9. Hot water systems, kettles and urns

Inefficient or inappropriate hot water systems can waste a lot of energy.

Check exactly what sort of system you have, how old it is and how much energy it uses. Compare this with what you actually need.

Measuring energy use

To measure the energy use of a plug-in electric hot water unit, use a plugin power meter to record the energy use over an extended period – such as a week or month. For hard-wired hot water systems, you can use a clamp meter to record energy use.

Inefficient hot water systems

Your centre may have an old, inefficient hot water system that is continuously heating a large amount of water that is not used regularly.

To improve efficiency:

- lower the thermostat to 60°C
- improve the insulation around storage tanks, piping and valves on electric storage hot water systems but not gas systems
- cut down on hot water use
- place the whole hot water system on a timer
- switch the system off for holiday shutdowns (leave a reminder note)
- use cheaper off-peak power for an electric storage hot water system.

If the system has reached the end of its rated asset life (often around 10–15 years), consider replacing it now or research the best system, as you often have to replace it quickly if it fails. Hot water systems are expensive to replace, so do your sums.

Choosing a new hot water system

When choosing a new hot water system, make sure you consider the long-term running costs as well as the upfront purchase price.

Efficient replacement options include solar hot water, efficient heat pump systems or instantaneous gas or electric. Some of these will be expensive to buy but have significantly lower running costs, which may make them cheaper in the long run.

If your need for hot water is limited, consider an instantaneous gas or small instantaneous electric system, so you are not constantly

CHECK POINTS

- Check you are using your current hot water system as efficiently as possible.
- Decide ahead of time what would be the best replacement hot water system for you.
- Work out if a kettle or urn is the most appropriate for each catering area.
- Encourage people in your organisation to use water more efficiently.

drawing energy to keep water warm.

If you need a lot of hot water, consider a solar hot water system that draws on a gas or electric booster on cloudy days or in winter. Or consider a high efficiency heat pump unit, which can be cheaper and more efficient than solar hot water in some situations.

Solar options

Solar hot water systems perform better in the northern states of Australia but can still be quite efficient when sized and installed correctly in the southern states.

Check if there are any incentives available to install solar hot water or heat pumps.

Other ways to save

Insulating pipes

Insulating pipes with lagging and outlet valves will improve efficiency.

Water saving devices

Use water saving devices to cut down on the demand for hot water. Fit water efficient taps with flow limiters and install low flow showerheads and a timer to encourage shorter shower times.

These water saving devices will save on both energy and water bills.

For washing up – have plugs available in sinks, so washing up is not done under a running tap. If you have a washing machine – use the cold water setting and consider the efficiency of the model (especially if it gets used a lot).

Fix drips promptly, as dripping hot water wastes energy and water.

Heating water

Heating water for hot drinks can be a significant energy user. For less than 6–7 cups at a time, a kettle is the most efficient.

Encourage people to fill as much water as is needed each time they boil the kettle.

If you have larger groups, an urn is more efficient but not if you let it boil or if it stays on for longer periods than necessary – make sure it gets switched off.

Consider using a timer on the urn. It might be worth having a few different sized urns and match them with the size of the group and the demand for hot drinks. A well placed wall sign can act as a friendly reminder to encourage people to turn the urn down when the water has boiled and to switch it off when they are finished.

Further resources

Check out A Greenhouse Around the Corner website:

www.agreenhouse.net.au/helpful-resources

Related fact sheets

Fact sheet 3: The economics of energy efficiency

Fact sheet 15: Signage and changing behaviour

or more fact sheets, go to A Greenhouse Around the Corner website:

www.agreenhouse.net.au/fact-sheets

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