

Hot Water Options



Hot water can account for up to 25% of your homes energy bills. There are several options available and what is right for you will depend on your home and your budget. The general rule is to always go for the most appropriate and energy efficient model you can for your situation. Whatever you choose, insulate the pipes!

Solar Hot Water

Gas boosted solar hot water is the most energy efficient form of water heating. It uses renewable energy from the sun and is backed up by a gas booster so you won't run out of hot water. There are 2 types of solar collectors available (flat plate and evacuated tubes), and 2 types of systems (close coupled and split system).

Flat plate panels are generally less expensive than evacuated tubes and are best installed at an angle to obtain best solar benefits. These are the most popular throughout Australia.



Evacuated tubes are more efficient where the ideal north facing orientation isn't available and/or when mounted on a flat roof. They can be more expensive than flat plate collector's and are prone to overheating



Close coupled system – where the tank and the collectors sit on the roof. The water is circulated passively by a process called 'thermosiphon'. These systems have minimal heat loss and do not require a pump. They are an established technology and are the most efficient type of SHW. Note that the roof structure must be strong enough to hold the weight of the system.



Split system is where the tank sits on the ground and water is pumped from the collectors on the roof to the tank (and vice versa). These systems require less roof structure but can suffer some heat loss as the water travels around the system. It also requires a pump and is more complex which can increase the chance of system failures.



There are still government rebates available for solar hot water. In Victoria go to www.resourcesmart.vic.gov.au for further information.

Instantaneous Gas

One of the most cost effective options is an efficient instantaneous natural gas unit. These are a small unit that can be fixed to an external wall. Instantaneous units only heat the water on demand so there is no wasted energy keeping hot water hot in a tank. There are a few brands including Rinnai, Bosch and Rheem who have high energy efficient models.

Instantaneous Electric

When powered using mains electricity these are a more expensive option but are more efficient than electric storage units as they only heat the water when it's needed. You can also install these at the point of use (eg: under the kitchen sink), this means no heat loss would be suffered in the transfer of the hot water. These types of water heaters have their uses, but are an expensive option.

Heat Pump

A heat pump exchanges heat energy with the air and transfers that heat into a hot water system. They work just like a refrigerator, but in reverse. They do require electricity to run and are eligible for some smaller rebates in some states. Whilst not suited to every situation, they are an alternative if solar access is limited.

Geothermal

Geothermal heat pumps operate by taking heat from the earth to heat water. These are gaining in popularity in some areas of Australia and work by pumping water around a loop buried in the ground, the enclosed water absorbs the heat creating hot water. Refer our heating tip sheet at www.greenmoves.com.au/freeinfo for more detail on how geothermal heating works.

Storage Systems

Hot water storage systems operate by heating the water and storing it in a tank, then keeping that water to a constant temperature. The temperature should be set at minimum 60 degrees Celsius to kill any bacteria in the water, current regulations state a maximum of 65 degrees to stop scalding. Gas powered systems are more efficient to run and emit less GHG pollution. Electric hot water systems are being phased out in Australia. This started in 2010 and by 2012 existing homes will not be able to re-install an energy intensive electric hot water system. There are exceptions to this for example large multi-unit residential buildings. Refer to the government's www.climatechange.gov.au/en/what-you-need-to-know website for more info.

Wood fired hot water

Wood fired hot water is rarely used in city areas due to the convenience of solar, gas and electricity. But it is still an option if you live in the country and are surrounded by dead wood. Wood burning stoves like the Aga can be used for cooking, heating and hot water. So if you happen to have lots of fuel available this would be an option worth considering.

The average running costs (source Sustainability Victoria)

Solar hot water (gas boosted)	\$ 96 per year
Solar hot water (electric boosted)	\$ 216 per year
Gas instantaneous	\$ 264 per year
Gas storage	\$ 336 per year
Electric storage	\$1,080 per year



For any queries or additional information on this tip sheet please contact Green Moves Australia on (03) 9024 5515 or 1300 898 742

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