Fact sheet

Heat pump hot water systems

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Heat pump hot water systems are a relatively new form of efficient hot water heating, with 2-3 times the efficiency of an electric hot water system, depending on the system.

There are two types of systems – all-in-one (e.g .Quantum, Seibel Eltron) or split systems (e.g. Econergy). The all-in-one systems are a combined heat pump hot water cylinder which is installed outside. Split systems have the heat pump box outside and the cylinder inside, and can be installed on an existing modern electric hot water cylinder.

Although they are a lot more expensive to purchase than a standard electric hot water cylinder, their efficient operating costs mean that they are a good investment. Because, on average, about a third of your electricity bill is hot water costs, you should see a reduction in your electricity bill.

Consider heat pump hot water when…

- You live in a temperate to warm climate. They work most efficiently at warmer temperatures (above 6-7°C) at which they are up to 2-3 times better than standard electric hot water cylinders; however, they may not be suitable for very cold climates.
- Solar is not appropriate (e.g. where there is a shaded roof or installation of solar would be difficult; areas of lower solar radiation).
- Low operating costs are an important consideration.
- Your household has lower hot water demand pattern.
- Your household uses a lot of hot water during the daytime.
- You are retrofitting a hot water system - they tend to be cheaper to install in existing homes than solar.

Tips for an efficient heat pump hot water system

- Make sure your hot water pipes are lagged and cylinder insulated so that your system doesn't lose heat and efficiency. It seems to be common practice for systems to be installed without hot water pipe lagging.
- Consider your night time rest (and your neighbour's) when locating these systems – the outdoor units can be noisy.
- Install water efficient taps and shower heads at the same time - with the larger hot water cylinder size, it's easy to end up using more hot water – and therefore losing any electricity savings.

Because these are a relatively new technology, it's worth choosing your system carefully as they are not all as good as each other. Consumer New Zealand (www.consumer.org.nz) has tested some of the main systems available and found that the most efficient clearly outperformed the other systems. This was particularly the case at lower temperatures.

For more information:

- See Fact sheets on
  - Solar hot water
  - Choosing between solar and heat pump hot water
  - Saving with hot water
- Visit www.beaconpathway.co.nz/further-research/article/choosing_the_right_renewable_energy_source_for_your_site for a checklist which will help you decide if your site is right for solar hot water.
- Visit www.energywise.govt.nz/products-and-appliances/water-heating for more information on buying and installing solar and heat pump water heating