



Target 100 for Melbourne: case studies and background facts

Monday 23 November, 2009

Key points:

- Environment Victoria and the Alternative Technology Association (ATA) are calling on the Victorian Government to replace its Target 155 policy with Target 100.
- Case study examples demonstrate how easily many Melbourne householders are already achieving daily per capita mains water use at or well under 100 litres.
- Despite storage levels being slightly higher than this time last year, they remain dangerously low and the rivers that feed them – the Yarra and Thomson – are under great stress from long-term reductions in their flow.
- November 2009 is the one-year anniversary of the Target 155 campaign launch. Melburnians maintained personal water use levels well under the current Target 155 for most of 2009 and, with the right support, could get even more efficient.
- The spike in daily water use during recent hot weather shows how vulnerable Melbourne's storages are to being drained over summer.
- The Brumby Government should urgently move towards a Target 100 program and massively boost support for householders to lock in these water savings by retrofitting their houses with smart water-efficient technologies.
- 78 billion litres per year would be saved if Melbourne's per capita daily mains water use averaged 100 litres, rather than 155 litres. This is more water than the government is hoping to gain from the \$750 million north-south pipeline from the Goulburn River.
- A recent report by Environment Victoria, ATA and other groups, *Climate Safe Homes*, showed that by adding an alternative water source to a home, such as a greywater system or a rainwater tank connected to toilet and laundry, the average household can reduce water use by more than 40 per cent.
- The *Climate Safe Homes* report calls on the government to roll out a mass retrofit program to one million homes over the next five years and to increase incentives and rebates to improve the uptake of alternative water sources.

Further detail:

The following case studies were prepared by the ATA in October 2009. The subjects are available for interview.

CASE STUDY 1: Kylie Carville – Coburg – 75L per person per day.

Even with a baby in cloth nappies, regular house guests and a garden, Kylie and her family use just 75 litres of mains water per person per day, and keep their garden green.

Kylie's secret to keeping her garden alive over summer without ever using mains water is to reuse water around her property.

"I catch the cold water from the shower and the water from washing veggies in the kitchen, as well as using water from my baby's bath," says Kylie.

"When its summer and I need extra water, I just put a timer on to remind me when the machine is about to hit the rinse cycle and then fill up the trough and bucket the water outside to the garden.

"I only water my pot plants, citrus trees and veggie patch. The grass, roses and other plants just survive summer."

While saving water is something Kylie will always do, having the support to install water saving technology would go a long way.

"I do get tired of lugging buckets around, but I just can't pour fresh drinking water onto the garden which is why I want a greywater system, but right now I can't afford it," she says.

Kylie says finding ways to save water has been easy, and limiting water use to 100 litres of mains water per person per day is a reasonable target.

"I don't know what other people do to use so much, but it's not necessary," Kylie says.

For interviews: Kylie Carville, T: 9386 3695, E: kylie.carville@mh.org.au

CASE STUDY 2: Chris Johnson – Lower Templetove – 60L per person per day.

Chris, his wife and their four children use an average of 245 litres of mains water per day, between the six of them.

"For two adults that's pretty good going, but add kids into the equation and it's not bad at all," says Chris.

Chris has installed 7.5 litres per minute, water saving shower heads and a low flow bath spout. He also has dual flush toilets, 5 star dishwasher, front loading washing machine and a 5000 litre tank for topping up the swimming pool, but he'd like to do more.

"There are many things I haven't had a chance to do yet that will reduce our water use considerably - to the point I won't need any mains water at all," he says.

"I'm in the process of purchasing a 22500 litre tank and an additional 5000 litre tank, so that the household will be entirely self sufficient in water, based on last year's rainfall."

Chris says while they don't have a garden right now due to renovations, when they do start landscaping all the plants will be drought tolerant.

"Based on the amount of rainwater we collect, grey water is not in consideration at this stage, but we might look into it after all water systems have been put in place."

Chris says the government should set a target of a 100 litres to make people really think about their water use.

"I am a home sustainability assessor and every week I see many houses with single flush toilets, inefficient shower heads, top loader washing machines, and people having long showers."

For interviews: Chris Johnson, T: 0402 850029, E: chris.johnson@ecoadvocates.com.au

CASE STUDY 3: Penny Grose – Rosanna – 7.5L per person per day.

Penny and her partner Tony are on a miniscule 7.5litres per person per day of mains water, the rest of their water supply comes from rainwater tanks.

Penny's rainwater tanks are plumbed to her toilet, shower, laundry and garden, and 50 per cent of the plants in the garden are drought tolerant.

"Before we installed the water tanks, we were using between 40 and 70 liters per person per day," says Penny.

"The higher usage was during summer when we were watering the veggie patch."

Penny only waters the garden with a sub-surface irrigation system and covers any exposed soil with thick mulch to stop evaporation.

Penny says water targets should be set low to encourage people to use water efficient appliances and install rainwater tanks.

"For those with 10,000 litre tanks, 30 litres per person of mains per day should be achievable."



“For people who do not yet have tanks or water efficient appliances, perhaps 100 litres should be considered acceptable consumption,” Penny says.

For Interviews: Penny Grose, T: 9205 5507, E: penny.grose@yahoo.com.au

Can a Target 100 be achieved?

In a recent survey ATA asked members to state what target they deemed appropriate for Melbourne. The most nominated target was 100 litres daily per capita water usage. Respondents commented that 100 litres was a fair and easy to remember target.

Target 100 can be achieved without large scale change from Melbournians. Minor efficiency measures and small changes in behaviour can play a key role in reducing the usage of those who are currently on and around 155. For example:

- Inefficient shower heads can release 15 - 20 litres of water a minute. A 10 minute shower will therefore use well over an entire day’s target! Low flow shower heads (free from your water provider) release under 9 litres a minute which would reduce the water amount to 90 litres. Cut shower time to 4 minutes and you will use only 36 litres. The good news here is that the shower is often the biggest water consumer in the daily life of a Melbournian so reductions here can make a huge difference.
- Installing a dual flush toilet can save a family of four 35,000 litres of water a year or about 23 litres of water per person per day. If you cannot afford a new dual flush toilet, there are a range of cheap options to reduce the flow of your current toilet.
- Ensuring the tap is turned off when brushing your teeth can save up to 48 litres a day (assuming you brush for 3 minutes).

It is important to note that 100 litres is a mains water target; for water that is plumbed to houses. Households can use more than 100 litres if necessary by sourcing this water through greywater or rainwater. These alternative sources can play an especially important role in keeping the garden alive over summer or in reducing peak usage indoors during the warmer months.

For further information see: <http://www.savewater.com.au>

Progress under Target 155 campaign

November 2009 is the one-year anniversary of the Target 155 campaign launch. Melburnians maintained personal water use levels well under the current Target 155 for most of 2009

For data see: <http://www.ourwater.vic.gov.au/target155>

Target 100 savings versus supplies through north-south pipeline

A massive 78GL/year would be saved if Melbourne's per capita daily mains water use averaged at 100 litres rather than 155 litres. This is more water than the government is hoping for through the \$750 million north-south pipeline from the Goulburn River.

Calculations:

- Melbourne's population is 3.9 million at present
- 3.9 million people x 155 litres/day = 604 ML (per day, total residential use)
- 3.9 million people x 100 litres/day = 390 ML
- Therefore potential reduction in Melbourne's total residential use = 604 ML – 390 ML = 214 ML
- 214 ML x 365 days = 78,110 ML = 78 GL saving per year

Melbourne's storage levels

Melbourne's storages have been below the Stage 4 trigger point for much of 2009. Storages were below 30 per cent capacity from April – September 2009, their lowest levels in the last 12 years of drought. While good spring rain in October boosted storage levels (currently 38 per cent) they are still dangerously low.

For data see:

http://www.melbournewater.com.au/content/water_storages/water_report/water_report.asp

Our rivers under stress

Melbourne's reservoirs are fed by the Yarra and Thomson Rivers, providing us with some of the finest drinking water in the world. But as more and more water is extracted, the health of these rivers is under increasing stress. The past 12 years of dry conditions have had a much greater impact on river systems than on consumptive water users.

Yarra River

The recent boost of spring rain aside, the Yarra River has been struggling to get by with just 18 per cent of its long-term average flow, which represents 11 per cent of natural flows.

Long-term average flow	1298 ML/d
Natural flow (had no water been extracted)	2203 ML/d
12 months to September (30/9/08 - 31/8/09)	231 ML/d

Figures above are the average daily flows (ML/d) at the Yering Gorge gauging station (Warrandyte) on the Yarra River. Data source: SKM (2005) Determination of the Minimum environmental water Requirements for the Yarra River &

http://www.melbwater.com/content/rivers_and_creeks/rivers_and_creeks.asp



Just prior to the 2006 state election, the Victorian Labor Government committed to providing scientifically recommended minimum environmental flows to the Yarra. These new flows were not delivered and in October 2007 the Minister for Water instead authorized the additional harvest of 10 GL / year from the already stressed Yarra River.

Thomson River

In 2004 the Victorian Government made a commitment to return an initial 10 GL to the stressed Thomson as a key action of the *Our Water Our Future* White Paper. While drastically short of the system's identified shortfall of 47GL it was a positive first step.

However, before long this commitment was put on hold (the environmental entitlement was 'qualified' by the Water Minister) to supply extra water to Melbourne. In September 2009, the already stressed Thomson was placed under further pressure with an additional qualification by the Minister to reduce passing flows by 10 GL per year.

This further depletion of the Thomson is on top of the fact that the river's already insufficient flows have been reduced by half during the last 12 years of dry conditions. *Source: DSE (2009) Gippsland Region Sustainable Water Strategy Discussion Paper*

Investing in Melbourne's long-term water future

The Brumby Government must act now to ensure Melbourne's long-term water future.

Towards climate safe homes: the case for zero emissions and water saving homes and neighbourhoods was launched by Environment Victoria in September 2009, in partnership with four leading environment groups, including ATA.

This report calls on the Victorian and federal governments to help households to become water and energy efficient by:

- Fast-tracking the introduction of 7 to 8-star standards for new homes and renovations
- Introducing a minimum 40 per cent water efficiency for new homes by 2010
- Committing to a one million homes water and energy retrofit program targeting low income households over the next 5 years
- Introducing minimum performance standards for the energy and water efficiency homes at the point of sale or lease by 2012
- Providing incentives and rebates to improve the uptake of alternative water sources
- Providing incentives and support for building industry adjustment

Water Security, Healthy Rivers: Environment Victoria's Vision for Melbourne is a 10 point action plan that demonstrates how Melbourne's water needs could be met without the Wonthaggi desalination plant or north-south pipeline, while at the same time delivering much-needed environmental flows to stressed rivers.



Published by Environment Victoria in November 2008, the report calls on the Victorian government to:

- Improve stormwater harvesting and management
- Boost the water efficiency of our building stock
- Treat recycled water from the Eastern Treatment Plant to drinking quality standard
- Cease logging in Melbourne's water catchments
- Increase water conservation targets for commercial and industrial water users
- Deliver environmental flows to Victoria's rivers

Both reports can be downloaded at: www.environmentvictoria.org.au