

Specific Design – The key to Solar Water Heating Performance

Solar water heating has again come into vogue however, this time instead of just being a trend, global warming concerns and the greening of buildings means that solar water heating together with other valid energy efficiency measures are here to stay. There are many solar suppliers and installers offering solar water heating however, the solar system must be both well designed and commissioned to ensure maximum energy savings and reliability. In many cases a well designed and installed packaged system, that being an off the shelf product will suffice. However, more complex residential systems and those being installed in commercial or industrial buildings will require specific design to optimise performance, maximise savings and to ensure long term reliability.

Complex and or commercial systems may have intermittent hot water demands and require hot water on demand, they may also be exposed to extremes in temperature and pressure. The specific design will consider these issues and ensure that suitable strategies are put in place and components selected to withstand the stresses associated with these conditions in a fail safe and reliable manner.

Experience is the key to an appropriate and reliable design, the design process requires a logical and methodical approach and will often start with an overview and feasibility assessment. During this assessment the designer will determine how the hot water is used, quantify and determine the hot water daily consumption profile. Computational simulation software is often used during detailed design in order to refine the design through an iterative process. This software will predict likely energy savings, will highlight system temperatures and assist in; sizing components including water storage, the collector array and assist to determine the most suitable control methodology.

Energy Conscious Design and its sister company EcoSolar are widely recognized as the market leaders in delivering well engineered specific designed solar water heating installations. Energy Conscious Design are New Zealand's leading Engineering Consultancy specializing in solar water heating design whilst EcoSolar undertake and manage the installations and are involved in many of the most complex commercial solar water systems being installed in New Zealand. So if you are wanting a design, supply or installation service, you can rely upon us to deliver well engineered, reliable and cost effective solutions.