



Higher cost options which could give long-term benefits

- **RENEWABLE ENERGY & FUTURE HEATING OPTIONS**

Consider generating your own electricity with solar PV panels installed on the roof of your house or on your garage. Instead of exporting unused solar power back out onto the grid, you could install an ApolloGEM or iBoost unit which redirects unused solar power into the immersion heater in your Hot Water cylinder, giving you free hot water. You could even invest in a battery to store your unused power from the daytime to use in the evening. Going one step further, you could switch to radiant heating, by installing far-infrared heating panels (eg Herschel panels), on your walls or ceilings. These are close to being as cheap to run as gas central heating, and could be even cheaper if powered by the solar PV on your roof or by your battery unit.



However, whatever technology you look at, the best heating options will be those that use the energy where it is created and in the form that it's been created. For example, if we generate solar power on our roof, it's most efficient to simply use that as electricity within our homes. And if we choose to use it for heating, radiant heating from modern electric heaters (such as far-infrared panels) which directly warms us up would be best. To use solar power to heat the *water* in our existing central heating system, which then heats the *air* in our home, in order to keep the *people* warm, is very inefficient!

In most cases, it's best to only make high-cost changes to our home's heating system when the current system is at the end of its life (this applies to double-glazing too). For the vast majority of us, our best options are to insulate our homes as much as possible and to reduce the amount of heat we use. This will bring us all massive benefits financially and also cut our carbon emissions. It will also ensure that whatever system we switch to next, it will not be unnecessarily over-sized or excessively costly to run.

New renewable technologies are continuing to emerge and develop at pace now, but every home is different in the UK, so there is not likely to be a "one size fits all" solution. Much of the new technology is also still very expensive, so before you decide on any major refit, do plenty of careful and wide-ranging research as you will want your new system to work effectively, efficiently and reliably. It will be essential to make a good decision as the cost of putting right a bad decision could be high.



So while we each continue to mull over what *will* be the best future heating solution for our home, we can still focus on making all the small changes. These will definitely make a big difference to our bills and, if we all do these things, it will really help the planet.

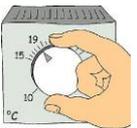
TOP TIPS

for reducing winter energy costs in your home



Zero cost ideas

- **CURTAINS:** At sunset, close all curtains and blinds to retain the warmth generated indoors by any sunshine there's been during the day.
- **CLOSE OFF UNUSED ROOMS:** In rooms that aren't being used, close windows, blinds and curtains. Turn radiators down or off. Critically, close the door to prevent moisture from elsewhere causing condensation on the cooler walls. Closing off conservatories in winter prevents draughts and helps keep your home warm.
- **WEAR MORE CLOTHES:** Dress in layers (like mountaineers!). They wear thin layers of clothing underneath their outer clothing in order to retain warmth. So dig out those vests and thermals – “long underwear” with long sleeves and legs will keep you toasty warm. A thick pair of socks over a thin pair works well, especially with thick fleecy slippers, and tucking your trousers into your socks will stop cool air chilling your ankles. Remember to put on a jumper or cardigan before leaving a warm room - it's a lot cheaper than turning up the heating elsewhere, and our bodies are amazing and can quickly adjust to the slightly less warm temperature – it only takes a couple of minutes.
- **TURN DOWN THE HEAT:** Turn down your central heating thermostat. A 1°C reduction will save the average household at least £100 per year, and you'll hardly notice the difference in temperature. A 2°C reduction could save you more than £200 per year. And keeping more active, rather than sitting down too much, will also help you keep warm!
- **CONTROL THE MOISTURE:** Moisture control in the home is vital in winter to prevent mould growth on cool walls and ceilings (the [Energy Saving Trust](#) website gives advice):



- ✓ After a bath or shower, even if there is an extractor fan running, open the window and shut the door until the steam and condensation have gone, then close the window and door again and turn off the fan. If necessary, wipe down wet windows, tiles, mirrors – a window-cleaning “squeegee” rubber blade works well. This will dramatically reduce the amount of moisture getting into the rest of the house and prevent condensation and mould problems.
- ✓ When cooking and using hot water in the kitchen, turn on the extractor fan or hood, put lids on pans, and close the kitchen door to prevent moisture migrating into other parts of your home. Before draining boiling water from a saucepan, turn on the cold tap - then pour the hot water directly into the stream of cold water. This will significantly reduce the steam produced.
- ✓ For drying clothes, choose a dry, breezy day, even if it's cold, and hang your washing outside. Even in winter, this will partially dry your laundry and reduce the amount you need to dry it indoors or in your tumble drier. Wherever you dry your laundry indoors, keep the door closed to prevent moisture from your laundry going into other parts of your home and causing mould growth in the cooler corners.



Minimal cost ideas



- **CHIMNEYS:** If you have a chimney and open fireplaces in your home or have a wood-burning stove, you may find that your home is quite draughty. This is due to the 'stack effect'. The [Energy Saving Trust](#) gives helpful advice on what you can do about this.

- **DOORS:** Put a draught-excluder "sausage-dog" roll across the bottom of draughty doors, especially external doors and French-windows or patio doors. You can even make your own by stuffing an old pair of jeans with rags or newspapers.



- **DOORS:** Hang a heavy curtain across the inside of any external doors as they are often draughty due to the doors gradually changing shape and/or the door-seals and hinges wearing. If the door has a letter-box, a cat-flap, or an open key hole, you may want to check that the flap seals well, and if necessary fit a new flap/brushes/seals or new key-hole cover.



- **DOORS & WINDOWS:** For leaky, badly-fitting windows or doors, fit draught-excluder strip to fill any gaps, or if they are double-glazed, get a good installer to replace the seals and/or adjust the hinges.



- **WINDOWS:** If you haven't got them on your windows already, fit curtains. Make sure they have thermal or black-out lining and are long enough to tuck behind any radiators positioned below your windows. This will keep your rooms a lot warmer as any heat is prevented from getting to the glass panes. Even if they are double or triple-glazed, glass panes lose heat more quickly than walls. To make an even bigger difference, you could also fit blinds or net curtains between your curtains and the glass panes.



- **RADIATORS ON EXTERNAL WALLS:** To reflect heat back into the room, stick aluminium foil-covered corrugated cardboard behind your radiator, or buy foil-covered bubble wrap or foam sheets from a DIY store.



- **REDUCING YOUR HEATING BILL:** EndoTherm additive installed in your central heating water will provide upto 15% savings. It's a surfactant that helps to increase the heat released from your radiators. A 500ml bottle costs about £15 and is enough for a 3 - 4 bedroom house. You can install it yourself or ask a plumber, but they may charge. It will need replacing if you have to drain your heating system for repairs or upgrade work.

- **REDUCING YOUR HEATING BILL:** The neodymium Boostaboiler unit is used in many countries round the world and will give 6 - 10% savings on your heating bill. It is fitted to the fuel supply pipe to your boiler and requires no maintenance and you can easily fit it yourself. Payback time is typically less than a year and you can even take it with you if you move house.





Medium cost ideas

- **POWER-FLUSHING:** Power flush your heating system every 10 years to clear sludge and to help your radiators work more efficiently. Look for a good, trustworthy contractor.

- **FIT TRVs:** If you haven't got them already, fit TRVs (thermostatic radiator valves) to all radiators in your home. These control the temperature in each room so the heat isn't continuously on full, and will save you a lot of money. The latest TRVs can actually be set to maintain a specific temperature in each room. The "Just Right" temperature range for a home is between 18°C and 21°C.



- **INSULATING WALLPAPER:** A room with cool walls can be improved by putting up thick insulating wallpaper, such as Wallrock KV600. But first, check that any cold walls that you plan to cover are not caused by moisture ingress. A thermal imaging camera will usually confirm the situation. Insulating wallpaper only needs to be put on the cooler external walls in a room, not on the warmer internal walls. Remember to make sure you fit it right into the window recesses, so that there are no cold patches that attract condensation and start to go mouldy.



- **LOFT INSULATION:** Top up your loft insulation to 270mm. There are now many insulation alternatives (such as Supaloft, and Thermafleece wool or hemp insulation) which are a lot more user-friendly than fibre glass and definitely make the task much more manageable for anyone doing DIY. You may even decide to convert your loft to a warm space and insulate between the sloping rafters instead - but do plenty of careful research first to ensure you choose the right insulation material and installation method as mistakes are very difficult to correct.



- **CAVITY WALL INSULATION:** If your home hasn't already got cavity wall insulation, it is worth seriously considering it and doing your research, as the benefits are significant – a third of your home's heat is lost through the walls if they are not insulated. [The Energy Saving Trust \(www.energysavingtrust.org.uk\)](http://www.energysavingtrust.org.uk) gives more information.

- **INSULATING THE FLOOR:** If you plan to lay a new floor, ensure you take the opportunity to put down ample insulation underneath before you start laying your laminate or other flooring. If you are fitting a new carpet, choose a good quality thermally-insulating underlay. This will help reduce heat losses, especially where a room is over a cold integral garage.



- **DRYING THE LAUNDRY:** When outdoor clothes-drying is not possible, there are many highly efficient condensing tumble drier models available that consume much less power than in the past and don't need an external vent. Doing your research could pay off and also bring an end to condensation around the house, and without a huge electricity bill.

