

Mandating recycled water use investigation

Findings summary



Would a new state-wide requirement to use recycled water deliver greater community benefits?

Greater use of recycled water can diversify Victoria's water supply, which will put us in a stronger position to address the current and future water supply challenges of climate change and population growth. Increasing recycled water use can also deliver environmental benefits. However, recycled water use has not increased significantly over the past decade.

The Department of Environment, Land, Water and Planning commissioned a project in late 2020 to investigate whether a state-wide mandate to use recycled water in certain circumstances could help to increase use and provide broader community benefits.

Constraints were placed on this investigation; in particular that any mandate considered should not impact any existing responsibilities and expectations on water corporations. For example, a mandate must not prevent water corporations from:

- providing reliable, safe and affordable water supply and sewage services to its customers;
- adhering to Environment Protection Authority requirements including licences for wastewater disposal; or
- adhering to Essential Services Commission economic regulation, which (with some caveats) requires the cost of recycled water schemes to be

fully recovered by customers, and for the price to be within customers' willingness to pay.

It should also in general not result in other perverse outcomes.

For this project, a **mandate** was defined as either a requirement placed on water corporations from the Minister for Water (or on planning authorities from the Minister for Planning), or a requirement placed on water customers by a water corporation.

The project sought input and consulted with water recycling experts from Victoria's metropolitan and regional water corporations.

The primary focus of this investigation was recycled water, but the potential for mandated stormwater use was also considered throughout the project. Although the regulatory and policy framework for stormwater is different to that of recycled water, many of the benefits of increased use of the two water sources are similar. The conclusions of the project are considered to generally apply to both sources.

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An evidence-based approach

The investigation applied a qualitative approach, to reflect the bespoke nature of recycled water projects and also to make best use of the wealth of water industry experience available. Interviews with water recycling practitioners and managers from ten water corporations identified 37 recycled water scheme case studies. These were a mix of successful (e.g. currently operating at the intended scale) and unsuccessful projects, either complete or in planning stages. The range of case studies covered a variety of different end uses and scales. The interviews delved into how the projects were selected to proceed, what made them successful or otherwise, and how a mandate would have (positively or negatively) affected these processes. The interview discussions collectively led to the conclusions outlined in this paper.

Key finding:

The study investigated additional mandate options from a range of angles but did not find any circumstances in which a blanket state-wide mandate could achieve increased recycled water use and deliver net community benefit.

The reasoning behind this key finding is outlined in more detail below.

Recycled water schemes are already being sought and actively considered

Water corporations operate within a water resource planning framework that is outlined in legislation and Ministerial instructions. This framework ensures that corporations are actively seeking out and implementing recycled water projects that are cost effective and contribute to the best mix of solutions for reliable, safe and affordable water and sewage services. The study found that water corporations are already devoting significant resources to seeking and including recycled water opportunities as part of this mix.

Integrated Water Management forums were frequently stated as being very helpful in identifying and (where viable) progressing collaborative recycled water opportunities.

This confirms that there is no need for a mandate to encourage water corporations to consider recycled water opportunities.

Every project is different

The economic viability of recycled water schemes is highly dependent on the specific mix of circumstances for each project. Factors such as sufficient nearby demand, customer willingness to pay, competing supply options, land availability and affordability, and construction costs all vary significantly between locations and over time. Any state-wide mandate on the outcome of these processes would almost certainly lead to some economically unviable projects proceeding, creating opportunity costs and raising water bills unnecessarily.

Release to waterways can provide greater net benefits than consumptive uses

In some cases, the greatest benefits from a recycled water source could come from releasing the suitably treated water to a waterway under specified conditions to contribute to environmental, social or cultural benefits. Any such benefits created by a recycled water release needs to be assessed on a case by case basis, to ensure that the use that provides the greater net benefit can be considered. A mandate could undermine achievement of these non-consumptive benefits.

There are no additional end uses that should be mandated

The potential for further mandating was considered for each of the allowable end uses of recycled water in Victoria.

In **new residential subdivisions**, water corporations already have the power to mandate recycled water supply as a condition of connection to services, so no action is required here. Some water corporations indicated that they no longer take this mandating approach, as smaller garden sizes and water efficient toilets and washing machines mean that demand is very low and the investment is often no longer financially viable. In other areas, schemes can still be viable and are being implemented, for example in locations close to a treatment plant or where there is anticipated scarcity in drinking water supplies. In established residential areas, the high cost of retrofitting treatment and distribution infrastructure means that this is very rarely viable.

Public open space watering is the responsibility of elected local governments, which consider community views and the costs and benefits of various water supply options. While the water corporations support and encourage local government to consider recycled water or stormwater supply options, it would not be appropriate for a water corporation to override this local

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government responsibility with a mandate, which could lead to a requirement for increased council rates.

Industrial and agricultural users of recycled water choose the source of water that best suits their commercial needs. Recycled water has a different price and quality profile depending on location. Mandating the use of recycled water over other available water sources may have commercial consequences for these organisations and would go against the intention of Victoria's *Water Act 1989* and water entitlements and planning framework.

For local government or commercial customers, a negotiated agreement between a water corporation and customer is the most appropriate way to manage the supply arrangement.

The Minister or water corporations cannot require individuals to use recycled water

There are no mechanisms under the *Water Act 1989* to require individuals to use recycled water, even if a connection was mandated. New powers would be required to enable the Minister or water corporation to mandate that recycled water be used. This is not being contemplated as it would be inconsistent with the intent of the water entitlements and planning framework and would infringe on the rights of water users.

Conclusion

This investigation found that water corporations, councils and planning authorities have sufficient existing powers to establish viable recycled water schemes and no additional state-wide mandating is necessary to increase recycled water use.

A recycled water mandate applied by the Minister on water corporations would result in inefficient investments at a cost to communities. A mandate by water corporations requiring existing customers to use recycled water would be inappropriate for numerous reasons, and would infringe upon water users' rights.

The circumstances in which recycled water schemes are viable and deliver net benefits are highly project-specific, and therefore decisions to proceed should be made on a case-by-case basis rather than applying a blanket mandate.

How has this study informed policy thinking?

Although this investigation was intended to answer a specific question about the viability of mandating recycled water use, the interviews and evidence collected have formed a very useful body of relevant industry experiences and lessons learned, which have broader benefits for policy development.

While a blanket mandate may not be a cost-effective mechanism to increase recycled water use, evidence-based, locally developed targets may be a more appropriate option to drive increased uptake in some circumstances.

The case studies have also reiterated the importance of closer collaboration between the water and planning sectors, to ensure that integrated water management opportunities, including recycled water schemes, are considered early in planned developments.

The study also highlighted that customer communication and engagement programs should be continued to increase the understanding of, and comfort with, recycled water use where supply is available.



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