

Reducing water demand

Reducing water consumption in the home is a simple and easy way to decrease water and energy bills and lessen your household's impact on the environment.

Conserving water resources, even in areas without shortages, helps reduce the need to build dams or extract water from rivers, decreases wastewater produced and treated at sewage plants, lowers energy requirements for treating and transporting water and wastewater, and reduces greenhouse gas emissions.

Every household can cut down water use at low cost, often with costs recouped through water and energy savings within one year.

► Six ways to minimise water use

1. Reduce indoor water use by choosing water efficient showers, toilets, taps and appliances.
2. Minimise outdoor water use by choosing plants that are appropriate for local growing conditions and by including low water use areas in the garden design through the use of indigenous plants or low water use species. (see *Outdoor water use*)
3. Minimise paving of outdoor areas as this increases heat radiation and water runoff from the site.
4. Wash cars and bikes on the lawn to water grass at the same time.
5. Sweep paths and drives instead of hosing them down.
6. Reuse water where possible to reduce the consumption of potable water for non-potable purposes (see *Wastewater reuse; Rainwater*).

Fitting a water efficient showerhead takes about five minutes for a plumber or handy person.

The WELS product rating system

The national Water Efficiency Labelling and Standards (WELS) scheme gives consumers information about the water efficiency of products.



A WELS star rating label indicates water efficiency for consumers.

The WELS scheme requires certain products sold anywhere in Australia to be registered, rated and labelled for their water efficiency in accordance with AS/NZS 6400:2005, Water efficient products: rating and labelling.

The Standard currently covers showers, dishwashers, washing machines, toilets and urinals, taps and flow controllers. The products are legally required to display the WELS label; labelling is voluntary only for flow controllers. Other products may be added to the scheme in the future.

The scheme also sets minimum water efficiency standards for washing machines and toilets.

The water efficiency rating is displayed on WELS products on a blue star water-rating label. Labels for different categories of products differ slightly but all show two key pieces of information:

- the WELS star rating — the stars indicate water efficiency: the more stars, the greater the water efficiency
- the water consumption or flow figures:
 - the average water consumption per use (dishwashers, washing machines, toilets, urinals) or
 - the average water flow per minute (taps, showers, flow controllers).

For further information about the labelling scheme and to search for products, see the WELS website at www.waterrating.gov.au

Some council development control plans specify water efficient fixtures in new developments and renovations. Check with your council on its requirements.

Showers

The shower is one of the easiest and most cost effective places to decrease water use.

An inefficient showerhead can use more than 20L of water every minute while an efficient WELS 3 star rated one gives a high quality shower using a maximum of 9L every minute. Many good quality showers are available that use as little as 7L or even 6L per minute. Look for the water flow rate on the label. Depending on the model you choose it is possible to get additional features such as massage and self-cleaning. Water efficient showerheads can save around \$100–\$150 annually on household water bills. The reduction in hot water means less energy is needed for water heating and up to \$200 a year can be saved on energy bills depending on the type of water heating system.



Water efficient showerheads give a high quality shower while saving water.

Many water authorities offer retrofit kits, free showerhead exchange or generous rebates on water efficient showerheads. Check with your local water authority.

The environmental benefits are:

- lower water use
- decreased wastewater volume
- fewer CO₂ emissions from reduced hot water use.

Toilets

There are many ways to reduce the amount of water used by your toilet:

- Use the half-flush button when appropriate.
- If you have a single flush toilet, engage a plumber to adjust the flush volume.
- Adjust the flush volume yourself by inserting a water displacement device (purchased or a plastic bottle filled with water) into the cistern, making sure it doesn't obstruct the mechanism. Don't use bricks as they can crumble and stop the system working properly.

Replacing a 12L single flush toilet with a 4.5/3L WELS 4 star toilet in a household of four people could save more than 60,000L of water a year.

Even better, replace the toilet with a water efficient dual flush model. This could be a WELS 4 star rated 4.5 (full flush)/3 (half flush) litre model. You could even fit a 5 star model which reuses water from hand washing.



This 4.5/3L toilet suite reuses water from the hand basin and has a WELS 5 star water efficiency rating.

Water

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- Fix leaking toilets immediately. A slow, barely visible leak can waste more than 4,000L a year. Visible, constant leaks can waste more than 96,000L.
- Check for leaks by placing a couple of drops of food colouring or dye into the cistern. If colour appears in the bowl within 15 minutes without flushing, then a leak exists and the system should be repaired.

What leaking toilets cost

Severity of leak	L/hour	L/year	Cost/year (2012)*
Slow leak, barely visible	0.5	4,400	\$9
Leak visible in bowl, no noise	1.5	13,100	\$26
Visible leak, just audible	6	52,600	\$105
Visible leak, constant hissing sound	11	96,400	\$195

* Based on a water price of \$2/kL of water.

The most water efficient toilet is a waterless toilet and a range of models and types is available. They work with no odour and little maintenance while providing excellent compost. (see *Waterless toilets*)

Taps

A number of simple measures can ensure your taps are not using more water than necessary:

- Fix leaks immediately.
- Don't over-tighten taps. It can wear the washer and cause leaks.

A tap leaking at the rate of one drip a second wastes more than 12,000L of water a year.

- Install a flow regulator on existing kitchen and bathroom sink taps.
- Ensure that all new taps are water efficient. Check the WELS star rating. Choose 4 or 5 stars for bathroom basins and 3 or 4 stars for the kitchen sink.
- Install mixer taps in showers. They can reduce the potential for scalding and save large quantities of water wasted through running the shower while trying to get a comfortable water temperature.
- In basins and sinks, install separate hot and cold taps. Mixer type taps are usually left in the middle position. This means that each time the tap is run for a glass of cold water or to rinse a toothbrush, hot water is drawn off and left to cool in the pipe without ever being used.

Washing machines

The laundry is a great place to reduce water consumption and is a potential source of water for your garden. Improve the efficiency of water use in the laundry by taking these steps:

- Adjust the water level on the machine, if you can, so it is appropriate for the size of load. Try to wash only full loads of laundry and use the economy cycle if you have one.
- Use the suds saver function if your machine has one.
- Choose cold washes to save more energy, if the wash is satisfactory.
- Divert the wash water from your laundry to other uses, such as flushing the toilet or watering the garden. Check with the local council to make sure it is allowed and installed to comply with regulations. (see *Wastewater reuse*)
- Purchase a water efficient washer with a high WELS star rating. Most front loaders are efficient and some efficient top loaders are now on the market. A high star rated model saves 50L or more with every load – and uses less detergent (the big money saver).



Both front loader and top loader washing machines can earn high star ratings.

Dishwashers

Dishwashers are also WELS star rated and the most efficient models use less than half the water of an older model. The highest star rated dishwashers can use less than 1L per place setting – that’s less water than many people use washing dishes by hand.

Try these simple ways to use water more efficiently when washing dishes:

- Avoid rinsing before washing. Scrape food remains off dishes and dispose of them in the compost or garbage bin rather than rinsing them away.
- Always use a plug in the sink rather than letting the tap run continuously.
- Try to fully load the dishwasher before using it and use the economy cycle if you have one.

Other water saving tips

In-sink waste disposal units use water when operating and also mix wastewater with food scraps. From an environmental viewpoint, well controlled and managed home composting is the most favoured option for food waste disposal (CRC Waste Management and Pollution Control 2000).

Storage water heaters release some water through a pressure release valve when they are heating water. Have a professional check the release valves on your water heater. The amount of water used may be minimised by setting the release rate to the minimum recommended by the manufacturer. (see *Hot water service*)

Evaporative air conditioners drain off some water while in use to reduce the build-up of impurities. Ensure that the drain-off rate is set to the minimum required for the air conditioner to work with your water supply. Make sure the air conditioner is turned off when you go on holidays. (see *Heating and cooling*)

Outdoor water use

For tips on how to reduce water demand outside the home, see *Outdoor water use* which covers:

- watering gardens and lawns
- washing cars, houses, pathways and garden tools
- pool filling and maintenance
- other recreational uses.

Rebates for water efficient products

Depending on where you live, you are likely to be eligible for rebates, subsidies or free offers on some water efficient/water saving products. Check with your council and water utility, at www.yourenergysavings.gov.au/rebates or www.smartwatermark.info/home/rebate_links.asp.

References and additional reading

Contact your state, territory or local government for further information on using water wisely: www.gov.au

Choice. www.choice.com.au

CRC for Waste Management and Pollution Control (CRC WMPC). 2000. Assessment of food disposal options in multi-unit dwellings in Sydney. Document 2883R. Sydney.

Madden, C and Carmichael, A. 2007. Every last drop counts: the water saving guide. Random House, Milsons Point, NSW.

Mobbs, M. 1998. Sustainable house: living for our future. ChoiceBooks, Marrickville, NSW.

NABERS (National Australian Built Environment Rating System). www.nabers.com.au

Savewater Alliance. www.savewater.com.au

WELS Regulator. www.waterrating.gov.au

Windust, A. 2003. Waterwise house and garden: a guide for sustainable living. Landlinks Press, Collingwood, Vic.

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