

Night storage heaters

Everything you need to know about storage heaters, including how they work and how much they cost ...

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

Most storage heaters are wall-mounted and look a bit like radiators. They use electricity to heat up a “bank” of ceramic or clay bricks inside them overnight. Then they can release the heat gradually to keep your home warm the next day.

How much do storage heaters cost to run?

Night storage heaters mean you can take advantage of lower off-peak electricity rates to heat your home. They are designed to work with Economy 7. This is an electricity tariff where night-time electricity is much cheaper – typically half the price – but daytime electricity is more expensive.

Modern storage heaters

The latest storage heater models are more efficient and easier to control. New models can hold more heat for longer periods, and include 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 controlled via a programmer



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

All storage heaters have input and output controls – though they may not look exactly like these



or mobile app. This means you can set heat to be released at a time that suits you (for example, when you get up in the morning). Upgrading to a modern storage heater can help reduce your energy bills by about 10%.

2. High heat retention storage heaters

The most efficient modern storage heaters are called ‘high heat retention storage heaters’. They 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 (so 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 your home.

Older night storage heaters

Older storage heaters, unlike the types described above, have a set of simple controls. An input setting allows you to regulate the amount of heat the heater



stores overnight. This is important because, although night-rate electricity is cheaper, 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 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.

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've paid for will be wasted.

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

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

Storage heater tips for lower bills

1. The 'output' setting of your storage heater should be turned off at night, also when you are out of the room or out of the house.
2. The 'boost' setting can be used to throw out extra warmth. But it uses expensive daytime electricity, so use all the stored heat first by opening the output fully before using boost.
3. Avoid using supplementary plug-in heaters. It's better to turn up the input on your storage heater and store more heat.

CASE STUDY

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** or **4**, giving them some background heat over the next few hours.



St James Court
St James Parade
Bristol BS1 3LH

0117 934 1400
cse.org.uk
info@cse.org.uk

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Our Home Energy Team offers free advice on domestic energy use to people in central southern and southwest England.

Contact us:

PHONE 0800 082 2234
EMAIL home.energy@cse.org.uk
WEB www.cse.org.uk
TWITTER @HelloCSE