency, renewables and green measures for your home.

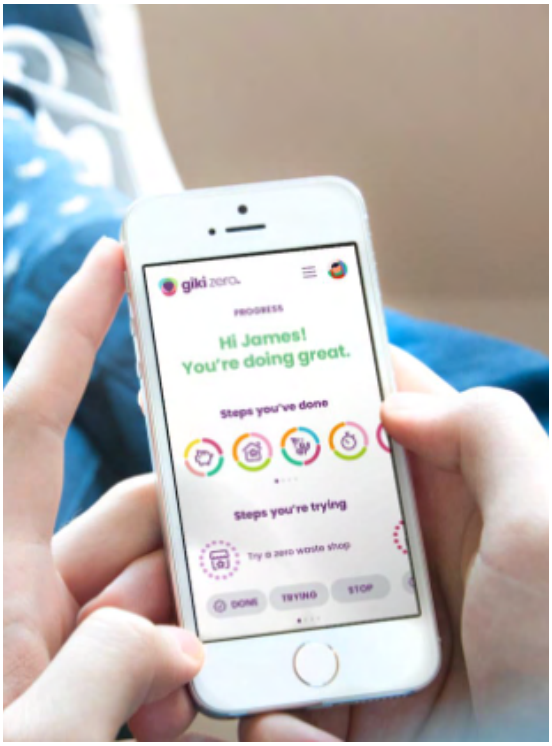
If you would like to take a more active role, as a voluntary group, they are always looking for new members from all backgrounds and fields, including volunteer energy advisors. If you are passionate about renewables, energy efficiency and the environment, and would like to join, volunteer or simply find out more, click **here** to register your interest. You can become a member for just £1.

Making a climate change pledge

In November 2020, Merton's Climate Strategy and Action Plan was approved. It aims to make the council a net-zero carbon organisation by 2030, and to make Merton a net-zero carbon borough by 2050.

This cannot be a top down approach, but requires action for every individual and business in the borough. To encourage residents to take action, Merton is requesting that people and businesses make public pledges to do their part to make this a reality.

For more information on how you, your business or employer can get involved **Merton's Council's website** is the place to do it.



Giki Zero

Giki Zero is a useful web app Eco Planner that allows you to chart your progress to becoming more sustainable by calculating your carbon footprint through your everyday actions.

Co-created by Merton residents James and Jo Hand, Giki Zero gives you a snapshot of your current sustainable credentials as well as inspiration on both big and small actions you can take to improve it. Easy to use and enlightening it will get you in a race with yourself to reduce your emissions!

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Anca is a Project Manager at UCL and a Community Champion for Sustainable Merton. Being a Community Champion has enabled her to help Sustainable Merton inspire a more sustainable lifestyle at a local level, while learning how this can contribute to the systemic change our society needs to address the pressing challenges of the global climate crisis. As part of the Sustainable Merton Energy Team, her role involves keeping abreast of the latest information, policy and initiatives relating to energy and communicating these in an accessible and engaging way to the local community.

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As a Community Champion within the Energy Team at Sustainable Merton, David is focussed on helping the community adapt to the changing energy environment. In the past, David has worked with gas, electricity and water utilities in the UK. In particular, he is passionate about changing the way we generate and use energy to reduce our environmental impact.

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Michael Payton - Writer
Michael has been a Community Champion with Sustainable Merton for over a year. He is keen to help people make informed decisions in their daily lives that allows them to reduce their environmental impact and hopefully save them some money too. In his day job he works in affordable housing, helping fund low cost housing within London.

Cecily Church - Illustrator
Cecily has been a Community Champion for over three years. She has volunteered with Sustainable Merton on planting projects, the Community Fridge and engagement with Merton Council. For her day job, Cecily works in the Sustainability Team of a housing association, but she spends as much of her spare time as she can drawing and illustrating.

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Version 1
September 2021

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