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www.strettonclimatecare.org.uk

Information sheet No 37

Running your gas and oil boiler efficiently

15% of the U.K's carbon emissions come from heating our homes with fossil fuels. Although Stretton Climate Care encourage the installation of Air or Ground Source Heat Pumps using renewable sourced electricity to provide zero carbon heating, we have to accept that gas and oil boilers will remain in existence for years to come and they therefore should be run as efficiently as possible both to cut down on running costs and fuel usage.

Gas boilers are becoming not necessarily the cheapest form of domestic heating as the price difference between gas and electricity is narrowing. An air or ground source heat pump produces 3 – 4 units of heat for just one unit of electricity (an equivalence of 300% efficient) whereas gas boilers run at around 93% efficiency. The Government funded Boiler Upgrade Scheme (BUS) is for the next two years offering £5,000 towards the cost when replacing a gas boiler with a Heat Pump. See <https://strettonclimatecare.org.uk/wp-content/uploads/2022/04/No.-35-Boiler-Upgrade-Scheme-BUS.pdf>

Too many condensing combi boilers in the UK aren't operating to their maximum efficiency. They're burning more fuel, generating more emissions, and costing households more than they need to. With energy prices rising it makes sense to run your gas and oil heating boilers as efficiently as possible. Although we are being encouraged to turn our heating thermostats down a degree or so to save money, (but only do so to a comfortable temperature and don't put your health at risk,) reducing the radiator flow temperature will not affect the warmth of your home. It just means it will take a little longer to heat up.

Condensing combi boilers should be set to a radiator flow temperature of 60°C or lower to increase the chances of them running at their optimum efficiency. However, many are currently installed to have a flow temperature of between 70-80°C and this stops them from condensing and running efficiently.

By reducing the flow temperature, it is suggested there is a saving of between 6-8% on your fuel bill.

Advanced heating controls N.B. not all smart controls are advanced controls

Genuine advanced smart controls speak the same language as the boiler and offer load or weather compensation information to the boiler. They can pass data back to the boiler rather than just switching it on and off. The boiler will behave very differently, changing the flow of the water and graduating the intensity of the gas flame. The boiler can anticipate changes and react with small increments. There can be as much as a 12% energy saving with advanced controls.

Advanced Smart controls are controls with Internet capabilities, able to gain data in advance about weather changes. These advanced controls are not mandatory when fitting a new boiler.

Below is information to help you correctly set the flow temperature on a Condensing **Combi** boiler. **It does not normally apply to conventional boilers with a separate hot water tank, fed by a cold water storage tank in your loft, though there may be exceptions.**

Is my combi boiler a condensing boiler? Probably if fitted within the past 16 years. It will also have a plastic tube underneath leading to outside or a waste water drain to take away the condensate.

Below is a very simple video from a boiler manufacturer for correctly setting the flow temperature controls of Combi boilers

<https://www.youtube.com/watch?v=XQk8ZVLIsOc>

NESTA (National Endowment for Science, Technology and Arts) have provided a comprehensive guide for setting up the flow temperatures for gas boilers. <https://www.nesta.org.uk/project/lowering-boiler-flow-temperature-reduce-emissions/>

There are numerous articles and YouTube films on the web about running boilers efficiently. The Which link below may also be helpful.

<https://www.which.co.uk/reviews/boilers/article/tips-to-reduce-your-heating-bills-aqik36F56DvJ>

The flow temperature is the temperature to which your boiler heats the water that supplies your radiators. Changing your flow temperature will not affect the temperature of the hot water for your taps and showers.

1. At the front of the boiler find the dial with the radiator icon, usually numbered 1 – 6
2. Set the dial to the halfway point which will take the radiator water temperature to between 55-60 degrees.
3. For boilers with a digital display, in radiator mode turn the dial until 55 - 60 degrees is displayed.
4. Any dial or display for the hot water setting should be left at 60 degrees to combat the risk of legionella bacteria.
5. If your radiators are very small, or it is extremely cold outside it may be necessary to temporarily increase the flow temperature to stop the house getting too cold.

Experiment with the flow temperature until you find the lowest radiator water temperature that will still adequately heat your home.

On newer combi boilers there is an ECO button which prevents the boiler providing a quicker supply of hot water. This reduces the amount of gas burnt but increases the run-off of cold water.



On some combi boilers there is an "Eco" button which when pressed stops the pre heating function which will use more gas and just reduces the cold water run off.