

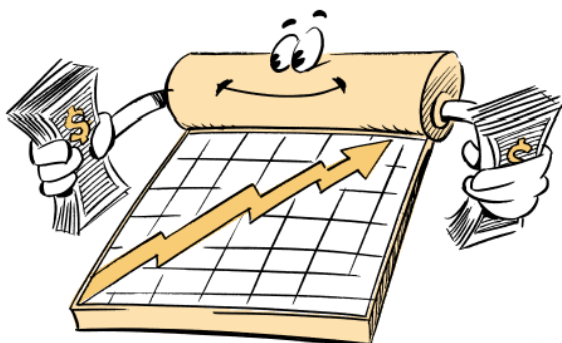


# Solar Hot Water

## Solar hot water – a smart choice

Water heaters are one of the largest users of household energy. Heating water in an average house will use between one fifth and a third of all energy consumed in the home, and that costs a lot of money. A smart way to reduce the cost is to install a solar water heater. Instead of using just electricity or gas, solar water heaters first use the sun's rays to heat water. If the sun cannot deliver enough energy to heat all the water you need, such as on very cloudy days, particularly in winter, then electricity or gas can be used to boost the supply of hot water from the solar water heater.

Although a solar water heater costs more to buy and install than a conventional gas or electric water heater, in Canberra the savings in ongoing energy consumption can pay back the higher purchase cost in as little as six years. This includes allowance for the cost of boosting energy.



Gas is a cheaper alternative than electricity for boosting, and is also a greener choice (less carbon dioxide emitted per useful energy unit).

Solar water heaters work very well in Canberra because of the high number of clear, sunny days at all times of the year. Moreover, because of our lower cold water temperatures, especially in winter, more energy is required to heat the cold water up to the required delivery temperature than in either Sydney or Melbourne. Solar energy can supply most of this extra energy, and so the cash savings on purchases of either electricity or gas are also more in Canberra than in other major cities.

Canberra's frosty winters pose no threat to the modern range of commercial solar water heaters. All commercially available models sold in the Canberra area will include frost protection features and manufacturers' warranties on performance.

## Government support

If you install a solar water heater you may be eligible for a subsidy in the form of Renewable Energy Certificates (RECs). These certificates are issued under 'license' from the Federal Government and are then 'bought' back from you by the retailer providing your system in the form of a price reduction. The number of Certificates that are issued for a solar water heater is based on the estimate of the amount of electricity displaced, so high efficiency systems earn more RECs and systems that replace gas-water heaters earn no RECs at all. Most household systems earn between 20 and 40 RECs. The value of each Certificate depends on the circumstances of exchange, (e.g. the amount a solar water heater retailer is willing to purchase them for), and currently varies around \$15 per Certificate. Further information on RECs may be found through the Office of the Renewable Energy Regulator website: [www.orer.gov.au](http://www.orer.gov.au) or 6274 2192.

## Types of systems

There are three main types of systems. The most popular is the thermosyphon type where the tank is mounted higher than the collectors, usually laid horizontally on the roof immediately above the collectors in the 'close-coupled' formation with the hot water from the collectors naturally rising into the tank. The second type is the 'pumped circulation' where the tank is lower, usually at floor level, and the hot water generated in the collectors must be pushed down to it by a small temperature-activated pump. The third type that qualifies as a solar system has no panels. Instead it is a high efficiency heat pump that works like a fridge or air conditioner to 'pump' heat from the outside environment into the hot water tank.



## Manufacturers

There are several different manufacturers of solar hot water heaters servicing the ACT region. Conventional flat plate manufacturers include Chromagen, Dux, Edwards, Solahart, and Solitaire. The Edwards and Beasley systems use stainless steel tanks; the Solahart/Rheem systems and most other manufacturers use an enamelled (glass lined) mild steel tank with a sacrificial anode to further defend against corrosion. The Edwards gas boosted system uses an instantaneous gas heater outside the tank. The Solartech systems are cheaper (about \$1,850 for a 300 L system, the most common size) and, except for the glazing and electrical and pipe connections, are made entirely of high-density polyethylene. It differs from the other manufacturers in being a gravity fed system. Quantum and Dux make heat pump systems, which strictly speaking are not, a solar hot water services but because of their high efficiencies qualify for RECS rebates. Hills Endless Solar represents a different type of SHW service. They differ from conventional units in that they use a series of semi-evacuated glass tubes as their collectors rather than the flat plate collectors found on most SHW units.

## More information

This fact sheet is produced by the Home Energy Advice Team (HEAT) to provide you with some quick tips on the benefits of solar hot water. If after reading it you'd like more free information about this or any other topic to do with saving energy in your home, don't hesitate to contact us.

**A range of other fact sheets on saving energy and money in your home are available from HEAT**

## ACT and region suppliers

Current known suppliers in the ACT and region are:

Enviro-Friendly Products - Hills Endless Solar  
[www.enviro-friendly.com/evacuated-tube-solar-hot-water.shtml](http://www.enviro-friendly.com/evacuated-tube-solar-hot-water.shtml) 6282 6266

[www.ecologicalhomes.com](http://www.ecologicalhomes.com) 1300 73 0707

Beasley: [www.beasley.com.au](http://www.beasley.com.au)  
 Fyshwick Home and Heating 6280 5522

Dux: [www.dux.com.au](http://www.dux.com.au)  
 Australian Hot Water 6239 1588

Edwards: [www.edwards.com.au](http://www.edwards.com.au)  
 ActewAGL Energy Shop, 1322 45 or  
 Hot Water Hotline, 6239 2010

Quantum: [www.quantumenergy.com.au](http://www.quantumenergy.com.au)

Active Solar Hot Water 6254 4237 or  
 Rheem [www.rheem.com.au](http://www.rheem.com.au)  
 Australian Hot Water 6239 1588

Solahart: [www.solahart.com.au](http://www.solahart.com.au)  
 Solahart ACT, 6239 1520

Solartech: [www.solartechgenius.com.au](http://www.solartechgenius.com.au)  
 Murray Leech 6248 0883

Solitaire: [www.solitairesolar.com.au](http://www.solitairesolar.com.au)  
 Adapt2 61617222 or 0428572700

Chromagen Solar Australia:  
[www.chromagen.com.au](http://www.chromagen.com.au) 02 9457 6527

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**Mobile** 0409 045 215

