



# water use

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**Australia is the driest inhabited continent on Earth and according to CSIRO's latest climate change estimates, Australia will become hotter and drier in coming decades. CSIRO estimates that over most of the continent, average temperatures will be 0.4 to two degrees C greater in 2030 than 1990.**

Along with a reduction in rainfall, evaporation is expected to increase over most of the country, which, when combined with expected changes in rainfall, will mean a clear decrease in available moisture across the country (Department of the Environment, Water, Heritage and the Arts, 2009).

Although the Cairns region receives some of the highest rainfall in Australia, recent population and economic growth has placed increasing pressure on local water resources and infrastructure. The local population is projected to grow significantly over the next 15 to 20 years, so ensuring the sustainability of our natural resources and maintaining the environmental values of the region is more important than ever (Cairns Regional Council, 2009). We, the community, can achieve this by better management of our water use.

Cairns Regional Council and the State Government have joined forces to promote a water conservation program. They have mounted a public education campaign to generate awareness within the community about water conservation. Their goal is to achieve a 10% reduction in water consumption.

## Water Usage

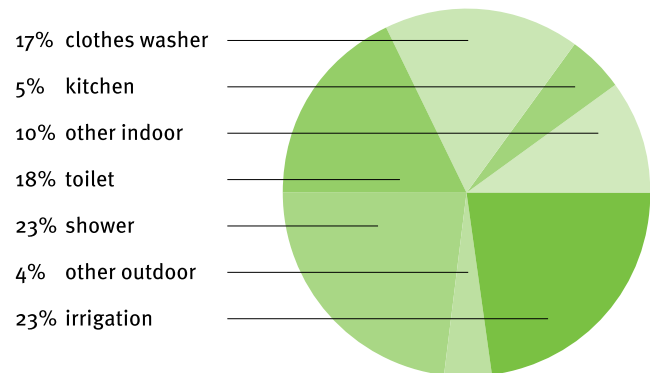
Water usage varies depending on where we live. In 2006-7 Cairns residents used an average of 230 litres (0.23 kL) of water per person per day (Cairns Water, 2008). For a family of 3, this equates to 251.85 kL of water per year. Cairns Water currently charges 89 cents per kilolitre (kL) for all water passing through the water meter within the water year (Cairns Water, 2009). Therefore the cost of the water for the average family of four would be \$224.15 (this does not include other water charges).

No. people in family	Av. water use/person/day	Volume of water used p.a./family in kL	Cost p.a. for water through the meter at \$0.89/kL
2	230	167.9	149.43
3	230	251.85	224.15
4	230	335.8	298.86
5	230	419.75	373.58

In a coastal city like Cairns most of the water is used indoors – almost 75%.

## Typical water usage in an Australian coastal city

Typical household water use for an Australian coastal city



Making a few simple adjustments to the way that you use water around the home and replacing old machines with new water-efficient appliances will make a big difference to your water use and will save you money on your water and energy bills.

## WATER USE REDUCTION

### Behavioural Changes

- One of the simplest ways of reducing your water use is to check your home for worn tap washers and leaking pipes. A single leak over a long period can waste thousands of litres and in some cases has been responsible for up to 30% of a household water bill (Cairns Water, 2009).
- Check your toilet cistern for leaks by placing a few drops of food colouring in the tank. If there is colouring in the bowl before you flush then there is a leak – wasting up to 60kL of water a year.
- Turn off the tap when brushing your teeth and shaving. Save 4,000 litres of water a year (if you brush for 3 minutes). Instead, use a glass of water to rinse your mouth. And remember to turn off the tap while shaving, and save up to 3,500 litres p.a.
- Halve your shower time and save 8 per cent of your water.
- Add flush arrestors such as a filled water bottle to the toilet cistern to reduce the water used to flush your toilet.
- Only flush when necessary and avoid flushing at night (avoiding 4 flushes per day can save up to 13,000 litres of water p.a.).



Take 4 minute showers



Turn off tap when brushing



Don't run tap when washing



Install water saving toilets



Install tap aerators



Use a broom, not a hose

For more information contact Green at Heart on 4038 3558 or [info@greenatheart.com.au](mailto:info@greenatheart.com.au)



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- Make sure each washing machine load is full and use an economy setting. Washing machines use about 120 litres of water per load. You can reduce this amount by adjusting the water level to suit the size of the load of washing.
- When using the dishwasher make sure it is fully loaded and use the economy cycle. Try to avoid rinsing dishes before loading or rinse in a sink of cold water to save water.
- Water is wasted each time cold water is flushed from a hot water pipe. Keep containers nearby for when you turn on the bath or shower and use to water the garden or indoor plants.
- Half fill the sink to rinse dishes or clean fruit and vegetables. A running tap uses up to 25 litres of water per minute.

## Water-efficient Appliances

A great way to reduce your water consumption is to install water efficient appliances and fixtures. The three top users are the shower, toilet and washing machine. Always check the star and water ratings of appliances before purchasing. For more information visit <http://www.energyrating.gov.au/>

### Washing Machines

- Upgrading the washing machine to one with at least a 4 star water efficiency rating will save another 22kL of water per year. Front-loading machines are typically the most water efficient using up to 50% less water than a top-loader.

### Toilets

- Installing a new 4star dual-flush toilet (3/4.5L) can save a family of three up to 14kL of water per year. On older models try putting a bottle of water in the cistern to save on water used per flush.

### Dishwashers

- Upgrade to a water efficient dishwasher; they use between 16 and 32 litres per load, less than washing dishes in a sink.

### Showerheads

- Installing a minimum of 3 star water-efficient showerhead means a family of three can halve their water use over a single year (based on a seven minute shower average), saving over \$56 p.a.

### Water flow restrictors and Aerators

- Installing tap aerators can reduce water consumption by creating similar volume and pressure at lower flow by using air instead of water.
- Installing water flow regulators on your taps restricts the flow in each tap by up to 9 litres per minute.
- A hot water recirculation system can deliver hot water to the taps without having to wait for the water to heat. They use pumps to quickly move water from the heater to the taps by pulling hot water from the water heater while simultaneously sending cooled water from the hot water lines back to the hot water system to be reheated. These systems save water and can save energy.

### Reuse and recycling

- Capture rainwater by installing a rainwater tank and connect it to your toilet, laundry and garden hose. This will help reduce your water use and save you money on your water bill.
- Recycle greywater. Greywater is recycled water from domestic use in the home. It includes water from baths, showers, hand basins and washing machines (preferably the final rinse water). Using greywater can keep your garden thriving during periods of low rainfall.
- You do not need permission to divert greywater from the shower and washing machine for immediate use on the garden. But if you are interested in a permanent greywater treatment and reuse system, you need an EPA-approved system and a permit from your local council. (See our Rainwater tank and Greywater fact sheet for more information).

### The top three indoor water users.

END USE	EFFICIENT	NON EFFICIENT	WATER SAVING
Shower (3star - v 18L)	62 kL/a	125 kL/a	63 kL/a
Toilet (4.5/3 - v 11L)	16 kL/a	30 kL/a	14 kL/a
Washing machine (4star - v 140L)	25 kL/a	47 kL/a	22 kL/a

\* Indicative savings in annual water use for a three person household



Water early or late in the day



Use a shut-off nozzle on your hose



Plant dry tolerant plants



Mulch your garden



Use a high star rating washing machine



Use a low-flow showerhead

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