Environmental Health

Private Sector Housing

South Hams District Council

Heating systems and controls

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When it comes to heating your home efficiently knowing how to use the heating controls is essential. If they are not used properly you will be losing money, could be left feeling cold and could cause additional problems to your property like condensation and mould.

If a property has been empty for some time it may take a long time for it to reach its optimum temperature. Once a property has reached the desired temperature the heating system will need to be used regularly to prevent the temperature falling to an undesirable level. A property should be kept between 18–21°C to prevent damp, mould and illnesses associated with excess cold.

It is cheaper and easier to keep a property at a constant temperature rather than letting it cool down and then reheating it using maximum power, which leads to increased costs.

It is worth taking a little time to find out what each heating control does using the following information. This will differ depending on whether your heating system is run by gas or electricity. Please also refer to the instruction manuals that came with the heating controls (if you have them). If you don't have any manuals to hand, copies can usually be downloaded from manufacturer's website.

Electric heating

Control of your electric heating

Where electric heating has been supplied it will normally be a system using electric storage heaters. The objective of night storage heaters is to utilise the cheaper electricity available during the night. This 'off-peak' tariff is usually called 'Economy Seven' (E7) it is available for 7 hours overnight (usually midnight to 7am) and costs about 4p per unit. If you do not have an E7 tariff you can request it from your electricity provider who should change it for you for free. You will have two meters or one meter with two or more readings. One of the readings (or meters) measures the 'on-peak' daytime electricity and the other measures the night-time 'off-peak' electricity. To find out about the different supplier tariffs call the South West Energy Savings Trust on **0800 512012**.

Night storage heaters

Night Storage Heaters are insulated boxes containing bricks with electrical elements running between them. Storage heaters charge up using the cheaper (night) rate electricity. You can set the 'charging' controls to fill the box with the desired amount of heat e.g. setting it on 4 (out of 6) means the elements will shut off when the box is 2/3 full. The storage heaters are covered with insulation. This holds most of the heat in the box for up to 14 hours or so, but this heat will eventually 'leak' out. At the top of the box is a flap, which can be opened to let the heat out more quickly. The more the flap is opened, the faster heat can escape and heat the room.

Operating the night storage heaters

Controls vary depending upon the type of heater installed. Older heaters may need to be set manually at night and then manually opened when heat is needed. Newer models have thermostatic controls, which allow a specific storage and output temperature to be set. Both of these types can have a built-in fan, which blows heat out of the heater rather than just letting it drift out as convected heat.

There are usually two main controls on a night storage heater; input control and output or boost control:

1. **Input control:** This determines how much heat is 'charged' into the storage heater during the night and should be kept on a low setting during mild weather when only a small amount of heat needs to be stored. On older models this is determined directly by the 'Charge' control setting. On more recent models 'charging' is thermostatically controlled, usually by room temperature.
2. **Output control:** This is sometimes called 'Boost' or 'Room temperature'. As described above, Night Storage Heaters have flaps, which open to release heat. How much the flap opens is determined on older models directly by the output control. On more recent models the flap is controlled by a thermostat. You set the thermostat by adjusting the setting of the 'Output' control. The boost control is usually numbered **1**–**5**. The heater will operate quite well with the setting at number 1. If however, you need extra heat during the afternoon and evening turning the boost to numbers **2**–**5** will increase the heater output. Remember to re-set to **1** before you go to bed. Forgetting to do this may sometimes explain why storage heaters run out of heat during the afternoon.

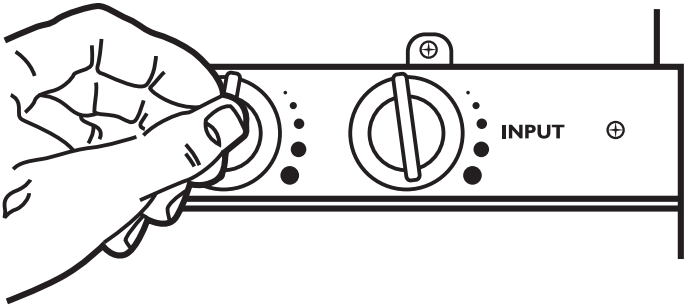

Image © Dimplex

Tips if you have older storage heaters:

- Remember to turn down the 'output' control before you go to bed to stop heat being given out when you don't want it.
- If the room is cold, turn up the 'output' control until it warms up.
- As the weather gets warmer turn down the 'input' control to store less heat.
- When the room is warm, turn down the 'output' control to save heat for later in the day

Tips for all storage heaters:

- Block-up any open chimneys or do not install a storage radiator in rooms where an open fireplace is present (including gas flame-effect fires).

Panel heaters

Panel heaters use direct acting energy, which means they provide fairly instant heat once switched on. They are usually compact in size, wall mounted and are often used for areas which only require heating for short periods of the day, like bedrooms. However they can be used as a whole house heating system.

Panel heaters can offer different features such as 24 hour timers for improved efficiency. Selected models can also be linked to a central programmer for maximum control.

Because on-peak electrical heating is expensive (normally about 10 to 15p per unit) electrical panel or convector heaters are not recommended, except as complementary heating.

Points to remember

- Day rates of electricity can be more than three times as expensive as night rates. Check the actual charge with your electricity provider, this will normally be shown on the bill.
- Don't be tempted to use alternative electric heating appliances. These are all operated on day rate electricity and most have no effective temperature control.

Gas central heating system

A controlled gas central heating system will typically have:

- A time programmer and room thermostat, or a combined programmable room thermostat instead of separate programmer and room thermostat.
- A cylinder thermostat
- Thermostatic radiator valves (TRVs)

What is a programmer/timer?

A programmer or timer allows you to set times for your heating and hot water to come on and go off to suit your lifestyle. Once set, the programmer automatically controls the times at which your central heating system switches on and off. There are generally two types of programmer/timer, a manual clock with tabs to set the timing periods and electronic ones. Make sure that the programmer/timer is set to the correct time of day. If you have a combination (combi) boiler then you will only set the heating periods for the radiators as hot water is heated instantly when the hot water taps are opened.

It is best to set your heating to come on about half an hour before you want your home to be warm, and to go off about half an hour before you go out or go to bed. Ideally you should run the system in two periods and for no more than nine hours per day in total.

What is a room thermostat?

A room thermostat constantly measures and controls the air temperature of your home's main living spaces and can be set to whatever temperature suits you best. They are usually mounted on a wall in the hallway, living room, stairs or landing areas and will have a dial with a range of temperatures on it. You can set this dial to the temperature you want your home to be.

Depending on you and your situation, a room thermostat should be set as follows:

- If you're a pensioner or infirm then your room thermostat should be set at 21°-23°C (70°-73°F)
- Otherwise 18°-21°C (66°-70°F) is fine for healthy adults.

When the temperature falls below the setting, the thermostat switches on the central heating; once the air reaches the set temperature, the thermostat switches the heating off.

Please note that the timer or programmer needs to be switched on for the thermostat to work.

What are thermostatic radiator valves (TRVs)?

TRVs sense the air temperature around them and regulate the flow of hot water entering the radiators to keep a set temperature in a room. Again, they can help you save money and energy - by allowing warmer temperatures in some rooms than in others, and by turning off the heating in rooms that aren't used.

In the majority of cases TRVs can not turn off the boiler when the whole house has reached the right temperature. To do that, you will need a room thermostat as well. Radiators in the space containing the room thermostat should not normally have TRVs. But if they do, you should keep the TRVs on their highest possible settings, and set the room thermostat to the required temperature instead. By installing TRVs, you could save around £10 a year and around 45kg of CO2 a year.

If you have any further questions about heating systems or controls in your home, contact us on **01803 861234**.

Alternatively email your enquiries to **customer.services@southhams.gov.uk** or visit our website **www.southhams.gov.uk**.

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