

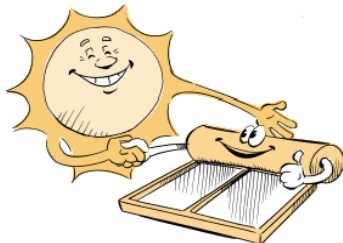
Wash Yourself with Winter Sun

Canberra's Winter Sunshine a gold mine of energy.

Heating water is one of the largest uses of household energy. Water heating in an average house will use between one fifth and one third of all energy consumed, and that costs a lot of money.

Yet most Canberra households are missing out on the substantial financial benefits that could be gained by trapping just some of the free solar energy falling on their roofs. The sunshine falling on the roofs of Canberra's houses is more than adequate to meet nearly all of the annual hot water needs of the average family.

Despite the often chilly winter temperatures Canberra actually enjoys one of the most perfect climates for using solar water heaters because of the high number of clear, sunny days that occur at all times of the year. It is these hours of sunlight far more than the average air temperatures, which determine the output of a good solar water heater.



Average Daily Sunshine

City	12 Mnth Av.	12 Mnth Ranking	4 Mnth Av. (May to Aug)	4 Month Ranking
Darwin	8.4	1	9.9	1
Perth	7.9	2	5.6	5
Canberra	7.6	3	5.8	4
Brisbane	7.5	4	7.1	2
Adelaide	6.9	5	4.6	6
Sydney	6.7	6	6.0	3
Hobart	5.8	7	4.3	7
Melbourne	5.7	8	3.9	8

Source: "Climate of Australia", Bureau of Meteorology, 1989

Those hours of winter sunshine in Canberra are also worth more in energy terms than they are in some of the other cities. Because of the much lower winter temperature of water at the cold tap in Canberra, compared to the other major cities, a lot more energy is

required to heat water up to a useful temperature. The sun can often supply all of this energy. As a result the cash savings generated by solar water heaters are also larger in Canberra than in other major cities.

If the sun cannot deliver enough energy to heat all the water you need, which happens on cloudy winter days, 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).

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.

Two forms of government support.

ACT Government

Because solar water heaters are so environmentally friendly, compared to straight electrical or gas heating systems, the ACT Government is financially supporting the installation of solar water heaters as part of the ACT Greenhouse Strategy. The amount of money available from the ACT Government varies depending on the type of system being installed and its size. However, the most environmentally friendly gas boosted system can receive a maximum possible rebate of \$1,600.

Federal Government

If you install a solar water heater you may also be eligible for an additional 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 is currently \$36 per Certificate. Further information on RECs may be found through the Office of the Renewable Energy Regulator website: <http://www.orer.gov.au>



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 of system 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 three major suppliers of solar water heaters: Solahart/Rheem, Beasley and Edwards. There are also eight lesser known brands listed as eligible for RECs, the most popular of which are the Quantum and Solco Solartech. Dux, which is a major producer of conventional water heaters, has recently introduced a solar system, which it sells through plumbing supply companies and plumbers, rather than retailing directly to the public. Quantum make solar boosted heat pumps, the others make conventional flat-plate solar water heaters. The Edwards and Beasley systems use stainless steel tanks; the Solahart/Rheem systems 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 very cheap (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.

ACT and region suppliers

Current known suppliers in the ACT and region are:

- Rheem and Solahart: (www.solahart.com.au, www.rheem.com.au)
Australian Hot Water Ph 6239 1588 or Solahart ACT, Ph 6239 1520
- Edwards: (www.edwards.com.au)
ActewAGL Energy Shop, Ph 1322 45 or Hot Water Hotline, Ph 6239 2010
- Dux: (www.dux.com.au)
Australian Hot Water Ph 6239 1588
- Beasley: (www.beasley.com.au)
Fyshwick Home and Heating Ph 6280 5522
- Solartech: (www.solartechgenius.com.au)
Murray Leech Ph 6248 0883
- Quantum: (www.quantumenergy.com.au)
Active Solar Hot Water Ph 6254 4237 or The Energy Centre Ph 6280 4421 or Enviro-Friendly Products Ph 0431 457 091

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



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