

Lessons for Water Treatment & Storage: Stuart McQuire's Sustainable House



The Challenge

As Australia has one of the highest water consumption rates per capita in the world¹, the home is one area where water saving initiatives could be further explored and implemented to assist with long-term sustainable water management.

Stuart McQuire, an environmental scientist, past President of the ATA (Alternative Technology Association) and author of *Not Just Down the Drain, A guide to reusing and treating your household water*, applied for a Smart Water Fund grant to explore the benefits of implementing water smart ideas into his four-member household.

In order for other home owners to adapt similar water conservation ideas, the project would have to demonstrate the ability to:

- Cut consumption of mains water,
- Reduce water usage without compromising lifestyle or garden maintenance.

The Project

After being awarded a Smart Water Fund grant to see how far they could go in cutting mains water consumption, the McQuire family installed a greywater recycling system and rainwater tanks at their 1929 Californian Bungalow home in West Brunswick. Now the house supplies its water needs almost entirely through rainwater and recycled water from the site.

The rainwater system uses four rainwater tanks to store up to 20,000 litres of water. The rainwater is used for showers (hot & cold water), the laundry, all water via the hot water system, and a couple of garden taps. Recycled water is used for toilet flushing and as the main source of water for the garden, and the new Envirowater unit installed in the front yard of the house also doubles as a water feature.

Only two of their taps now use mains water, the kitchen cold water tap for cooking and drinking, and the bathroom basin cold water tap for brushing teeth. All the other taps are supplied with either rainwater or recycled water from the site.

¹ www.savewater.com.au

Smart Water Fund



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Lessons Learnt

The project found that the adoption of water recycling strategies in the home could not only considerably reduce overall mains water consumption, but didn’t require households to compromise on lifestyle or garden maintenance.

With only two taps in the home connected to mains water, Stuart McQuire’s household cut consumption of drinking water to two and a half buckets a day (or six litres a day per person) – 97 per cent less than the average Melbourne household – and still managed to water their thirsty garden comprising over 20 fruit and nut trees.

The family’s water bill for Autumn was just \$1.55.

“Half of the water savings we’ve achieved can be implemented by most households at minimum cost,” said Stuart McQuire, “the other half are a little more complicated and will cost more to implement, however they will produce significant savings in the long term.”

“Rainwater now supplies most of our household water needs, and together with recycled water supplying about a third of our water, it means we hardly use any mains water.”

The Benefits

Results for the first full year of operation of the new water systems show consumption of mains water was under 9000 litres. With four people in the family this is just under 6 litres of mains water each per day.

Today, only seven per cent of the McQuire households’ water consumption comes from mains water – the majority is from rain (59 per cent) followed by recycled water (34 per cent). Based on rainfall records, Mr McQuire estimates that about 100,000 litres of rain will be available each year from the roof of their home alone.

Mr McQuire says the Brunswick West Sustainable House showcases how it is possible to live in a comfortable family home with a big garden and still use a whole lot less water.

“For us it’s about the opportunity to make our home more environmentally sustainable. We’re happy to share all the learnings from the project through the Smart Water Fund to ensure all options for securing Melbourne’s water future are fully explored and implemented.”

**For more information about this project:
Visit the West Brunswick Sustainable House website at www.greenmakeover.com.au
or contact Stuart McQuire on (03) 9018 9720**

**For more information about the Smart Water Fund:
www.smartwater.com.au or freecall 1800 882 432**