

Take control of your storage heaters

Spend less, enjoy more warmth



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Take control – spend less, enjoy more warmth

Storage heaters have been present in UK homes since the early 1950s during the time of the electricity boom. They were developed to solve the problem of rising energy usage during the day, helping the UK's electricity boards to create demand for electricity at night.

These 'night storage heaters' worked by using electricity overnight to slowly heat thermal bricks in the heater unit. This heat could be released during the day as and when needed, then recharged overnight.

They were designed to work alongside cheaper rates set by the electricity boards, helping make the use of surplus night-time electricity more attractive. Storage heaters provided a way for people to heat their homes at a lower cost than most other methods at the time.

The days of these basic storage heaters are long gone, but today they still provide an efficient and inexpensive way for us to heat our homes. Current storage heaters deliver **control** and **convenience**, helping to heat your home in a way that fits your lifestyle so you can avoid wasting heat or energy. Storage heaters may remain wall-mounted and continue to use electricity to heat up the bricks inside them overnight, but modern models are much more slimline and have much stronger heat retention.

We know that because storage heaters work in a different way to a standard central heating system, they can take a bit of time to understand and adjust to. This is why we have created this guide to explain how they work in simple terms to help you make the most of them. In it, we'll give you all the information about how storage heaters work (both the standard night heaters, plus the newer Dimplex Quantum models). We'll also provide some money-saving tips and explain how tariffs work.

Essential Information:

Modern Dimplex Quantum Storage Heaters

This section will spell out the features of the Dimplex Quantum storage heater. We will discuss what each of the controls do and how to use them to keep your bills down.

How do they work?

Storage heaters work by charging up overnight when electricity can be cheaper. They make use of cheaper off-peak night-time electricity available from an Economy 7 tariff. It's called Economy 7 because you get cheaper electricity for **seven hours** each night. This uses a special electricity meter, which tracks the electricity you use separately for day and night.

Like all storage heaters, the Dimplex Quantum storage heater contains energy cells that get heated during the low-cost night-time hours. During the day, these cells slowly release the stored heat into your rooms. Because the Dimplex Quantum is a modern model, it is very well insulated, meaning that less heat escapes when it isn't needed.

Setting up the controls

The Quantum storage heaters have a digital display and several controls that you can set up. It's important that you understand how these controls work and set them up correctly, otherwise you might find they don't keep your rooms comfortable or that your electricity bill is higher.

- Make sure they are switched on at the wall and that this switch is **left on all the time, including overnight, otherwise the storage heater won't charge.** Leaving them switched on will not mean you use more electricity as they will only charge up at specific times. Remember the heaters use night-time electricity to charge up. This means that the first time you turn them on they will not heat up until the next night-time period.



- The controls are on the top right of the heater under a flap.
You'll find:
 - a selector dial which can be rotated and pressed (1)
 - a display screen (5)
 - three buttons: menu (2), back (3) and advance (4)
- If you press down the dial, the display screen shows you the thermostat target temperature and timer mode.
- When the heater is active and releasing some of the stored heat into your room, "heating on" shows at the bottom of the screen.
- "Heating off" shows that the heater is not currently providing heat - as set by the programmer - it is trying to keep the heat stored for later in the day.
- Make sure "heating off" shows whenever you find it is too warm or when you go out. There's no point releasing heat into the rooms when it's not needed as this will mean you have less heat for later in the day.

Setting the time

Your Quantum heater may already have the correct time set, but if not:

- Press menu and then rotate the dial until “Date/Time” is highlighted
- Press the dial in to select it
- Rotate the dial until the correct day is highlighted
- Press the dial to select it
- Repeat this process to select the date, month, year, and time.

Money saving tip

The lower you can keep the temperature and still be comfortable, the lower your bills will be. See if 18°C is warm enough for you. Remember, there is no point heating your rooms when you go out. Make sure the heating is off when you are not home.

Setting the temperature

When on the display screen, you can simply rotate the dial to set the target temperate. The control works in a similar way to a thermostat on a gas boiler.

Rotating left lowers the temperature and rotating right raises it.

When the room reaches this temperature, the heater will turn off.

The recommended temperature range is between 18-21°C. You shouldn't go below 18°C in your occupied rooms as this may be bad for your health. Higher temperatures will require more energy and lead to higher energy bills.



Using the timer mode

There are four timer modes which decide when the heater will be active (“heating on”). This is like setting the programmer on a gas boiler.

The four setting options are:

- 1. User timer:** lets you select your preferred timeframes for the heating to be on and off. You can have up to four separate periods of heat set at times to suit you.
- 2. Out all day:** provides heat over two periods in the day. These are in the morning and evening with the heating off during the day.
- 3. Home all day:** provides heating throughout the day and is designed for people who need heat all the time.
- 4. Away:** allows you to reduce the heating while you are away. You can set the number of days you are away from home and the desired temperature for this period. As the storage heater knows how many days you are away it can make sure your home is warm for when you return.



To choose a timer mode:



press **menu** and rotate the dial to highlight **timer mode** and press the dial to select.

then select the desired **timer mode**. Choosing **holiday** will maintain a room temperature of **7°C** and is designed for when you are away



select **timer mode** by rotating and pressing the dial and the list of four timer modes will be shown. Default settings for these are shown in the table below:

	Heating period 1	Heating period 2	Heating period 3	Heating period 4
1) user timer	06:30 – 09:30	11:00 – 13:00	15:00 – 17:00	18:00 – 22:00
2) out all day	06:00 – 08:30	17:00 – 22:00	NA	NA
3) home all day	08:00 – 21:00	NA	NA	NA
4) holiday	NA	NA	NA	NA

You can choose to ‘select’ any of these pre-set options. Alternatively, you can select ‘modify’ to change the timings of any of these programmes, so they suit your circumstances.

Below are two examples from Orbit customers:

Mrs A is retired and at home most of the day. Because she is at home most of the day, she wants to make sure the heating is on most of the time. She feels that the **home all day** setting is most appropriate for her. However, she usually gets up at 06:30 and goes to bed at 20:00. She has used the **modify** option to change the timings to suit her. Now her heating comes on at 06:00 and goes off at 19:30 each day.



Mr B works full time in an office from 9-5. He comes home for lunch each day at 13:00. He could have chosen the **out all day** programme. However, he would like his apartment to be warm when he comes home for lunch. So, he has chosen the **user timer** option. He gets up at 07:00 and leaves at 08:00, comes home for lunch for 30 minutes and then gets home from work at 18:00. He has set his heating to be on: 06:30 – 08:00, 12:30 – 13:30, and 17:30 – 21:30. He has removed the fourth heating period as he doesn't need it.

Money saving tip

Your rooms will still stay warm for a while after your heating turns off. Set the heating to switch off before you leave to avoid heating for longer than needed. For example, if you leave at 08:00, set the heating to switch off at 07:30.



Understanding the other controls

The storage heater has an **advance** button. If the heater is in **heating off** mode but you need heat earlier, pressing **advance** will turn the heater to **heating on**, bringing forward the start of the next time period.

This will use heat already stored in the heater and so can leave less stored heat available for later in the day, so use this setting sparingly.

Pressing advance when **heating on** is showing will turn the heater off until the next heating period. Use this if you feel it is too warm or you are going out. It'll help save heat for later in the day.

Advance can be useful if you are in and out of home at different times to those set on the timer.

There's also a **boost** option. This can be found by pressing the **menu** and scrolling to **boost**. This switches on a booster heating element. You can choose the target temperature and the duration of the boost (in minutes). Once the boost has run for the selected time it will automatically switch off. The boost option uses the expensive rate of electricity, and should be avoided except for emergencies (for example, unusually cold weather).



Money saving tip

There is an **auto boost** option. This will automatically boost the heating if the stored heat cannot provide sufficient heat. This will be very expensive to run and should be switched off, where possible.

Essential Information: Standard Storage Heaters

We are installing energy efficiency improvements in many of your homes, so they are warmer, healthier and more cost effective to run. As of now, not all of your storage heaters are the new, more efficient Dimplex Quantum models, so we wanted to also include some information about standard models.

Traditional storage heaters have a set of simple controls that feature two dials and operate on an **input and output** principle.

Older models often come with basic controls that feature two dials; an **input** so you can control how much heat it stores and an **output** to control how fast the heat escapes (the equivalent of temperature control). It is important to regulate the amount of heat the heater stores overnight 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.

The higher the output 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 switch to **off**.

Like more modern models, some traditional storage heaters have a **boost** setting. Remember that 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.



The following example helps explain how you might use storage heaters differently throughout the year.

Jack and Gwen are a retired couple whose home is heated with storage heaters.



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.



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.

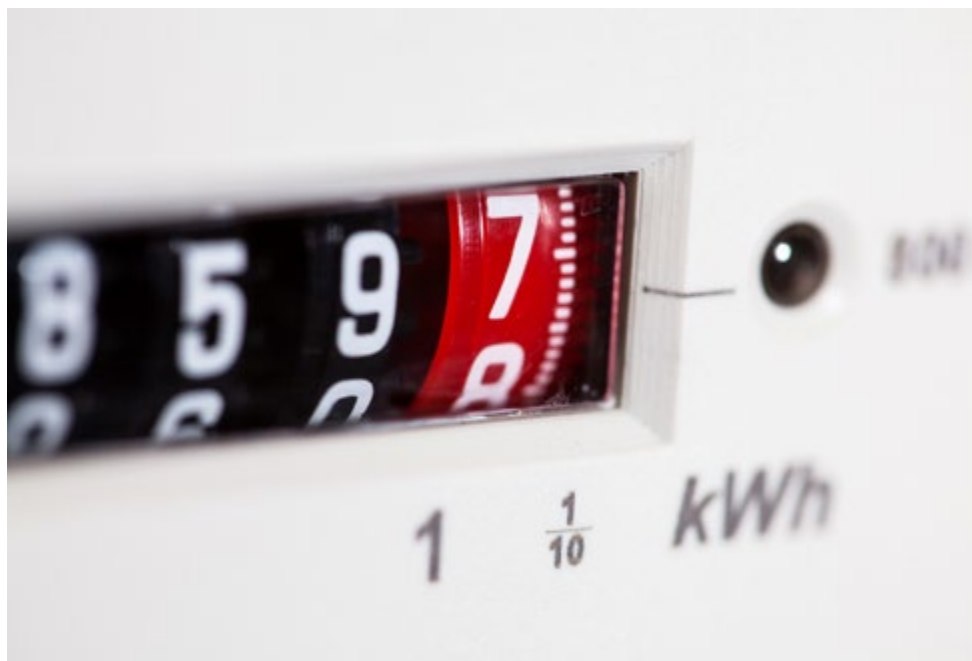
Making sure you are on the right tariff

Storage heaters are designed to work with an electricity tariff that is cheaper during the night. This is usually called an Economy 7 or 10 tariff and these have lower unit rates during the off-peak periods.

Energy companies can sometimes put you on the wrong type of tariff so it's important that you check this regularly.

You can usually find your tariff on your energy bill under a section called **about your tariff**.

If you have two different rates, one for night and one for day, then you have Economy 7. Your bill also shows your electricity Meter Point Administration Number (MPAN) and this will start with '02' if you have Economy 7. If you don't have a bill, you can also give your current energy supplier a quick call and they'll tell you what your current energy tariff is. Make sure they tell you the unit rates for the **day** and **night** periods. The **night** rates should be cheaper.



Your questions answered

What time do storage heaters charge?

The exact timings of your cheaper electricity will depend on your supplier. Usually, you will get seven hours of cheaper night-time electricity sometime between 10pm and 8am. Your storage heaters should automatically charge during this cheaper period. In most instances, all your electricity is cheaper during these seven hours and so it can be a good time to put on appliances such as your washing machine, or to use any chargers. Contact your supplier to find out exactly when your seven hours of cheaper electricity are.

My storage heaters are cold by the evening, what should I do?

When on the display screen, you The amount of heat your storage heater can store each day is limited. If you are finding your storage heater is cold by the evening this usually means that you've already used all the stored heat. Start by reviewing the times the heating is on. If there are times you aren't at home or times when it's too warm you should make sure the heating is off at these times by switching to heating off. This will reduce the number of hours the heating is on during the day, storing more heat for the evening. You should also check what the target temperature is. Simply reducing this by 1°C will also save more heat for later in the day. As a last resort, you could use the boost function to provide additional heat in the evening. Remember that the boost option uses the expensive rate of electricity.



My bills are super high, I'm thinking about not using my storage heaters, what should I do?

Before you consider turning the storage heaters off you should check the following:

- Check your tariff. If you're not on a tariff with a cheaper night rate such as Economy 7, your heating will be expensive.
- Check that your heater's temperature is set between 18-21°C.
- Check that your heating is only on when you need it and use the timer mode to adjust where necessary.
- Also check that the storage heaters are the issue. For example, make sure that your hot water cylinder is set-up to only heat on the 'off-peak' night rate.

The cost of running a storage heater depends on a range of different factors, including the size of your rooms, the insulation in your home, the size and number of windows in the room and the type of glazing in the windows. The temperature you are comfortable with is also an important factor.

What is Economy 7?

Off-peak electricity is supplied to your house, usually overnight when demand for electricity nationally is low. Commonly on electric tariffs known as **off-peak** or **Economy 7**, this off-peak electricity is supplied at a cheaper price than standard daytime tariff electricity. This is only switched on during the off-peak time which is only at certain times of the day or night dictated by your electricity supplier. You need this to get the most out of your storage heater.



You can find more information about Economy 7 here.

I'm going away, what should I do?

Use the timer mode to select the **away** function. You'll be able to specify how long you are going to be away for. This will help you avoid paying for heating when you are away from home.

Can I use another heating source such as an electric heater in my home if I have storage heaters?

Try and avoid using supplementary plug-in heaters, especially if your home has more modern storage heaters, because they can 'confuse' the storage heater's understanding of an ambient room temperature. It's better to turn up the input on your storage heater and store more heat or use your heater's advance or boost functions.

I have more than one storage heater in my home - can I programme each one differently?

Yes, each storage heater can be programmed independently. For example, you might decide to keep your living room storage heater set at 21°C but reduce the temperature of the storage heater in your hallway to 18°C. You can also change the times the storage heaters are on. So, for example, if you spend your evenings in your living room you might decide to programme that storage heater to come on in the evening times at a higher temperature, so you are warm and comfortable.



Are there any safety concerns with storage heaters?

Keep furniture away from the heaters to make sure the heat gets into the room.

Never cover any air vents on your storage heaters or cover the surface of the heaters as that's a fire risk.

Avoid placing anything flammable near your storage heater. Make sure you have a gap of at least 16cm exists between your curtains and the top of your heater.

Install a storage heater guard to protect children.

How do I check I am on the cheapest Economy 7 tariff?

With the energy crisis there have been lots of changes in the energy market. As this advice is constantly changing, we would recommend you get the latest information from www.moneysavingexpert.com/utilities/cheap-gas-and-electricity/

How do I lock the controls on the storage heater?

If you need to lock the controls so that the settings cannot be changed then activate the 'child lock'. To do this press and hold 'back' button and push down the 'selector dial' for three seconds. 'Child lock' will appear on the screen. To unlock repeat the process.



The 'Warm and Well' project

We know that because storage heaters work in a different way to a standard central heating system, they can take a bit of time to understand and adjust to. This is why we have set up a partnership with Imperial College London as part of the 'Warm and Well' Project to help more of you get more out of your storage heaters.

Alongside this guide, we've produced a 'Getting the most out of your storage heater' video. This useful video has been co-created using insight from others living in Orbit homes, to help you understand how to use storage heaters in the best way.

We're also working closely with storage heater manufacturer Dimplex, on a dedicated training programme for our teams. As a trusted name for electrical heating, Dimplex will be helping our scheme officers and contracts team to get up to speed on the very latest digital storage heater models, such as the Dimplex Quantum. We can then share all this technical know-how with you so that you can fully enjoy your storage heater by making it more responsive to your needs.



**Scan this QR
code to access
the video.**

Finding out more

We hope this guide provides you with everything you need to know about storage heaters, but if you'd like more support, then why not access some of these sources:

Economy 7

www.cse.org.uk/advice/economy-7/

www.ofgem.gov.uk/information-consumers/energy-advice-households/economy-7-consumer-guide

Traditional storage heaters

www.cse.org.uk/advice/night-storage-heaters/

Dimplex Quantum

www.cse.org.uk/advice/dimplex-quantum-night-storage-heaters/

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