

Water in the Lower Hunter



Planning our water future

Hunter Water is planning for our future now to ensure our region has a sustainable and resilient water system that can adapt and respond to change. We need to consider new sources of water (supply) and find new ways to reduce the water we all use (demand). This series of information sheets provide an overview of the potential water supply and demand option types we're discussing with our community as we plan our water future together.

Demand option: Recycled water (non-drinking)

What is it and how does it work?

Recycled water involves the treatment of wastewater to a standard suitable for non-drinking end uses, such as industrial and commercial use, toilet flushing or irrigation of parks, gardens, crops and golf courses.

The process relies on advanced water treatment, such as UV disinfection or chlorination, to ensure water quality standards are met.

What is currently in place in the Lower Hunter?

There are currently 15 recycled water schemes in the Lower Hunter which produce a total of around 6 billion litres of recycled water each year.

Two large-scale recycled water schemes supply more than 3 billion litres of recycled water each year for industrial use.

There are several smaller schemes which provide recycled water for golf courses and crop irrigation, as well as two dual-reticulation schemes that provide recycled water for garden and toilet flushing in housing estates.

Things we need to consider

Recycled water for non-drinking use reduces the demand on the drinking water system and is a reliable rainfall-independent supply of water, particularly during drought. Recycled water provides environmental benefits by reducing the volume of treated wastewater released to waterways.

Due to advanced treatment requirements and associated infrastructure, as well as high energy use, recycled water schemes are relatively high cost to build and operate for the volume of water produced. The demand for recycled water can also vary depending on weather, which can make the option less cost effective.

Because they reduce the demand for drinking water and reduce wastewater releases, recycled water schemes can defer the need for investments in other parts of Hunter Water's water or wastewater systems.

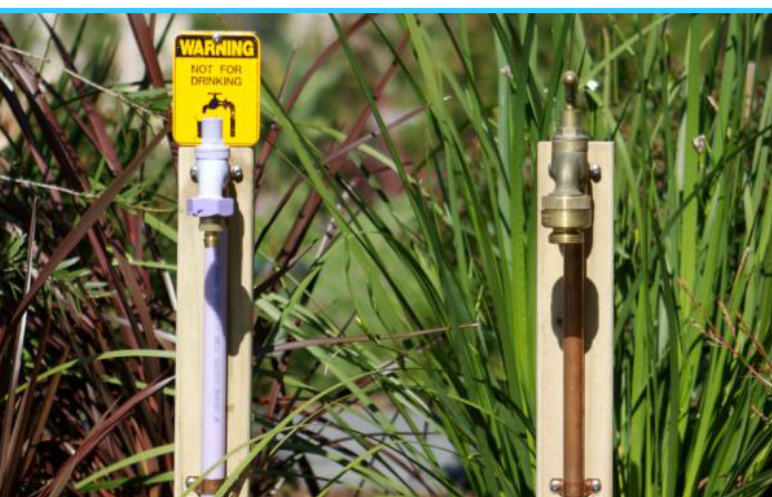
How we're considering this option for the Lower Hunter Water Security Plan

We've investigated a range of recycled water options in consultation with local councils and other stakeholders. These have been brought together into three programs which also include stormwater harvesting to reduce the volume of water extracted from the environment for drinking.

They include increasing levels of irrigation of sporting field and public open spaces, expanding existing and implementing new industrial recycled water schemes and residential dual reticulation (providing piped recycled water for non-drinking purposes to households) with associated increases in costs.

All Lower Hunter Water Security Plan portfolios will include a program of recycled water and stormwater harvesting schemes.

See **key results table** over page.



Water in the Lower Hunter



Key results

The table below provides further detail about how this option is being considered in the plan.

| | Program A (existing schemes) | Program B (existing and new schemes) | Program C (existing and new schemes) |
|--|--|--|---|
| Average supply volume | 6 billion litres per year (10% of wastewater) | 8 billion litres per year (13% of wastewater) | 10 billion litres per year (17% of wastewater) |
| Indicative cost to build* | No additional costs *** | \$270 million | \$1.4 billion |
| Indicative cost to operate | No additional costs *** | \$1.6 million per year | \$3.2 million per year |
| Comparative water supply cost** | No additional costs *** | \$26 per kilolitre | \$49 per kilolitre |
| Reliability and resilience | <p>Improves the diversity of sources in our supply system</p> <p>Recycled water does not rely on rainfall which improves the reliability of our system</p> <p>Recycled water ensures an ongoing water supply in long and severe droughts</p> <p>Stormwater harvesting relies on rainfall and therefore has low reliability in droughts</p> | | |
| Environmental impacts | <p>Less treated wastewater released to waterways</p> <p>Less urban stormwater pollution discharged to waterways</p> <p>Low impacts on natural biodiversity</p> <p>Medium/high energy use and associated greenhouse gas emissions</p> | | |
| Cultural and social impacts | Provides local water sources to maintain green parks and sporting fields | | |
| Timeframe for delivery | 3-7 years | | |

* Includes costs to connect customers to recycled water systems.

** The comparative water supply cost is an annualised cost that allows for comparison of options of varying scales and timeframes. The measure incorporates the whole-of-life cost to build and operate the option and the additional sustainable water supply the option provides. The measure does not assess the increment of demand served or the level of ongoing supply in a long and severe drought. Costs are indicative of 2020/21 dollars. The comparative water supply cost is based on delivering a program of recycled water and stormwater harvesting schemes of varying scales and costs and is not reflective of individual schemes.

*** Hunter Water has 15 existing recycled water schemes that typically form part of a wastewater management solution. A nil cost is shown for Program A because the capital and operating costs for these schemes are part of wastewater treatment investments and are not readily separable.