

Cool paint turns down the heat

Western Water staff have noticed a considerable difference in the indoor temperature at their depot buildings despite recent hot weather, thanks to a space-age paint product.

Over summer, the Gisborne, Melton and Sunbury depots put the paint to the test on their roofs and noticed an immediate difference of up to 10 degrees Celsius in the indoor daytime temperature.

Manager Renewable Resources Stephanie Gillespie said the new roof-top treatment was one of a number of practical measures being rolled out to cut Western Water's energy use and greenhouse gas emissions. At the same time, these measures are improving workplace conditions.

"This paint product offers a relatively inexpensive way of keeping summer temperatures inside to at least 10 degrees below the heat outside, and when you think of the difference between 30 degrees and 40 degrees, that's a big saving on the use of cooling systems," said Ms Gillespie.

The paint product is a heat-reflective, water-based acrylic with a suspension of tiny ceramic spheres each containing a vacuum. The spherical beads reflect up to 90% of solar radiation and do not transfer heat.

The finished product looks the same as conventional paint and, while there are various colour options available, white paint works most effectively.

Ms Gillespie said other energy efficiency measures introduced at the Gisborne, Melton and Sunbury plants have included changing over to new energy efficient lights and reflectors, putting in motion sensors so lights do not stay on all the time and installing vents and skylights to allow better air movement and passive lighting.



A contractor applies paint to the roof at Sunbury Recycled Water Plant as Team Leader Gerard Barry and Manager Renewable Resources Stephanie Gillespie observe.

Sea eagles nest safely in Pinkerton Forest

Western Water has signed an agreement with Melton Shire Council to permanently protect Pinkerton Forest, near the Melton Recycled Water Plant. The 32.4 hectare site is to become a biodiversity corridor linking with nearby Bush's Paddock. Working with Pinkerton Landcare and Environment Group (PLEG), Western Water has preserved the Forest for years to come.

A pair of White-bellied sea eagles was recently observed in Pinkerton Forest by members of PLEG. These rare birds are listed as vulnerable and their successful nesting in the Forest is regarded as an event of considerable ecological and conservation significance.



A White-bellied sea eagle - resident of the now protected Pinkerton Forest.

Western Water's Greenhouse Gas Reduction Strategy and 2009 Environment and Sustainability Report are available at www.westernwater.com.au

recycledwater news

Autumn 2010



Customer Profile: Trethowan's Nursery

Trethowan's Nursery at Rockbank was one of the founding members of Western Water's Sunbury-Melton Recycled Water Scheme in 2003.

Since then, the Trethowans have more than doubled the size of their business, particularly the wholesale arm, selling hardy, drought-tolerant plant varieties suited to Melbourne's rocky western plains to other retail nurseries, Councils and farm enterprises, as well as at their own retail nursery.

A secure supply of recycled water has not only drought-proofed the nursery and ensured it could flourish, it has also created a new niche for the nursery with the growing market of Eynesbury customers seeking advice and stock for their new Class A recycled water gardens.

"Eynesbury residents are given a plant list of suitable varieties, with botanical names and common names," said Jason Trethowan. Jason and his brother, David, took over their father John's well-respected nursery in 1999.

"They come here because they want to see what these plants look like and how they will grow," Jason Trethowan said.

Trethowan's Nursery has also become an advisory centre for greywater systems and secondary pump networks to connect shower and laundry water to drip irrigate garden beds.

"Given the compound effect of years of drought, subsoil moisture levels are becoming depleted which can have a dramatic effect on gardens and larger trees in the area," said Jason Trethowan.

"We recommend that clients be vigilant in caring for the plants they have to minimise losses. People are starting to realise that watering regimes play a huge role in the overall health and growth rates of sustainable gardens."



Trethowans' Nursery thrives on recycled water at Rockbank

Eynesbury update

Completed in August 2008, a \$7.5 million upgrade to Western Water's Melton Recycled Water Plant has allowed properties in Eynesbury, Victoria's first new town development in over 100 years, to be connected to Class A recycled water.

Homes in the township are being built with a "third pipe" allowing residents to save precious drinking water by using high quality recycled water to flush toilets and for outdoor uses. Recycled water is also used at Eynesbury to irrigate recreational facilities and fire fighting. The recycled water pipes are coloured purple to avoid confusion with drinking water supply and other utility services.

The first residential connection to recycled water was made in December 2008. 59 Eynesbury homes are currently occupied and 100 houses are in construction. There is a total of 2,900 allotments.

In 2009, Western Water was awarded the United Nations of Australia Association World Environment Day Award for Excellence in Sustainable Water Management, and was also a finalist for the Premier's Sustainability Awards for the supply of Class A recycled water to Eynesbury.

By 2030, nearly 20,000 homes in the area are expected to be using Class A recycled water, substituting almost 50% of drinking water volumes and saving over 4 million litres of drinking water per year at full capacity.

Welcome to our new readers

Western Water is very pleased to welcome the new readers of *Recycled Water News* who responded to our recent subscription promotion. We hope you enjoy reading about developments in the supply and use of recycled water in our region, as well as about our other environmental initiatives.

Our current readership numbers over 1,500 and includes farmers, scientists, plumbers, educators, government officers, business owners, water industry workers and other interested stakeholders. Free subscription to *Recycled Water News* can be arranged by telephoning **03 9218 5415** or emailing recycledwaternews@westernwater.com.au

What is recycled water?

Recycled water is a valuable alternative water resource derived from wastewater. Collected from properties connected to the sewer system, this wastewater is treated physically, chemically and biologically to remove impurities and recycled water is produced.

Western Water has seven Recycled Water Plants across the region and produces Class A, B and C recycled water, in accordance with the Victorian Environmental Protection Authority (EPA) Guidelines for Environmental Management: Use of Reclaimed Water. These guidelines are available at www.epa.vic.gov.au or by calling the EPA on 03 9695 2722.

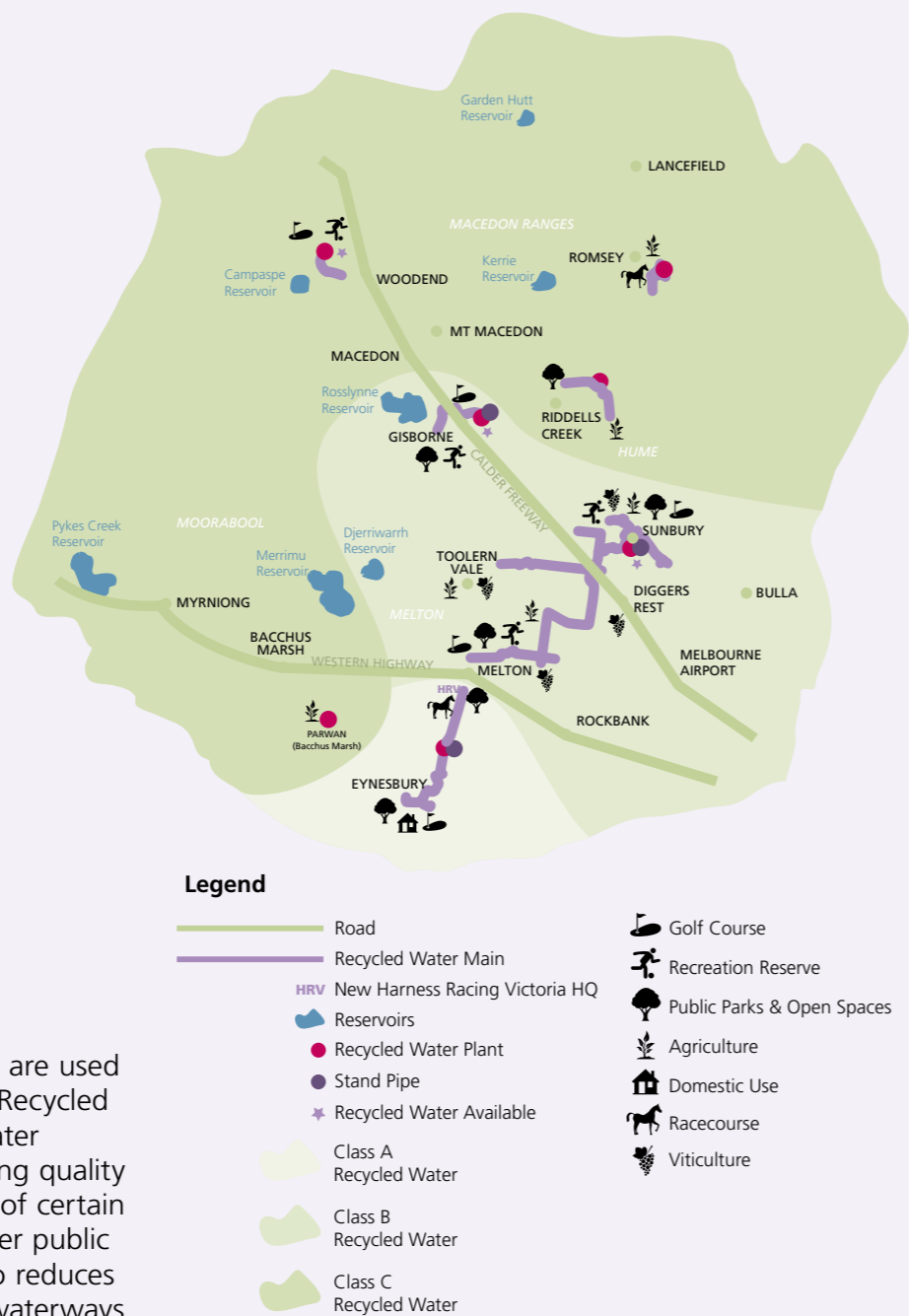
To produce Class C recycled water, wastewater is treated to reduce the presence of microorganisms like bacteria as well as other solids, organic matter and nutrients. With further treatment, the recycled water can be classified as Class B and has a wider variety of applications.

Class A is the highest quality of recycled water produced by Western Water. It undergoes a rigorous treatment and testing process that involves a multi-barrier approach including microfiltration, ultraviolet light and chloramine disinfection.

How is recycled water used?

Around 13,000 million litres of drinking water are used in Western Water's service region each year. Recycled water helps preserve our precious drinking water supplies by substituting where water of drinking quality is not required - for example, in the irrigation of certain crops, in some construction work, and to water public recreational spaces. Use of recycled water also reduces the discharge of nutrient rich water into our waterways.

Our Recycled Water Schemes



Can I use recycled water?

Only Class A recycled water is available for residential use. Western Water's Class A recycled water is only available via a piped supply from Melton Recycled Water Plant. If you are a non-residential customer interested in connection to recycled water via a piped supply, please contact Western Water's Renewable Resources team on 03 9218 5400 for further information.

Recycled water of any class can only be supplied for an approved use in line with the Victorian EPA guidelines and Western Water's recycled water allocation framework. Western Water supplies recycled water to customers who have a Recycled Water Supply Agreement in place.

Water restrictions and Permanent Water Saving Rules do not apply to recycled water. However, recycled water is still a precious resource and should be used wisely.



If you are a resident receiving recycled water you need to check for cross-connections

Cross connections occur when drinking water is incorrectly connected to a recycled water pipe or vice versa.

Plumbing Industry Commission auditors check for cross connections during construction of all homes supplied with recycled water via a third pipe and again before recycled water is supplied to a property. Additionally, Western Water conducts random audits on customers' homes to ensure cross connections have not occurred.

If you are a resident connected to a Class A recycled water supply, you are required to check for cross connections on your property every year. A cross connection calender is located in the electrical meter box of each home with a recycled water connection.



Plumbers are also required to conduct checks when carrying out any new plumbing work at your home. If a cross connection is detected, contact Western Water on 1300 650 425.

Sunbury upgrade cuts energy use and emissions

A \$2.2 million project set to start next month at Sunbury Recycled Water Plant will cut both energy use and greenhouse gas emissions from the Plant's recycling processes.

The project is part of a multi-million upgrade underway at Sunbury and is in addition to the \$1.8million, nine million litre recycled water storage basin installed at the plant last year. This latest project involves construction of a new plant building to house a belt press dewatering unit.

Managing Director John Wilkinson said the unit will extract recyclable water from biosolids, replacing an existing centrifuge dewatering unit built in 1989. Biosolids are also reused, after composting, to produce soil conditioners and high quality farm fertilisers.

"The centrifuge unit has now reached the end of its operational life and this gives us the chance to bring in new technology, which will cut power usage as well as greenhouse gas emissions," Mr Wilkinson said.

"The new unit uses gravity to remove excess water, which does not require as much energy as the centrifuge system and therefore does not produce the same level of greenhouse gas emissions."

Mr Wilkinson said the upgrade will also increase the plant's flow and treatment capacity to handle future loads from Sunbury's growing population.

"The project will ensure all recycled water produced at the Sunbury RWP complies with Class B recycled water standards for supply to the Sunbury-Melton Recycled Water Scheme, as well as complying with EPA licence limits for discharge to Jacksons Creek," he said.

The project is due to be completed by July this year.

Sunbury RWP last year produced 1,658 million litres of recycled water, of which 949 million litres was used by customers including wine and olive growers, Christmas tree growers, and golf courses among others.



Sunbury Recycled Water Plant

Class of recycled water	Uses
Class A (including uses for all other classes of recycled water)	Residential garden watering, including vegetable watering Toilet flushing Car washing Fire fighting.
Class B (including uses for Class C and Class D recycled water)	Irrigation of dairy pasture Industrial wash down of enclosed systems
Class C (including uses for Class D recycled water)	Municipal watering (for example, public parks and sporting facilities) Human food crops grown 1m above ground level and eaten raw Human food crops which are peeled or shelled before consumption Human food crops cooked or processed before sale to consumers Non-human food production Industrial use, excluding wash down.

Recycled water, of any class, should not be used for drinking, cooking (or other kitchen purposes), bathing and showering, swimming pools and spas, evaporative cooling systems or with children's water toys. If you are unsure about the use of recycled water, please contact Western Water on 1300 650 425.