

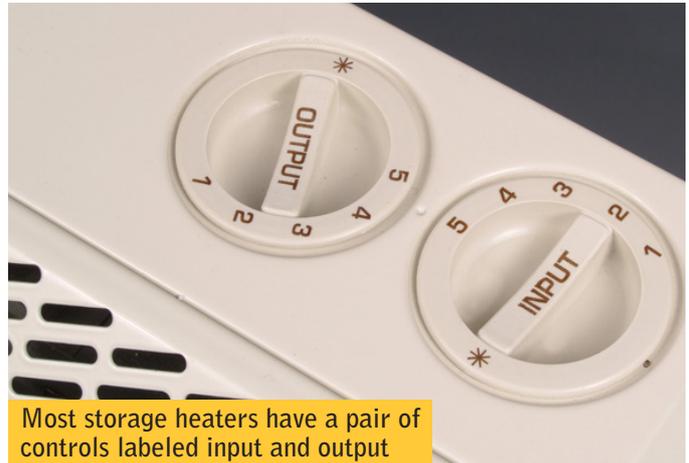
# Night storage heaters

## A simple guide

Storage heaters work by storing heat generated by cheap night-time electricity and releasing this heat during the day

Most storage heaters are wall-mounted and look a bit like radiators. They work by drawing electricity over the course of a few hours at night, and storing it as heat in a 'bank' of clay or ceramic bricks to use the following day. The advantage is that they can consume electricity at night, when it's cheap, and release their heat many hours later.

They are designed to work with Economy 7. This is a tariff in which night-time electricity is much cheaper (typically about a third of the price) – but day-time electricity is more expensive. The cheap hours are normally from 12 midnight until 07.00 in winter, and from 01.00 to 08.00 in summer, although this can vary. For more information about Economy 7, see our other leaflet.



Storage heaters have a set of simple controls. An **input** setting allows you to regulate the amount of heat that the heater stores overnight. This is important because, although night-rate electricity is cheap, there's no point paying for more than you need. If it's not particularly cold, or you'll be out of the house for most of the day, you

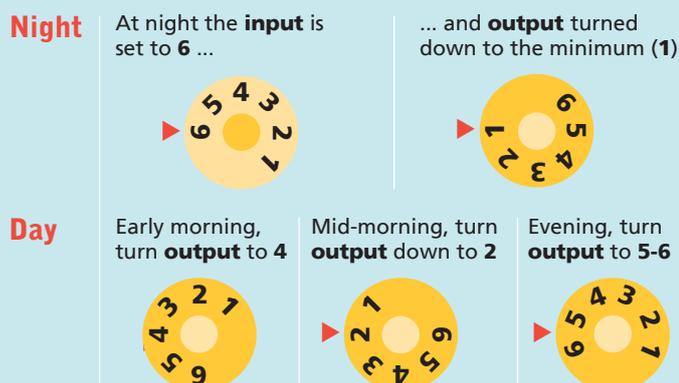
### Jack & Gwen's storage heaters

Jack and Gwen are a retired couple whose home is heated with electricity. They have **night storage heaters** to take advantage of an Economy 7 tariff.

#### Winter

In winter, Jack and Gwen are in most of the day. This means they want their storage heaters to charge fully at night, so they set the **input** to **6** and the **output** to **1** or **off**.

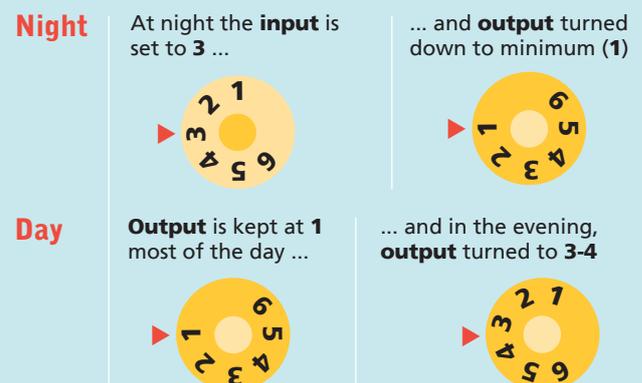
In the morning, to warm the house up, they turn the **output** to **4**. Once the house is warm, they turn it down to **2**, and in the evening when it becomes chillier, they turn it up to **5** or **6** to use up the remaining stored heat.



#### Summer

It is now summer. Tomorrow, Jack and Gwen will be out most of the day and because the weather is warmer they only want a bit of heat for the evening. So they set the **input** to **3** overnight. As always, the **output** is set to **1**.

In the morning they keep the **output** on **1** as the room is warm enough. When they come back in the evening they turn the **output** to **3-4**, giving them some background heat over the next few hours.



See all our energy advice leaflets at [www.cse.org.uk/advice-leaflets](http://www.cse.org.uk/advice-leaflets)

don't need to set the input to maximum because there's no point storing so much heat. Most storage heaters will **only** charge up at night, so you can leave the input setting without danger of using expensive day-rate electricity.

The controls also have an output setting that allows you to regulate the amount of heat that the storage heater releases. The higher the setting, the quicker the heat is released into the room. This means that if the output is high all day then the heater will run out of stored heat. It is better to adjust the output gradually, saving some heat for the evening. Overnight, or when you are out, you should set the output to minimum, otherwise the stored heat you have paid for will be wasted.

Some storage heaters have a 'boost' setting. This doesn't use 'cheap-rate' stored heat, but when turned on uses expensive daytime electricity, so it should only be used if the stored heat has run out.

Even if your night storage heater controls are different, they still operate on the same input and output principle.

## Modern storage heaters

The latest storage heater models have been improved in terms of efficiency, responsiveness and controllability. New models can hold more heat for longer periods, with better insulation to ensure heat is only released when it's needed (often via a fan-assisted system).

Many modern storage heaters also feature a thermostat and timer or programmer. This means you can set heat to be released at a time that suits you (for example when you get up in the morning) and it makes operating them much more 'hands-free'. Some models allow you to set the programmer and monitor heating remotely via a mobile app.

Upgrading to a modern storage heater can help reduce your energy bills by about 10% whilst giving you more control over when you heat your home and how warm it gets.



**Night storage heaters are one of the cheapest ways to heat your home when using electricity.**



Modern storage heaters look a lot better, too ...

## High heat retention storage heaters

The most efficient modern storage heaters are called 'high heat retention storage heaters', and are up to 27% cheaper to run than standard storage heaters. In addition to the features of other modern storage heaters, these models achieve even better heat retention and are able to estimate the next day's heating demand based on user heating habits and climatic conditions (meaning you do not need to worry about adjusting input settings). High heat retention models include Quantum heaters (from Dimplex/Creda and Heatstore), Elnur (Gabarron) Ecombi HHR heaters and the Stiebel Eltron SHS and SHF range.

Replacing old storage heaters with high heat retention models may also improve the Energy Performance Certificate (EPC) rating for the property.



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The Centre for Sustainable Energy is a national charity that helps people change the way they think and act on energy.

Our Home Energy Team offers free advice on domestic energy use to householders in Bristol, Somerset, North Somerset, Bath & North East Somerset, Wiltshire, South Gloucestershire and Dorset.

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