November 2020

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: Stormwater harvesting

What is it and how does it work?

Stormwater harvesting refers to the collection, treatment and storage of stormwater for reuse - typically for the irrigation of local parks, playing fields or golf courses.

The scale of this option is small compared to other option types, typically providing up to 20 million litres of water per year per scheme.

What is currently in place in the Lower Hunter?

There are few council or Hunter Water owned stormwater harvesting schemes in the Lower Hunter, however some golf courses have schemes used for irrigation.

Hunter Water has been working with local councils to better understand how stormwater harvesting can be used in our area.

Things we need to consider

The cost effectiveness of stormwater schemes is generally low due to the water treatment and storage requirements relative to the volume of water produced.

Schemes can provide multiple benefits, such as improving public amenity through the provision of green spaces, as well as environmental benefits such as reducing pollutants discharged to downstream waterways.

Stormwater harvesting schemes rely on rainfall and, given their relatively small size, supplies can deplete quickly.

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

Three programs with increasing levels of investment have been developed (which also include recycled water for non-drinking options).

Stormwater harvesting schemes will be considered locally based on the demands of specific users. Hunter Water will assist councils, developers and facility owners for assessment and delivery as opportunities arise.

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

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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	Improves the diversity of sources in our supply system Recycled water does not rely on rainfall which improves the reliability of our system Recycled water ensures an ongoing water supply in long and severe droughts Stormwater harvesting relies on rainfall and therefore has low reliability in droughts		
Environmental impacts	Less treated wastewater released to waterways Less urban stormwater pollution discharged to waterways Low impacts on natural biodiversity Medium/high energy use and associated greenhouse gas emissions		
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.*