WORDS BILL O'BYRNE PICTURES STEVE WILSON

Prime location: Having the solar collectors separate from the hot water cylinder means more options for optimum placement.

Big savings: Greg Winter says a properly installed solar water system can make big inroads into a power bill.

Pleased to be in hot water

GREG WINTER is proud of what his solar water systems can do.

He got called up in June by an excited customer in Papakowhai who said that even on the shortest day of the year the water in his tank had been heated to 55 degrees, just by the sun.

And even on the rottenest Wellington day, he says the performance of the system is pretty good, and best of all, it should cut a home's annual water heating bill by 60-70 per cent.

Greg installs a German system which is sold as Sunfuel in New Zealand. It uses flat plate collectors and a separate tank which can be put wherever is convenient.

Sunfuel uses an anti-freeze liquid to collect heat from the sun, and this heat is transferred to water via a coil in the hot water cylinder.

"The system is operated by a pump and a differential controller so that when the liquid in the panel is about six to eight degrees warmer than the temperature in the tank, the pump kicks in and keeps going till it shuts off at the temperature you set it at. Which is normally between 70 and 80 degrees."

There is an electrical booster, or the option of a gas booster, to get the temperature up on days of little sun, or in the depths of winter.

"A lot of people like to hook their wetback to a top coil in the cylinder, effectively heating your water in the winter with the solid fuel burner."

The main alternative to this heat transfer system is the thermosyphon system, which works by the heated water from the solar panels rising into a cylinder.

"Because the heat transfer is relying on natural thermosyphon, you can't have you cylinder below the panels or it won't work. So it can only go on one place, and that's on the roof."

Installation of the Sunfuel system is a bit easier without the cylinder. It's not the only reason he likes it, but it's a plus.

"You don't have to clamber up a ladder or scaffolding with a hot water cylinder which can be heavy and cumbersome."

The separate cylinder can be put somewhere unobtrusive, and the panels can also be placed where they are going to get the most energy.

"They can be on a garage roof or if need be they can be on a concrete frame in the front lawn. That's not so common here but you see that overseas if there's a lack of roof space."

Using a heat transfer system using an antifreeze solves two common problems in New Zealand.

One is that there is no risk to the system from it freezing up during a frost.

"I have come across places where panels have cracked because water has frozen inside the pipes."

The other benefit is that it won't be affected by scaling in areas where there is a high mineral content in the water.

Mr Winter says the cost of a system depends on how people want it installed and whether it is happening as a retrofit or as part of the construction of a new house. The system can also be fitted to cafes, motels and gyms.

> "Typically one of our systems is under 5 per cent of the construction cost of a new home."

Mr Winter has been working with solar water systems for eight years and is an accredited supplier/installer of the Sunfuel system under the NZ Solar Industries Association accreditation scheme. As a craftsman plumber and gasfitter he can create any kind of hybrid system that people want.

There is a $1000 Energywise grant available for eligible households from the Energy Efficiency and Conservation Authority.

www.eeca.govt.nz
For more information on solarworks go to:
www.solarworks.net.nz