

# Hot Water Tank Booster

The Hot Water Tank Booster is a replacement for the Patented “Affordable Heat Store Device”.

The 2025 University of East Anglia Computational Modelling of hot water cylinders identified a cheaper, simpler, more robust, and in all ways superior product. It fits all cylinders and not just unvented cylinders.

11 million homes in the UK have existing hot water tanks that could be turned into heat stores, reducing gas and oil consumption, and giving lower consumer costs and better showers with the new device, at a cost of £150

## What does a Hot Water Tank Booster do?

A typical hot water cylinder has a single 2.8 KW immersion heater and only the top 1/3<sup>rd</sup> can be heated

A Hot Water Tank Booster fills the hot water cylinder from top to bottom with hot water

It increases the hot water stored in a tank X3

It increases the energy stored in a hot water cylinder x3

## How does a Hot Water Tank Booster Work?

The Hot Water Tank Booster moves a trickle of cold water from the bottom of the tank to the top of the tank where it is heated by the immersion heater. The process can continue until the whole tank is full of hot water.

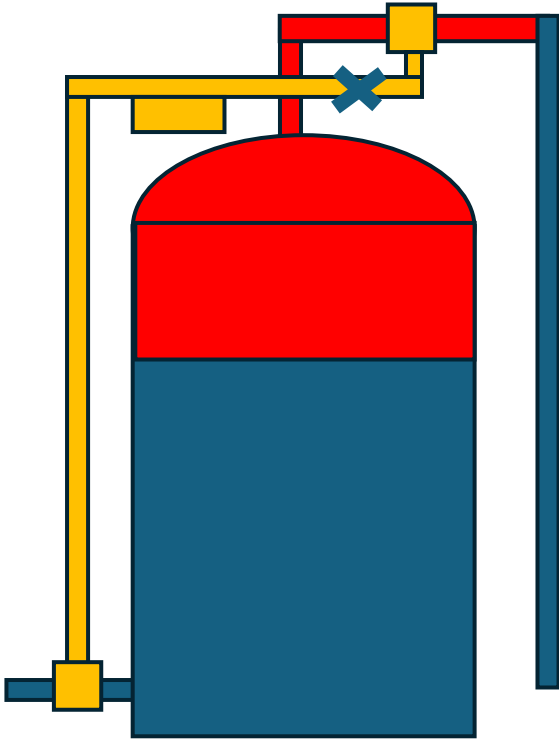
## Why fit a Hot Water Tank Booster?

A full tank of hot water allows multiple showers and baths without waiting.

Surplus solar and wind energy can be stored at home.

Cheap rate energy can be stored to avoid using peak rate electricity

Micro Pump  
Cross Link



Unvented Cylinder  
(After £150  
Modification)

### What is a Hot Water Tank Booster?

A micro-pump fitted between the inlet and 22mm outlet as shown is all that's needed. An in-line valve is essential. A non-return valve is optional.

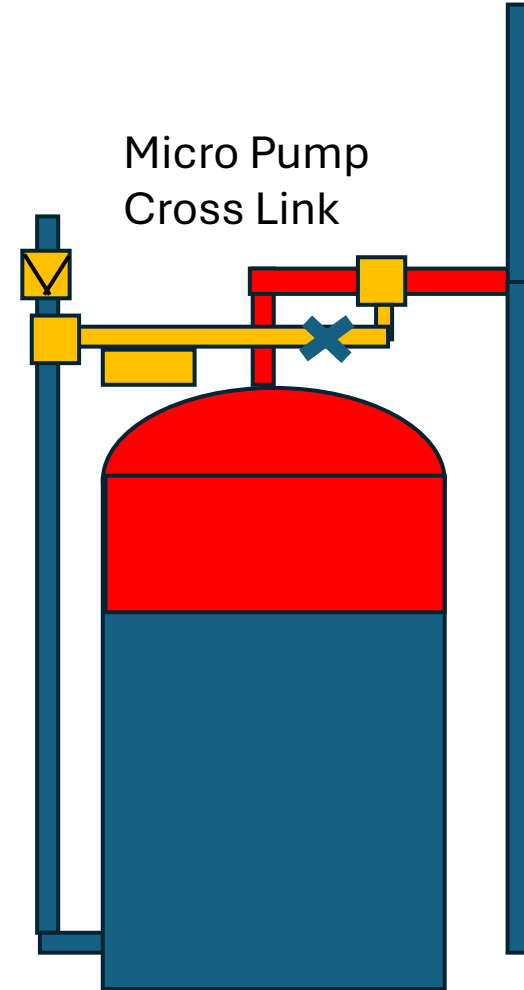
### How a Hot Water Tank Booster operates (Fixed Rate Tariff)

The immersion heater is switched on at all times but despite being switched on it only draws power when a timer switches on the Hot Water Tank Booster.

### How a Hot Water Tank Booster operates (Variable Rate Tariff)

The hot water tank booster is plugged into a Gruff Technology Smart Plug to optimize electricity consumption based on real-time tariff rates.

Micro Pump  
Cross Link



Gravity Cylinder  
(After £150  
Modification)

## Uneven Supply

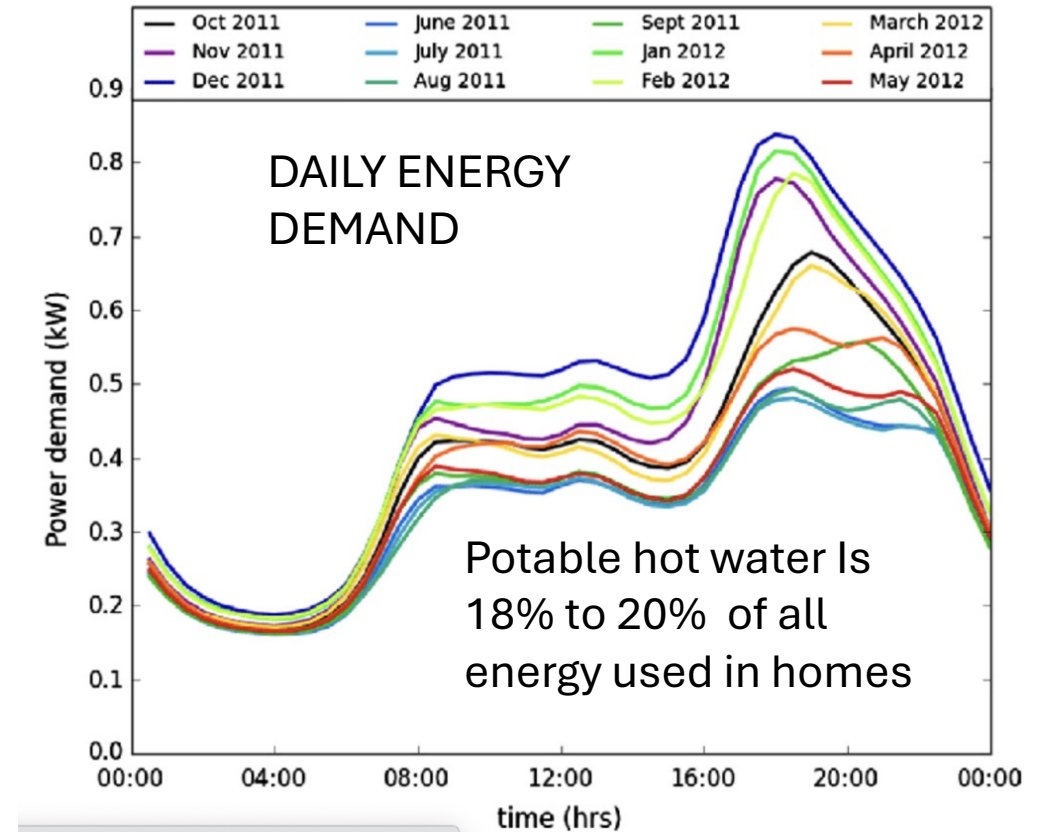
Solar farms are switched off when there is too much sun and wind turbines are turned off when there is too much wind. This surplus electricity could be given to consumers free of charge if they had energy storage. Compensation is instead paid from the consumer to the energy industry for turning things off and it costs every home £50 a year included in energy bills.

## Replace Fossil Fuels

Hot water tank boosters allow oil and gas boilers to be switched off for 8 months of the year and they reduce gas consumption in the winter because the heating of potable water using a heat store uses surplus of renewable energy.

## Heat with Off-Peak Electricity

Without a hot water tank booster, either the boiler needs to be fired up to heat the heat exchange coils in the hot water cylinders, or as soon as you start to draw off water in the morning, the immersion heater is powered up and takes power from the grid at peak power rates. If the cylinder is full of hot water it need not heat more water until the next off-peak period.



A typical home uses 8 KW Hr to heat hot water every day.

8 KW Hr of Battery Storage costs between £4,000 and £8,000 fully installed.

8 KW Hr of Hot Water Storage provided through retrofit costs £150 fully installed

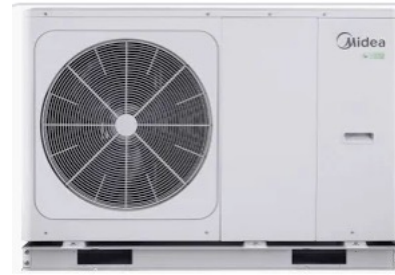
## Competitive Products



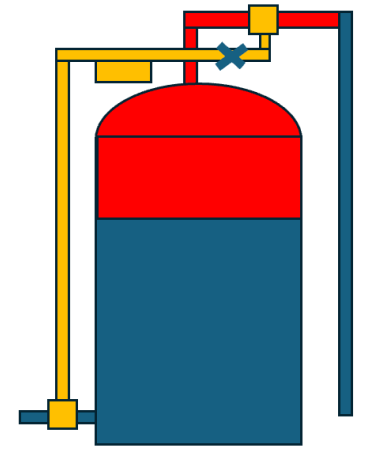
Electric Showers draw power only at times of peak demand – in fact they make things worse unless you shower at 4 am.



Combi Boilers are not the solution. With no hot water cylinder, energy cannot be stored so gas consumption cannot be reduced.



Heat Pumps alone are not the solution. They require energy throughout the day and especially in winter when demand is highest, they increase the magnitude of peak demand – they can make things worse



Heat Pumps plus heat stores work well together. Any hot water cylinder supplied for a heat pump system can be converted into a heat store for £150.

In the summer – 100% of the energy required for hot water can be supplied through the heat store and the heat pump can be switched off.

Do you have a hot water cylinder in your airing cupboard?

Did you know the immersion heater will only heat one third of the cylinders capacity ?

Did you know that when you run the hot water and it refills with cold, you are probably using electricity generated by burning gas at peak rates to re-heat the top 1/3rd?

Would you like to be able to fill your whole cylinder with hot water on a windy day and store it for up to three days?

Did you know that with a heat store you can switch your oil, gas, or heat pump for 8 months of the year?

Did you know that with a heat store in every home 20% less gas will be used?

With this new device, which is quickly and easily installed on the pipes leading into your cylinder, you will save money and use electricity generated by renewables. If enough homes use it, it will help to balance the grid and remove some of the wasteful practices currently existing.....



The pump that drives the heat loop cross connection is a patented 'pressure enhancing device'  
It can be fitted without draining the cylinder in a few minutes by a DIY enthusiast, handyman, or plumber.

The Hot Water Tank Booster is Shower Power Booster with a 3-watt pump and not the 15-watt Pumps used for boosting  
Tapa and showers.