

# Hot water cylinders

## Save money on water heating

If your home has a hot water cylinder (as opposed to a combi boiler), fitting it with a thermostat and making sure its properly insulated are simple and cost effective ways to save energy in your home.

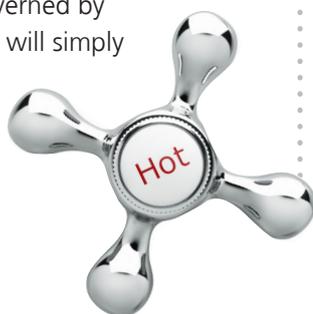
### Thermostats

Cylinder thermostats regulate the temperature of your domestic hot water by switching off the heat supply from your boiler once the set temperature has been reached. They are worth getting because they can save you money - around £37 on your energy bills by most estimates.

Thermostats are usually installed about one third of the way up the hot water cylinder. They measure the temperature of the water inside and if this falls below the required temperature (usually 60-65°C), the boiler will come on. Once the water reaches the correct temperature, the thermostat will turn the boiler off again, ensuring that water is not being heated unnecessarily and no energy is wasted.

A domestic hot water cylinder thermostat should be set at 60-65°C. This is high enough to kill off harmful bacteria such as Legionella. If you set the thermostat much higher than this the water that comes out of the taps will be too hot and there'll be a risk of scalding. For extra safety, you can install a thermostatic mixing valve. This mixes hot and cold water to ensure the water in the taps is automatically maintained at its pre-set temperature, even if other appliances are being used or the water pressure varies.

Setting the thermostat to a higher setting doesn't make the water heat up faster. This is governed by the design of the heating system. It will simply mean that you have to add lots of cold water to the hot, and will have wasted the energy spent in raising it to an unnecessarily high temperature.



A cylinder thermostat (left) will stop you wasting money on overheating your water, while to save more on water heating, make sure you get your hot water cylinder and pipes insulated too

All cylinder thermostats should be installed following the manufacturer's instructions and should comply with the Institution of Engineering & Technology wiring regulations.

### Tank insulation

Many houses in the UK have un-insulated hot water tanks which allow heat to escape. Fitting a hot water cylinder jacket will insulate the tank and the reduced rate of heat loss will help maintain the water temperature in the tank for longer. Heat loss from the tank can be reduced by over 75%, saving around £40 per year on your energy bills.

Even if you already have a hot water cylinder jacket you may want to consider replacing it if it is less than 75mm thick or it does not completely cover the tank all the way around. Fitting the jacket is simply a case of wrapping it around the hot water cylinder and securing it with string or something similar. It's a DIY job for most people.

Jackets typically come in two standard sizes: 900mm x 450mm and 1,050mm x 450mm. It is recommended that you buy a cylinder jacket that displays the British Standard Kitemark. They typically cost up to £15.

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See all our energy advice leaflets at [www.cse.org.uk/advice-leaflets](http://www.cse.org.uk/advice-leaflets)**For extra savings, lag your hot water pipes too**

Foam insulation for pipes, known as lagging, is very cheap. Like fitting the tank jacket, it's a DIY job if your pipes are accessible. Simply measure the diameter and length of your pipes and purchase the correct size and quantity of lagging from a local hardware store. If your pipes are difficult to reach then you may need professional help, which will incur some cost.

**How much will insulation save me?**

Cost	£15	£10
Annual saving	£49	£15
Payback time	< 6 months	1-2 years
CO <sub>2</sub> saving per year	215kg	60kg

These are estimated figures based on 80mm thick jacket, a gas-heated, 3-bed semi. For larger homes, or those heated by electricity or oil, the savings will be significantly higher.

These savings seem relatively small compared to other energy efficiency measures but few improvements pay for themselves as quickly. Moreover, if every household in the UK had a hot water cylinder jacket it would mean a reduction in CO<sub>2</sub> emissions of 740,000 tonnes and a saving of around £89m in combined energy bills each year.

**Tips to cut your electricity use, and save money ...**

**Give your clothes a day in the sun** (and give your tumble drier a break).

Clothes dried in fresh air feel great, and there are sunny days in winter, too.

**Catch 'em young!** Encourage your children to switch off electric toys and lights that they're not using. They'll soon get the hang of saving energy.



**Dodge the draught!** Fit draught-excluders to your front door, letter box and key hole, and draw your curtains at dusk to keep the heat in.



**Only fill the kettle with as much water as you actually need** (but make sure you cover the metal element at the base).

**Buying a new appliance?** Remember to check the energy rating label and consider the size.



**Wait until you have a full load** in your dishwasher or washing machine before doing a wash. Two half-loads use more energy than one full load.

**Sleep tight.** Make sure all the lights are turned off when you go to bed. You can get low-wattage night lights for children's rooms or landings.



More energy-saving advice at [www.cse.org.uk/advice](http://www.cse.org.uk/advice)

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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, Wiltshire, South Gloucestershire and Dorset.

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