# Guidance on Household Energy Conservation & Reduction to support staff and patients during the Energy Crisis

## EM-G-001 Revision 01

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**August 2022**

## Overview:

During these difficult times, with the cost of living increasing in every aspect, NHS Lothian had developed this guidance document that can be used to help you to reduce your household energy costs. The energy market is in crisis, due to the record high wholesale prices, there are currently no cheap energy offers anywhere, so using less energy is the only real way to save right now.

There are various ways we can all save energy around the house from, adjusting our behaviours and attitudes towards energy to upgrading our buildings and equipment, some options are free and achievable by anyone while others may require a little investment, there are support and grants available for various types of energy efficiency upgrades to your property which I have shared at the end of this document.

Energy saving is not a one size fits all system, each home and the installed heating and electrical systems are different. This guidance should support most homes in reducing their energy costs.

Keeping our homes warm, illuminated, and ensuring there is sufficient hot water is vital to our health, safety and wellbeing, particularly in the winter months, however the good news is that through a few simple changes, most homes can save on their energy bills, while still staying cosy.

## Gas Saving Tips:

### Heat where you need it:

Heating a whole home can cost between £2-4 per day, which can rack up quickly over winter, it is important that we keep our homes at a comfortable temperature, setting the thermostat somewhere between 18-21C is ideal, lower temperatures will save you more, however if anyone in your home is over the age of 65 or has a health condition you should warm your home to at least 18C.

It is important to stress that setting a higher temperature will not heat your home more quickly. If you decide on and set your baseline temperature now your body will acclimatise, and you will be less likely to be tempted to turn up the thermostat when the weather outside starts to get colder.

Consider which parts of your home need to be heated, this isn't about having a cold home, if there are rooms in your home that aren't used much, turn off the radiators in

those rooms and close the doors, this reduces the energy used to heat these unused spaces while maintaining the temperature in the rest of the house.

Likewise, if you plan on cosying down in front of the TV for the night and won't be moving around, there is no point in having the rest of the home heated to 21C. If you are going to be in the one spot for a while, layer up, use jumpers, sweatshirts, onesies or blankets to keep warm. Electric Blankets are a cheaper alternative to gas heating

Consider installing thermostatic valves to your radiators that don't already have them, they will automatically manage the temperature in the room, maintaining a consistent temperature while reducing the volume of hot water circulated through the radiator, minimising any areas of overheating. It should be noted that you need to check that your radiators are set up for thermostatic valves before you purchase them.

## Heat when you need it:

It is important to make sure your boiler is not running 24 hours a day can have a massive impact on your bills, a great way to control this is to set up a heating schedule from the boiler of thermostat so the heating will be off while you are out at work all day/night or can be set to a lower temperature while you are tucked up in bed.

The trick is to set your heating to come on 30 minutes before it is needed and shut down 30 minutes before it is not. This will allow the rom to heat up sufficiently and for you to make best use of the residual heat that is generated.

Developing a good routine for before leaving for work or going to bed can help to reduce energy costs. To make the most from the residual heat generated during the day/night, shutting the curtains before it gets dark at night or keeping the curtains shut before you leave for work will help to retain this residual heat, additionally on warmer days keeping the curtains open during the day will allow for external heat to enter your home. Curtains should be installed so that they do not cover the radiator, in particular where radiators are installed under a window as this allow a path for the heat to escape your home.

## Happy Radiators mean Happy Homes:

In most properties, radiators provide the main heating source for the home, therefore it is important that we look after them to make sure we get the most heat out of them,

there are various ways to look after your radiators which can improve their efficiency while keeping you warm for less.

Location is vital, ideally a radiator should be located away from a window as this gives an easy route for the heat to escape from the home, as mentioned above, appropriately fitted curtains can help reduce this. Equally as important is that you should not position any furniture in front of a radiator as these items can absorb the heat that is being emitted. The biggest culprits in this are couches and dining tables.

Installing reflective foil behind your radiators also will help to reduce the amount of heat that is absorbed and lost through the walls of your home.

You should regularly check your radiators for cold spots as these can indicate air pockets in the radiator which reduce the thermal output of the system, you reduce the flow first so they are not too hot to touch, then feel around the radiator, particularly along the top if you can feel cooler/cold spots then you must bleed the air out of the radiator.

Here is a link to a demonstration on how to properly bleed your radiators, not ll bleed valves are the same depending on the type of radiator installed, however the principals are the same.

When drying clothes, you should avoid positioning the clothes directly onto the radiator and use an airer or separate dryer where possible.

Give your radiators a good clean, dust and debris can collect between the fins of the radiator or behind and can act as an insulator, reducing the heat transfer from the radiator to your home, depending on the type of radiator you have some will be as simple as fitting a duster down the back and cleaning out others may need the covers removed to allow for access. Here is a guide on how to remove the covers safely.

Installing a shelve positioned just above your radiator can help to push the heat out from the radiator and into your room, rather than letting it rise to the ceiling.

## Hot Water, how hot is hot:

While there is plenty discussion around thermostats and settings, few people ever consider the settings on their boiler itself, the key one being the flow temperature. This is the temperature the water leaves the boiler at to heat your home or provide you with hot water.

At their default setting, these temperatures are normally too high, this doesn't make your home warmer and doesn't warm your home any faster but can have a massive impact on your bills and the associated emissions that are generated.

Setting your boilers flow to between 55C and 60C, your home will be just as warm, but you will see real savings on your typical gas usage. If you have a combi boiler, we recommend setting your flow temperature for heating at 50C and for hot water at 55C. If you have older style hot water boiler with separate hot water tank, we recommend setting both your boiler and hot water to 60C.

Hot water should always be stored at a high enough temperature to stop the multiplying of bacteria such as legionella from occurring, combi boilers are not a concern as they keep water flowing eliminating this risk. Hot water tanks are the main concern, legionella bacteria thrive between 20-45C, so maintaining a water temperature higher than this is essential in hot water tanks, hence the recommended 60C set point for these types of systems.

Similarly, when using hot water to clean dishes, for water to be hot enough to kill bacteria on our dishes we would need a water temperature of 75C, however at 60C hot water can cause serious scalding in less than 5 seconds. Most commonly we raise the temperature of our water in the boiler, only to cool it again at the sink by blending with cold water. Your dish soap will do the job of removing any bacteria from your dishes and water only needs to be hot enough to loosen grease and oils, which is generally around 30-40C.

If you need hot water for cooking or cleaning, it is quicker and more efficient to use the kettle or microwave to heat the water electrically, if this is for cooking you can always transfer the water to the hob once boiled to maintain the boiling.

## Draughts and insulation:

A continuous draught through your property can quickly undo all the good work of your heating system, while ventilation is important for air quality and health, it is also the first place that heat escapes. Some simple tips that can reduce the draughts in your home include;

- Get a draught excluder for any doors that lead to the outside, these can be purchased or are easily home made from old clothing, you could also think about fitting one around your letter box.
- Install curtains over all external doors and windows to lock in the residual heat
- Check widow and door seals to ensure they are sealing, replace as necessary with draught stripping.
- Check window and door vents are sealing and operating properly when closed.
- Keep doors between rooms closed when they are not in use.
- Block up old chimney stacks if no longer in use.

- Some properties that once had gas/coal fires and no longer do may have additional ventilation points around the room that are no longer that go directly outside, these can be blocked up in some instances, however it is recommended that these are assessed by a gas safe engineer prior to this.

Appropriately installed insulation can help to keep the heat in your house and retain it within the hot water system. If you find your home is cooling down quickly once the heating is off, you may need to upgrade your insulation. Common areas for heat loss are lofts, in particular the loft door, and draughty floors. Hot water tanks and pipework can also be insulated to retain the temperature in the system.

## Electricity Saving Tips:

## Energy Efficient Lighting:

Lighting makes up roughly 11% of the average UK household electricity consumption, so switching to energy efficient lighting will help you save money on your bills and reduce the associated carbon emissions without compromising on the quality of lighting in your home.

Likewise, switching the lights off when you leave a room or making sure curtains are open during the day will help to further reduce costs.

## Electrical Appliances:

Ensure that devices around the home are properly turned off when not is use, do not leave things such as TVs or computers on stand-by/idle mode as these will continue to consume energy at a steady rate.

It is worthwhile thinking about when you use your electricity, high energy consumers such as washing machines, dishwashers and car chargers should be used at times when energy use is cheaper, for instance if you are on a dual rate tariff where it is cheaper to use electricity after 6PM you should leave these activities until these times to reduce costs.

To further reduce operating costs of washing machines and dishwashers;

- only operate them once they have a full load, this will reduce both run time as you won't need to use them as frequently and will reduce the volumes of water consumed.

- Washing clothes on colder cycles, most clothing detergents now work effectively at temperatures as low as 30C.
- Where possible avoid the use of tumble dryer, air dry clothes in gardens or indoors on clothing racks.

Refrigeration and freezer units are one of the biggest drains on your electricity usage, there are a few tips on how to use them effectively to ensure both are operating efficiently;

- Keep your freezer full, as this means less energy is needed to keep it frozen, if you are nearing your next big shop and the freezer is getting a little empty then pack the gaps with bottles filled with water to have the same effect.
- Unlike your freezer, your fridge needs space for the air to properly circulate to keep it working optimally. Make sure there is sufficient space in your fridge, particularly around the top and sides for the air to flow.

## Energy Savings and Home Improvements – Support, grants and funding:

There a various options available for households who are looking to upgrade their existing heating and cooling systems, including support for the transition to renewable energies, The Scottish Government has stated;

*'Heating and cooling our homes and businesses costs £2.6 billion a year and accounts for approximately half of Scotland's greenhouse gas emissions.*

*Challenging weather, poor energy efficiency in the home and reduced heating options (especially in rural areas) can make fuel bills unaffordable, resulting in fuel poverty.*

*Energy efficiency has been designated a national priority. It is key to meeting our ambitious climate change targets and to tackling fuel poverty.*

*Our Aims:*

- *introducing new measures to address fuel poverty*
- *helping householders make energy-saving home improvements*
- *consulting on future milestones for energy efficiency in social housing*
- *introducing minimum standards for energy efficiency in private rented housing*
- *consulting on proposals to support homeowners to improve the energy efficiency of their homes*

- *delivering the Heat in Buildings programme to improve energy efficiency across Scotland and support all buildings to achieve a good energy efficiency rating over the next 11 years'*

*To support this there are various levels of grants and funding available through the Scottish Government to support households in taking the appropriate action to increase energy efficiency of their properties and reduce energy costs.'*

## Home Energy Efficiency Programmes for Scotland (HEEPS):

Area-based schemes. We fund local authorities to develop and deliver energy efficiency programmes (mainly solid wall insulation) in areas with high levels of fuel poverty. This funding is blended with Energy Company Obligation funding, owners' contributions and funding from registered social landlords who may choose to insulate their homes at the same time.
The area-based schemes are designed and delivered by councils with local delivery partners. They target fuel-poor areas to provide energy efficiency measures to a large number of Scottish homes while delivering emission savings and helping reduce fuel poverty.

Since 2013 we have helped to deliver energy efficiency measures to over 100,000 households. Including 2021/2022 allocations we have made available over £482 million to local authorities.

Find out more about our area-based schemes budgets and outputs, click here.

We have published case studies about the Area Based Schemes programme and templates for local authorities to submit further case studies. See images of properties that have benefited from HEEPS funding.

## Energy Efficient Scotland: Warmer Homes Scotland:

This national scheme was launched in September 2015 and since then it has helped over 25,000 fuel-poor households across Scotland. It is available to households (owner-occupiers and some private rented sector tenants) who are living in or at risk of fuel poverty and who meet the qualifying eligibility criteria.

Warmer Homes Scotland has a strong focus on heating and insulation measures to improve the energy efficiency of properties making them warmer and more affordable to heat. Renewable and micro-generation measures have been made available, including ground source heat pumps, micro-wind, micro-hydro and micro-CHP systems.

More information on the scheme, including how to apply, is available on the Home Energy Scotland website, click here.

## Home Energy Scotland Loan:

Home Energy Scotland delivers the loan and cashback schemes of behalf of the Scottish Government. Loans are available to owner occupiers who live in their properties and to self-builders for both energy efficiency measures and renewables measures and attract up to 40% and 75% respectively, dependent on the measures being installed. Cashback is based on total cost and capped at a maximum value.

Support is available for the following measures:

- energy efficiency loan – solid wall insulation, warm air/electric storage heating, gas connection, insulated doors, room-in-roof insulation/flat roof insulation and loft/floor/cavity wall insulation
- renewables loan – wind/hydro turbines, solar photovoltaic (PV, water heating systems, heat pumps (various) and biomass boilers/stoves

The maximum funding for energy efficiency measures is £15,000 (including a maximum cashback amount of £6,000).

You can apply for up to two home renewables systems per home up to £17,500 in total, plus an energy storage system up to a maximum of £6,000. This can include up to £11,750 cashback funding (including a £500 incentive for installation of a heat meter alongside a heat pump).

Cashback is subject to availability while funds last or until the end of the financial year – whichever comes first. Funds are reserved for customers when their loan is offered.

More information on the Home Energy Scotland Loan, including details on how to apply, is available from the Home Energy Scotland website, click here.