

HOW TO:

Make your home more sustainable







A practical guide to home improvements

Want to improve energy efficiency and reduce the environmental impact of your home?

This guide is designed to help homeowners to increase their home's efficiency and reduce energy bills, with simple actions which can be taken over the next ten years.

Here you'll find the most important interventions that property owners should be considering, starting with the simple changes you can make right now, and progressing to the more cost and time intensive sustainable retrofits.

Energy costs are continuing to climb higher and for those of us who are actively looking for a way to reduce our environmental footprint, making your home more efficient to run, is a great place to start.

Furthermore, investing in your property could bring you a positive return, should you decide to sell up at a later date, and if you're a landlord, you can get a step ahead of incoming legislation regulating minimum property energy efficiency standards.

Energy –

Top four green changes to make today

The rising cost of gas and electricity will be front of mind for many this year.

Some of the well-known simple changes you can make to reduce energy consumption include turning down thermostats by a couple of degrees, switching off appliances normally left on standby, and only boiling the water you need by transferring cold water from your cup to the kettle.

Other improvements such as installing renewable energy power sources, require a more substantial capital outlay, but there are some additional actions to consider to save energy sustainably.





Actions for quick and easy energy savings

1. Replace halogen lightbulbs with LEDs
2. Install foil radiator reflector sheets behind radiators on external walls
3. Ensure your roof and hot water tank are well-insulated
4. Draught-proof your home (including cat-flaps) and install a chimney balloon



If possible, use natural materials such as Thermafleece's treated British sheep's wool to insulate your loft, or SupaLoft's Insulation Quilt, which is made from 90% recycled plastic bottles



Water –

Top five green changes to make today

Being more water efficient will help you to save money – and be more sustainable.

Some simple tips to consider include:

1. Fix a leaky loo - if your cistern is constantly running or dribbling, you are wasting up to 400 litres of water per day
2. Install a shower flow restrictor and/or an aerated or low-flow showerhead to reduce the water flow, without compromising pressure or the feel of a normal shower
3. Fit a dual flush system so you only use the water you need when you flush
4. Try installing an inflated 'Water Hippo' in your cistern
5. If you have a garden, collect rainwater in a water-butt to water your plants with



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Only use the water you need when you flush.”

Top five green changes to make tomorrow

Improving your energy efficiency is an ongoing process. While simple and immediate fixes can make big changes to your home.



Financing more costly energy efficiency renovations and retrofits

Certain lenders such as Nationwide, Barclays and Ecology offer 'green mortgages' that allow homeowners to borrow between £5,000 and £25,000 at discounted initial rates, in order to finance energy efficient home improvements.

Here are some more complex interventions to consider for advanced home efficiency over the next five years:

1. Replace any old appliances with more energy efficient versions (remember to recycle or donate your old appliances)
2. Install thermostatic radiator valves to allow you to only heat rooms where and when needed, and place thermostats or smart-home sensors around your house, to accurately monitor room temperatures
3. Consider using a plug-in socket power meter (with built-in display) or a 'smart' wireless model with a monitoring app, to measure the electricity consumption of specific appliances and turn them off automatically using a timer if necessary
4. Install a mains CT clip-on electricity monitor, with an in-home display and app, to get the best overall picture of your home electricity consumption. If you can measure it, you can manage it - so accurately measure live and historical electricity consumption patterns in detail. The more advanced systems can even analyse your consumption for you and recommend which energy tariff would be cheapest for your home.
5. Do you have large hot water cylinder? Make sure you use the cheaper night-time electricity rates to heat your tank. Hot water systems, such as Fisher Future Heat's Aquafficient is expensive at around £5,000 but is a compact system that delivers hot water on demand and saves you money in the long-term by not heating a full tank of water when you may not use it





Renewable energy

When looking to the future, you may be considering your ability to switch to more renewable methods of energy to power your homes.

On the next few pages are some key options to consider, depending on the space and land you have available.



Electric boilers

Consider upgrading your boiler from a gas to an electric model (particularly if you have, or plan to install solar panels and battery storage).

There are grants available for homeowners in England and Wales, such as the Government's Boiler Upgrade Scheme (BUS).

The scheme provides upfront grants to support the installation of renewable energy systems to supplement to boilers, such as ground or air-source heat pumps, and in some circumstances biomass boilers in homes in England and Wales.



Heat pumps

Heat-pumps usually work by extracting low-grade heat from a pipe buried in the garden, which offers the best year-round performance, or an air-source heat-pump for more seasonal performance (these transfer heat via a refrigerant).





Solar panels

Solar thermal and solar photovoltaic panels may provide sufficient heat for all your water throughout the summer months.

Intelligent home battery systems, such as Powervault, can reduce your electricity bills by up to 50%, by storing solar energy during the day and discharging it in the evening.

It can also charge from the grid, which means it can store cheap off-peak electricity and discharge this during the day, which can save you 15% on energy bills.

When combined with solar panels, a home battery storage facility could allow you to charge an electric vehicle with partially free electricity.

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Powervault, can reduce your electricity bills by up to 50%.



Wood burning stoves

If you live somewhere with an abundance of excess wood or wood pellets, then a high-efficiency wood-burning stove or boiler could be an efficient heating option for areas of the home that only require occasional heat.



Wind turbines

For large landowners or for communities where homeowners wish to combine their resources, wind turbines can offer significant electricity output and a considerable contribution to your annual energy needs, but do require a site assessment and planning permission, as well as a larger pot of capital and land.

Case study – Designing a highly sustainable home, Swedish-style





Scandi-Hus is one of the largest designers and suppliers of energy saving homes in the UK. If you are looking to self-build your next home, or are after inspiration for a home extension, they recommend you consider the following:

- Combining a timber frame structure using wood from sustainably managed forests with triple glazed wooden windows, ensures you have a thermally efficient home, particularly if you desire large glass windows to let in plenty of natural light
- Thinking about the orientation of your home or extension to maximise the number of south-facing windows that can flood living spaces with natural light, and situating non-living spaces in north-facing parts of the home, can help you capture more of the sun's energy and light, and minimise your use of heating and artificial lighting
- Assess your space requirements and design efficient floorplans, e.g. to having wet rooms near each other will minimise pipe lengths, thereby reducing material costs, as well as generating operational efficiency, as less energy is used to carry the utilities to the rooms



With so many options for home improvement, it can be easy to feel overwhelmed when undertaking a home energy retrofit project. Luckily, the sector is full of passionate and knowledgeable professionals, who are eager to provide help and advice.

Furthermore, the effort is bound to be worthwhile, as not only will you reduce your bills and help the planet in the short-term, you'll also increase the value of your property, great if you ever decide to re-mortgage or sell.

And don't forget to chat to your neighbours. Encouraging members of a block of flats for instance to get works done simultaneously, creates economies of scale that bring costs down.



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have a good day**



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