



Home energy advice

Room heaters

What are your best options for extra heat?

Room heaters are used to heat a small space and are normally portable or fitted to a wall. Most room heaters use gas or electricity.

Room heaters are usually used as an extra heat source (sometimes called secondary heating), alongside a main heating system.

They can be useful if you need to heat one room for a limited time or give an extra boost of warmth to someone who needs it. But they can be expensive if used over a long period of time because they consume a lot of gas or electricity.

What kind of room heater is best?

There are many options! To be most efficient, you should use the right heater for the space you want to heat, otherwise you may have a high running cost but not feel any warmer.

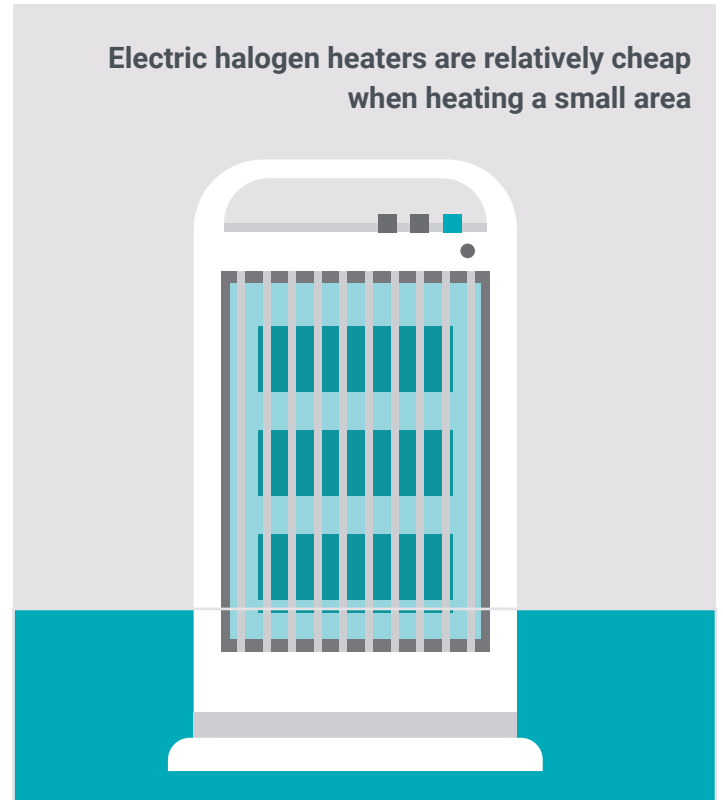
You should carefully control the temperature and the time you have the heater on. Heaters with these controls are usually cheaper to run.

The first thing to think about is what purpose you want it to serve.

1. Heating a whole room for a few hours or more

To warm up a room for longer periods of time, you should use a convector heater. These heaters work by warming the air immediately next to them. The warm air then naturally circulates around the room. They take a little longer to work, but this type of heater can be easily controlled with a timer and thermostat, so you don't overheat the room or waste any energy (or money).

Electric halogen heaters are relatively cheap when heating a small area



2. Heating a room for a short period of time

For a quick blast of warmth, or for more directional heating, you should use radiant heaters. These work quickly and are useful if you only want to warm up part of a room or a person for a short period. That's because they only heat what's in front of them.

Unlike convector heaters, radiant heaters don't achieve an even level of heat throughout the room so they might not give you the same level of comfort over time. They rarely have thermostats or timers, which can make their running costs more expensive over long periods.

There are many different types of radiant and convector room heaters, and they can use gas or electricity. Find out more about the different options overleaf.



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Electric room heaters

Electric heaters are very efficient because they turn all the electricity they use into heat. But this doesn't mean they are cheap to run.

To calculate the running cost, you need to look at the power rating of the heater, shown in kilowatts (kW). The higher the power rating the more heat will be produced, but also the cost will be proportionally higher.

This table shows typical running costs for a range of electric room heaters. Costs are for heaters used on the highest setting, and which are producing heat for the whole hour. However, heaters with a thermostat will automatically turn off when the required room temperature is reached, meaning in reality the cost will be lower over several hours.

Heater	Heat source	Typical power rating	Running cost per hour *		
			Single rate meter	Economy 7	
				Night	Day
Bar fire	radiant	2 kW	68p	35p	79p
Convactor heater	convactor	2 kW	68p	35p	79p
Oil-filled radiator	convactor	1.5 kW	51p	26p	61p
Fan heater	radiant	2 kW	68p	42p	£1.00
Halogen heater	radiant	1.2 kW	42p	21p	47p

* Running costs assumptions: Single-rate meter, 34p/kWh; Economy 7 (night), 17p/kWh; Economy 7 (day), 40p/kWh. To calculate this yourself times the heat output of your electric heater by your electric kWh unit cost.

For the latest cost comparisons for different heating systems and appliances in your home, you can visit a site such as:

<https://www.moneysavingexpert.com/energy/>

Halogen heaters tend to be the cheapest radiant heaters as they have a low power rating (but also produce less heat), while oil-filled radiators are often the cheapest convactor heater because there is a thermostat to control the temperature.

Portable infrared heaters are getting a lot of attention at the moment. Manufacturers claim that they can save energy and they are cheap to run and callers to our energy advice line often ask "Are infrared heaters any good?"

Our response is that these are radiant heaters so there will be no warmth lingering in the air once the heater is turned off. If an infrared heater is the only heat source in a room, there's also a risk of damp and mould problems. That's because the air in the room remains cold which means it condenses on any cold surface.

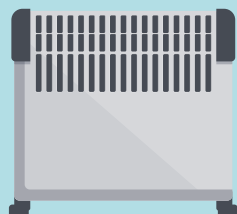
Infrared heating can suit some homes, for instance where people spend a lot of time sitting rather than moving around, or where the building is draughty or poorly insulated - as warm air is not being lost out of the building. If you want to use an electric room heater, use it only when necessary and consider the following:

- Use a timer if it has one, if not, you can buy a time switch for the plug.
- A thermostat will reduce running costs, but by how much depends on lots of factors, such as room size, insulation levels and making sure the thermostat is not turned up too high.
- If you are on Economy 7, avoid using heaters for long periods within peak hours if you can. It's better to use night storage heaters that are charged at night.

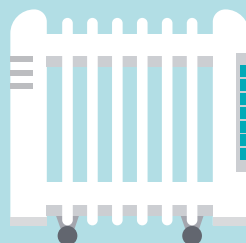
Hot parade (electric)



Radiant bar fire



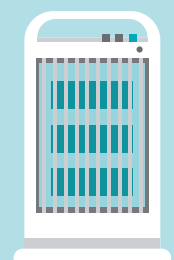
Convactor heater



Oil filled radiator



Fan heater



Halogen heater



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Gas room heaters

Gas heaters are not as energy efficient as electric heaters because not all of the gas is converted into heat output into the room (some is lost as exhaust gases, moisture and the creation of light). However, mains gas is usually cheaper than electricity, so the running cost is often comparable.

Gas heaters can be run on mains gas, or LPG (liquid petroleum gas) also known as bottled gas. If you are considering buying a gas heater you need to check current safety regulations as some fixed heaters require flues or chimneys, to ventilate combustion gases and moisture out the home.

Portable gas heaters don't need flues, however you still need to make sure the room is well ventilated. Otherwise, there is a risk from carbon monoxide poisoning and the water vapour that gas heaters produce can cause condensation **leading to damp and mould problems**.

Gas heaters are sold with a heat output rating and an efficiency rating, which should be looked at in conjunction with each other. Heat output is an indication of how much heat will be provided into the room. If you look at two heaters with the same heat output, the heater with a higher efficiency will be cheaper to run than the heater with the lower efficiency. This is because it will use less gas to provide the same amount of heat.

The table on the right calculates the running cost for heaters using mains gas and LPG, based on the average heat output and efficiency rating of various heaters.

Actual costs will vary, but what's important is how they compare with each other. These are based on the heaters being on full power for the hour, without a thermostat to regulate the temperature.

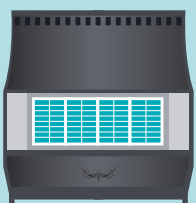
Heater	Heat source	Typical power rating	Average efficiency	Running cost per hour *	
				Mains gas	LPG
Radiant gas fire	radiant	5 kW	60%	86p	£2.06
Gas convector heater	convector	3 kW	60%	52p	£1.23
Open decorative gas fire	radiant	2.5 kW	28%	93p	£2.21
Closed decorative gas fire	radiant	4 kW	60%	69p	£1.00
Bottled gas heater	radiant	4 kW	92%	n/a	£1.79

* Based on 10.3p per kWh for mains gas and on Oct 2018 Sutherland tables calculations for LPG. To calculate this yourself: (output ÷ efficiency) x 100. Multiply the result by your gas kWh unit cost.

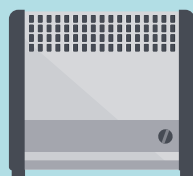
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Hot parade (gas)



Radiant gas fire



Gas convector heater



Open decorative gas fire



Closed decorative gas fire



Bottled gas heater



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Is it cheaper to heat one room with an electric heater?

The answer to this depends on what your heating needs are, the type of electric heater you're using, and what your main heating is. If you are only using one room – for example, because there are only one or two people in your household and you are going to be in the same room for an extended period of time – then using an oil filled radiator may work out cheaper than running your gas central heating for the time you are in that room.

However, if you use a high wattage heater like a fan heater for a long time, over a long period, this may well work out as more expensive than having your central heating on.

If your household has more people in who are likely to be using other rooms, then although you may be saving money by only heating one room, this will be uncomfortable and unhealthy for the occupants in the unheated rooms. Also, heating just one room only in cold weather could lead to damp and mould problems in the parts of your home that you're not heating. This is because the moisture you produce from washing, bathing, and breathing, will condense on the colder surfaces in the other parts of your home and this can cause mould to grow.

Electric room heaters are the most expensive type of space heating so are not appropriate as a main heating source, apart from in homes which are very well insulated and only need a small amount of heat. Gas and oil powered central heating is cheaper to run so, when considering the best option to heat your home over a sustained period, central heating is likely to work out cheaper.

For more information

See our 'How to stay warm for less' factsheet.



If you are an Alliance Homes customer and need support with energy efficiency advice, please contact our Home Energy Advice Service on **03000 120 120** or email them at homeenergyservice@alliancehomes.org.uk