Victorian Residential Efficiency Scorecard

Fact Sheet 10

Hot water improvements

Residential Efficiency Scorecard

The Scorecard is a home energy rating program.

An accredited assessor will visit your home, look at the building features and fixed appliances, and generate a certificate showing an energy star rating, hot weather rating and appliance efficiency ratings.

Your Scorecard assessor will give you advice on how to make your home more comfortable and energy efficient, so you can keep energy costs down.

To find out more about the Scorecard or to request an assessment, visit www.victorianenergysaver.vic.gov.au/scorecard.

Hot water systems in the Scorecard certificate

Hot water systems often use a significant amount of energy and can make up a large proportion of electricity or gas bills.

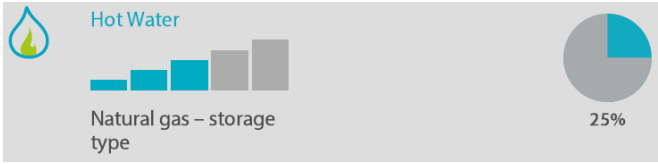
The number of people living in your home, the location of the hot water system, whether or not you have a solar electricity system, the availability of natural gas and how you use hot water in your home all impact on the cost of water heating.

A Scorecard certificate will list improvement options. And your Scorecard assessor will be able to explain which options might be best to improve your households cost of heating water.

Using the Scorecard rating

When you have received your Scorecard certificate, look for the hot water symbol on the second page.

This picture shows how well your appliance performs in comparison to the most efficient systems on the market. This shows a medium rating of three out of five:



The percentage shown indicates how much this appliance contributes to the energy use of the fixed appliances for your house. This example shows a home where 25% per cent of energy use is for water heating.

Unless it is highly efficient, several options will be suggested on how to upgrade your system. The Scorecard Assessor can help you to understand the issues you should consider.

Hot water system types

There is a range of hot water system types in the market, with the main ones being gas, electric, solar, heat pump and wood fuel systems. These are explained below.

The Scorecard certificate may suggest upgrading to a high efficiency electric heat pump, gas or solar system as these are the most efficient systems available.

Gas systems

Gas hot water systems can be a good option, especially if you have mains gas. Instantaneous, or continuous flow, gas hot water systems heat only the water that you require as they don't have a storage tank. Some models let you control the delivery temperature, and these can be different in different parts of the house, which provides safety advantages.

These systems can be a good choice if you have variable hot water use as you will always have enough

hot water. Instantaneous systems often require large gas pipes, which can increase the cost of installation. Gas storage hot water heaters store hot water in a tank. Storage systems can be inefficient because of the energy lost through the walls of the tank. You may find you run out of hot water if the system is undersized or are heating too much water if it is oversized.

Gas hot water systems have a star rating. Try to choose a system with 5 or more stars if you are upgrading.

A list of current models with star ratings is available from the Australian Gas Association: www.aga.asn.au/complete_product_directory.

Electric systems

Electric hot water storage systems can be very costly to run, due to a combination of the energy required to heat the water and the energy lost during storage. Also, systems under 250 litres must run on peak rates. This applies to most flats and smaller homes and can be very expensive to run. Larger units over 250 litres usually to run on off-peak electricity and heat up overnight, which is generally cheaper.

Electric instantaneous systems are generally more efficient than electric storage heaters, and modern models have better temperature control than older models. These units usually require dedicated wiring due to the high currents involved, so may be more costly to install.

If you have a solar PV system you can offset some the energy that electric hot water systems use, making electric systems cheaper to run.

There is no star rating system for electric water heaters.

Solar hot water systems

Solar hot water systems are an efficient way to heat water. Depending upon the time of year, most of your water can be heated free by energy from the sun.

Solar hot water systems use solar collectors, either flat panels or glass tubes, to heat the water. The hot water is then stored in a tank, which may be on the roof or on the ground.

Solar hot water systems will usually need boosting from another energy source on cloudy days and cold nights. Boosting can be from gas, electricity, or sometimes wood fuel. You can even retrofit a solar system to some existing hot water systems.

There is no star rating system for solar water heaters.

Heat pump systems

The are some very efficient heat pump systems on the market. Heat pump systems have a storage tank and use a similar principle to your refrigerator. Instead of pumping heat out of the fridge to keep it cool, they pump heat into the water. They use electricity far more efficiently than a traditional electric water heater.

Consider changing to a heat pump if you have a photovoltaic (PV) solar system or intend to install solar in future. You can offset some the energy used by the heat pump with the solar system.

There is no star rating system for heat pump water heaters. Place the heat pump unit away from windows as some models can be noisy.

Wood fuel systems

Wood fuel systems are occasionally used to heat water, often as part of heating the home. These are more often found in rural areas where wood fuel is plentiful and mains gas is not available.

The performance of wood fuelled systems can be highly variable. The type and quality of fuel, the age and maintenance of the system all impact on efficiency. Wood fuel must also be cut and stored appropriately. It is very important to manage air quality impacts by operating the system efficiently as smoke can be unhealthy and inconvenient for you and your neighbours.

For further information see: http://www.epa.vic.gov.au/your-environment/air/wood-burning-and-air-quality.

Other things you can do

If you are installing a hot water system, try to install the system close to where hot water is used to minimise heat loss in the hot water pipes.

Talk to an installer to obtain advice on how to wrap a storage hot water system in an insulation blanket that will help to reduce heat loss. For gas systems the area around the pilot light should be avoided.

Insulate all hot water pipes, particularly external pipes that are exposed to the air. Products are also available to insulate the exposed hot water valve on the tank. These are inexpensive and effective at reducing heat loss.

If you are going on holiday, you can turn the system off while you are away. The system should be turned on and allowed to reach maximum temperature before use when you return to ensure there is no bacteria in the water.