



Water Governance Reform
2019 Victorian Infrastructure Strategy Update

A Marsden Jacob Report

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We also acknowledge and thank the members of the project's consultative committee (in alphabetical order): Ron Ben-David, Chris Chesterfield, Karen Lau, and Rob Skinner.

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Executive Summary

Having strong urban water governance in Victoria is important. With strong governance we can plan and deliver the urban water services that Victorian communities need and want effectively, efficiently and transparently over the next 30 years.

Infrastructure Victoria's 30-year refresh is an opportunity to identify areas where Victorian urban water governance arrangements could be reformed to deliver better outcomes. It also provides an opportunity to reflect on how urban water governance arrangements are working well in Victoria, and how governance reforms already slated for implementation will position the urban water sector well for the future.

Recommendations in this report can contribute to the ongoing process of urban water governance reform in Victoria. They can help the Victorian water sector to optimise water supply security across all centralised and decentralised sources, and maximise shared benefits.

Victoria's expected record population growth over the next 30 years presents significant challenges and opportunities. Growth will increase demand on Victoria's urban water infrastructure, our supply sources and wastewater disposal systems. Population growth will change urban form and density across Victoria, with potentially significant implications for urban water management.

Infrastructure Victoria's 30-year refresh will present a vision for how Victoria can accommodate and capture the benefits of growth over the next 30 years, manage risks associated with this growth, and identify the initiatives required to achieve this future.

Recent reviews by the Productivity Commission and Infrastructure Australia have recommended that urban water governance reforms can deliver significant benefits to Victoria, and the Victorian economy [1, 2].

We broadly agree with these views. As we discuss in this paper, Victoria's urban water sector has been transforming rapidly towards a more integrated approach to urban water planning for more than a decade. This is particularly true in Melbourne and in many of Victoria's larger regional centres. The shift towards the integrated urban water planning and management approach now calls for shifts in how we govern urban water, and govern urban water planning decisions, in Victoria.

We show in this report that reform is happening to, or is planned for, many Victorian urban water governance arrangements as we shift towards more integrated planning and management. We also make recommendations in this report in areas where further governance reforms could help ensure the urban water sector is best placed to deliver best outcomes on the ground, manage risks, make efficient decisions in the community interest, support the productivity of Victoria's economy, and respond to our growing Victorian communities' needs and wants.

Focussing on urban water planning governance

In the context of Victoria's growth and the related challenges, planning and governance around urban water planning needs to be particularly robust. Recent work by Infrastructure Victoria's 30-year infrastructure strategy [3], the Productivity Commission [1] and Infrastructure Australia [2] highlighted priorities for urban growth planning governance reform.

Priorities identified by Infrastructure Victoria, the Productivity Commission and Infrastructure Australia include augmentation planning and the efficient use of all available water sources.

Box 1: Urban water governance priorities identified by the Productivity Commission, Infrastructure Victoria and Infrastructure Australia.

Make augmentation planning more robust and transparent and recognise the linkages between centralised and decentralised supply options. Roles and responsibilities in supply augmentation planning need to be clearer.	Augmentation planning
Including ensuring that remaining policy barriers and distortions that may affect the uptake of decentralised 'integrated water cycle management' approaches are addressed	Efficient use of all available water source

Source: [1-3]

In this report, we refer to these two areas under the banner of urban water planning governance. Consistent with Infrastructure Victoria's brief, in this report we develop governance recommendations focussing on these two areas of urban water planning.

At the outset it is important to recognise that Victoria overall has robust urban water governance arrangements in place, including around urban water planning for augmentation and decisions for efficient use of all sources. This is an overarching conclusion of the recent Productivity Commission [1] and Infrastructure Australia [2] reviews.

It is also important to recognise that Victoria's urban water governance arrangements and urban water planning governance arrangements are dynamic and evolving. As we discuss in this report, there are urban water planning governance reforms now being designed or implemented in Victoria that will help support more efficient, transparent and robust urban water planning in Victoria in the future. Many of these reforms are aimed at achieving greater integration between centralised and decentralised sources and reducing planning barriers between the many parties involved in Victoria's urban water sector.

These ongoing governance reforms means that it is important to look ahead several years as the point of departure for thinking about the types of governance reforms that could help support the Victorian urban water sector. The recommendations in this report start from this departure point.

Recommendations in this report look to build on an ongoing process of governance reform in Victoria, including earlier reviews by the Productivity Commission, Infrastructure Australia, IPA and WSAA, and the former National Water Commission. Many of our recommendations are based on and tested against National Water Initiative, COAG objectives and outcomes for the urban water sector, and reflect recommendations from these earlier reviews.

We see most of the recommendations in our report as being 'fine tuning' of Victoria's current urban water planning governance reform trajectory. Most of our recommendations focus on how governance arrangements can better integrate the many parties involved in Victorian urban water planning, better integrate the many levels of planning, better articulate roles and responsibilities, better articulate clarity of objectives, and reduce conflicts of interest.

We have aimed to make targeted and specific recommendations in this report rather than broad and general ones. We discuss in this report that previous urban water sector reviews have all come to largely identical high-level conclusions about the governance reforms that Victoria would benefit from. This report aims to shift from this general consensus about reform priorities to a set of time-bound and specific actions that Infrastructure Victoria can act on directly.

Report contributors

We developed and refined the evidence and recommendations in this report through extensive and iterative industry consultation. We have prepared this report working with most parties involved in Victoria's urban water planning sector, including government, water businesses, and their regulators.

We have worked closely and iteratively with these parties to identify key urban water planning governance issues and come up with practical governance reform recommendations. This means that while all recommendations in this report to Infrastructure Victoria are our own, the recommendations reflect the considered input from the more than 50 professionals with long-standing involvement and commitment to urban water planning in Victoria. We also

acknowledge and appreciate input from interstate water sector planning and governance colleagues where we have looked across administrative boundaries to identify how governance arrangements can benefit from taking lessons from other states and jurisdictions.

We thank Infrastructure Victoria for their contributions to the project and this report. We also acknowledge and thank the members of the project's consultative committee (in alphabetical order): Ron Ben-David, Chris Chesterfield, Karen Lau, and Rob Skinner. Our recommendations and this report are better for their input and guidance.

Recommendations

Having strong urban water governance in Victoria is important. With strong governance we can plan and deliver the urban water services that Victorian communities need and want effectively, efficiently and transparently over the next 30 years.

Our recommendations to Infrastructure Victoria aim to help deliver these outcomes. We have developed our recommendations against the key governance elements and principles and the COAG National Urban Water Planning Principles. Our view is that the National Urban Water Planning Principles are what urban water planning governance reforms in Victoria should be broadly aiming to achieve. As a result, we have developed recommendations against these criteria primarily, and Better Practice Principles secondly.

We have separated our recommendations to Infrastructure Victoria into headline urban water governance planning reform recommendations, and recommended actions that will support the headline recommendation. Supporting recommended actions have suggested timeframes for achieving these actions. Recommended actions include direct and indirect actions:

- **Direct recommended actions** are activities that change governance arrangements directly, by changing rules, practices or processes.
- **Indirect recommended actions** are activities that change governance arrangements indirectly by changing signals and incentives that support changes in guidance, rules, practices and processes without changing the underlying governance arrangements. For example, a change of objectives in a Statement of Obligations (SOO) is an indirect governance reform action.

Recommendation 1.

Reform Victorian urban water governance to ensure all options are on the table.

Water for Victoria commits to “taking a long-term view of our resources and allowing sufficient time to explore all options. We will meaningfully engage the community” [8].

Urban water augmentation planning and decisions around the efficient use of all available water sources should not be constrained by barriers and distortions. In Victoria, all augmentation and use options should be evaluated based on their economic merit, and whether they meet minimum public health and environmental requirements. This view is consistent with [16]. We recommend that current policy bans, such as indirect potable reuse, are removed and these supply options are objectively considered on their merits, citizen-customer support for the option, and assessed against the same health standards as other water sources [27].

We consider the following recommended actions will improve the formal urban water governance rules and allows all options to be considered on their merit. They also aim to provide greater clarity around what centralised and decentralised investments and co-benefits can be included within the scope of prescribed services.

Table 1: Recommended actions supporting all options should be on the table.

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
1.1	<p>The <i>Water Act 1989</i> empowers the Minister for Water to prepare sustainable water strategies (SWSs) for a region of Victoria. SWSs are long-term plans for water resources in Victoria. They identify threats to water supply and quality, and they include actions to help water users, water corporations and catchment management authorities (CMAs) manage and respond to threats over the 50-year planning horizon [21].</p> <p>Under Pt 3 Div. 1B of the Act, the Minister may request action and advice on specific matters relating to the preparation of the Strategy. We recommend that the Minister should use powers under the Act to explicitly request, either directly or through a Consultative Committee (s22D), that SWS demonstrate that all technically feasible centralised and decentralised augmentation options have been considered, and how the proposed plans and investments have been prioritised to optimise shared benefits and avoidable costs.</p> <p>Making this amendment will support planning of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-1	I
1.2	<p><i>The Water Industry Act 1994</i> grants the Minister for Water power to make and issue Statement of Obligations to Victorian water corporations. Under s 6-1 of the current Statement of Obligations, the Minister instructs Victoria’s Water Corporations to develop (in accordance with any written guidelines issued by the Minister) an Urban Water Strategy (UWS).</p> <p>A UWS outlines how the water corporations will effectively manage the increasing demand for water and rising sewage volumes. The strategies also align with <i>Water for Victoria</i> and the relevant SWS. Urban Water Strategies identify what the Water Corporation will do to ensure water availability for the next 50 years. It also outlines specific actions for the next five years.</p> <p>S6-1.1 includes directions on the things an UWS must include. The existing directions broadly support consideration of centralised and decentralised options across the 50-year horizon, and efficient investments in projects across the urban water cycle that optimise shared benefits and avoidable costs.</p> <p>We recommend amending the Statement of Obligations S6-1.1. The amendment should instruct that UWS must demonstrate that all technically feasible centralised and decentralised augmentation options have been considered, and how the investments have been prioritised to optimise shared benefits and avoidable costs.</p> <p>Making this amendment will support planning of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-1	I
1.3	<p>Under s 6-2 of the current Statement of Obligations, the Minister instructs Melbourne Water (6-2) to “work with all entitlement holders in the Melbourne water supply system to develop, in accordance with any</p>	<p>Clarity role and purpose</p>	0-1	D

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
	<p>written guidelines issued by the Minister, a Melbourne Water System Strategy (MWSS) that establishes an integrated system view of available consumptive water in the Melbourne water supply system, having regard to relevant Urban Water Strategies and the strategies of other entitlement holders.”</p> <p>S6-2.1 includes directions on the things an MMWS must include. The existing directions broadly support consideration of centralised and decentralised options across the 50-year horizon, including investing in “efficient investments in projects across the urban water cycle that optimise shared benefits and avoidable costs”.</p> <p>We recommend amending the Statement of Obligations S6-2.1. The amendment should instruct that MWSS must demonstrate that all technically feasible centralised and decentralised augmentation options have been considered, and how the investments have been prioritised to optimise shared benefits and avoidable costs.</p> <p>Making this amendment will support planning of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	Responsibility, authority and autonomy		
1.4	<p>To help achieve the actions identified in Water for Victoria, the Minister for Water issues an annual Letter of Expectations (LoE). These annual letters help water corporations to focus on the Minister’s priority policy areas. The LoE outlines the Victorian Government’s key priorities for the water sector and, in certain circumstances, individual water corporations. The LoE are prepared within the context of the objectives, obligations and functions outlined in the <i>Water Act 1989</i>, as well as the policy direction set out in Water for Victoria.</p> <p>We recommend the Minister should use future LoE to explicitly direct that water authorities demonstrate that all technically feasible centralised and decentralised augmentation options are considered in planning, irrespective of any current policy bans are in place.</p>	Clarity role and purpose Responsibility, authority and autonomy	0-1 year	D
1.5	<p><i>The Water Industry Act 1994</i> empowers the Minister for Water to make and issue Statement of Obligations to Victorian water corporations. “Pursuant to Section 41(2) of the Water Industry Act 1994, the Minister issued the Statement of Obligations (System Management). The SOO(SM) remains in effect until 31 December 2019, or until revoked, whichever occurs first.”</p> <p>The SOO(SM) constrains the use of the North-South Pipeline to when storages in the Melbourne system are below 30% on 30 November of any given year. As discussed in Table 11, water orders from the desalination plant mean that this storage trigger will never be triggered (except in the case of force majeure at the desalination plant). This has the effect of removing the North-South Pipeline supply option from the table.</p> <p>We recommend that the Minister allow the Statement of Obligations (System Management) to lapse on 31 December 2019. This will bring the North-South Pipeline back onto the table.</p>	Clarity role and purpose Responsibility, authority and autonomy	0-1 year	D

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
1.6	<p>As noted above, the Minister for Water issues an annual Letter of Expectations (LoE) to Victorian water corporations.</p> <p>The LoE for 2018-19 stated that water corporations should commit to developing, delivering and participating in projects with liveability benefits. Under the same heading, the LoE expects water corporations to have stable, or preferably falling, water prices through the next period.</p> <p>We recommend that the Minister should consider the balance between maintaining affordable water prices and customer willingness to pay for additional outcomes that centralised and decentralised investments may provide.</p> <p>This would require that future LoEs state that water corporations should have stable, or preferably falling, water prices except where there is clear evidence from customer consultation that customers have the willingness and ability to pay more for higher service standards, including liveability outcomes.</p> <p>Enacting this recommendation will have the effect of signalling to water corporations that they can consider centralised and decentralised augmentation options for prescribed services that increase customer bills, in cases where there is clear evidence that the customer base is willing to pay for these additional services.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-1 years	I
1.7	<p>The Essential Services Commission Act 2001 (Vic) (ESC Act) establishes the ESC and provides the economic regulatory framework for all regulated industries [28].</p> <p>The ESC regulates Victorian water businesses under WIRO and for the scope of prescribed services under the WIRO (s7) and the Water Industry Act 1989. In conducting price reviews, the ESC must have regard to the promotion of efficient use of prescribed services by customers.</p> <p>Victorian water businesses have sought to include investments in price submissions that deliver community benefits. For example, Melbourne Water’s price submission included proposals for around \$30 million of investments that would improve the condition of Melbourne Water land for community use, while also improving waterway and other outcomes [29]. The ESC accepted around half of the proposed investments.</p> <p>We recommend that the ESC publishes guidelines to support water businesses to understand what community and liveability projects fall within the scope of prescribed services under the WIRO and the Water Industry Act 1989, and what the ESC will accept as prescribed liveability and community services.</p> <p>Doing this will help water corporations to understand what options are on the table as part of prescribed service delivery, particularly for augmentation decisions that involve the development of community and liveability infrastructure.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-3 years	I

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
	ESC should also publish guidelines, similar to those published by other Australian economic regulators [30], around its expectations for demonstrating customer willingness and ability to pay for these liveability and community investments, as part of prescribed services delivery.			

Recommendation 2.

Reform Victorian urban water governance to make supply augmentation planning processes options more consultative and transparent.

Water for Victoria recognises the importance of building the capacity and capability of Victorians to engage in an ongoing conversation about water. To do this, Victorians need open, impartial, transparent and accessible information [8].

We recommend that augmentation planning and the efficient use of all available water sources should reflect citizen-consumer preferences. More specifically, urban water planning in Victoria should reflect customers' preferred service levels and, equally importantly, their willingness to pay for these service levels.

Transparency and consultation are hallmarks of Victoria's urban water planning processes, and are in many ways recognised as being among the best in Australia [1]. But we can do more to better reflect citizen-consumer preferences about how augmentations are planned, and how we decide to use water from different sources. If we do this, we will make planning decisions that support delivery of the outcomes most valued by Victoria's citizen-customers.

Our current urban water planning arrangements provide a strong basis for achieving best practice, and for identifying areas where planning consultation and transparency may be improved through governance reform. They provide a good basis for making the next step in making planning more consultative and transparent.

However, customer engagement conducted for the current urban water strategies revealed that customers were not aware of the existence of the annual Water Outlook and are looking for better, more regular and accessible engagement. There is an opportunity to be more proactive with communications and provide education, guidance, reminders and reassurance about the future [22].

Our overall recommendation is that longer-term augmentation and source planning process are more aligned with the PREMO approach to customer engagement. What this involves is a more structured evaluation of alternatives for augmentation planning with community, and the development of a 'golden thread', showing how the long-term augmentation plans directly link to what citizen-consumers told planners during consultation.

Establishing a clearer link between citizen-customer preferences and long-term augmentation plans will have a trickledown effect on urban water governance. It will allow strategic planning decisions to link more to longer-term plans. It will also help to clarify objectives and trade-offs between objectives, which will make planning governance easier.

Our second overall recommendation is that evidence used to make decisions impacting augmentation and decisions around augmentation are made transparent. This will open up understanding for how citizen-consumers have been accounted for, and decision-making process.

These recommendations build on Infrastructure Victoria's Recommendation 14.3.1 which called for (the Government) to transparently determine trigger points for major supply augmentation by 2021.

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
2.1	<p>Socially responsible decision-making is included as a guiding principle in the current SWS. The principle calls for “decisions about water resource management to include meaningful engagement with Indigenous people” and for “decisions about water sharing to be equitable and consider community values identified through the Strategy’s consultation processes, which will be open and transparent.”</p> <p>SWS should pivot attention squarely towards the needs and wants of Victorian citizen-customers. Pivoting attention and putting citizen-customers at the fore of the SWS planning process is a different guiding principle and approach to what has been done in previous SWS consultation. To pivot:</p> <ul style="list-style-type: none"> • All SWS should include putting the citizen-customer at the fore of SWS planning as a separate guiding principle. PREMO guidance can be used to help draft the guiding principle. • SWS should express their long-term decentralised and centralised urban water augmentation strategies (and all other strategies) in terms that reflect the outcomes they will be delivering to their citizen-customers, based on what citizen-customers told them they want over the long-run. There should be a ‘golden thread’ between what SWS propose and priority investments, and clear evidence that citizen-customers prioritise investments in this order. • Engagement with citizen customers should be meaningful. It should move beyond the approaches used in the last SWS consultation to clearly present a clear evidence base that shows how it has identified high-level (1) preferred service levels for urban water augmentation; (2) trade-offs that citizen-consumers are willing or not willing to make and (3) priorities for augmentation decisions. Lessons from PREMO stakeholder consultation can be used to guide this. <p>Appendix 2 includes a simple example of citizen consumer consultation that we completed for this Infrastructure Victoria project that clearly shows that Victorians are willing to use direct potable reuse if this keeps water bills down and helps with security of supply. This type of structured engagement can be used to evidence augmentation planning in the SWS in the future. Similar approaches have been used in the most recent Victorian price submissions, and in the UWS in some cases.</p> <p>The review of the Central Region Sustainable Water Strategy will start in late 2019. The Northern Region SWS could adopt these recommendations.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-10 years	D
2.2	<p>The outcomes of the customer consultation for the Urban water strategies in 2017 revealed how customers valued the provision of water and sewerage services and their general values with respect to the role of water in the community.</p> <p>Future Urban Water Strategy engagement process should seek to gain customer preferences with respect to the choices available to maintain water security, or the customers’ preferences for trade-offs that relate to levels of service.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-3 years	D

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	<p>To gather public support for consideration of augmentation options, reliable information on the costs, benefits and risks of various supply augmentations should be publicly available so that the community is well informed about them and the trade-offs are well understood [1].</p> <p>The investment required to meet customer preferences for water security levels of service can then be incorporated in water corporations' price submissions to the ESC.</p>			
2.3	<p>Align the evidence of citizen-customer urban water augmentation preferences and willingness to pay through the tiers of augmentation planning.</p> <p>What this recommendation means is that there should be a clear line of sight between the high-level, levels of service and preferences for urban water augmentation planning that are established in the SWS by citizen-customers, and level of service and augmentation planning in the Urban Water Strategies, Melbourne Water's system strategy and regulatory price submissions.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-5 years	D
2.4	<p>The Department of Environment, Land, Water and Planning (DELWP) is currently leading a whole-of-government review and update of Victoria's recycled water guidance. The review will be complete by late 2019 or early 2020.</p> <p>The current guidance [32] states that there is not enough information available to develop generic guidelines for the use of reclaimed water as a direct or indirect potable water source. The current guidance states that proposals under these categories "need to be assessed on an individual case basis by appropriate authorities, such as EPA Victoria, DHS, DELWP and the relevant Water Authority".</p> <p>For greater transparency, we recommend:</p> <ul style="list-style-type: none"> that generic guidelines are indirect and direct potable reuse are developed, drawing on existing generic guidelines for direct and indirect potable substitution, such as by the US EPA (ref). We recommend that these generic guidelines are developed jointly by appropriate authorities, including EPA Victoria, DHS, DELWP and relevant water authorities. a transparent process for augmentation proposals is developed where generic guidelines are not available. The process should include at a minimum (1) the initial water corporation application; (2) the regulator's interim and final advice and (3) the process followed to develop the interim and final advice, including consultation with citizen-customers. We recommend that this transparent process is developed jointly by appropriate authorities, such as EPA Victoria, DHS, DELWP and the relevant water authorities. 	Accountability and performance	0-1 years	I

Recommendation 3.

Reform governance so that planning and delivery support effective consideration of interaction of centralised and decentralised options.

Water for Victoria emphasises the need to use diverse water sources to lessen pressure on drinking water supplies, increase urban water security and help to keep our cities and towns liveable through drought [8].

To make this happen, centralised and decentralised investment solutions need to be evaluated on an even pegging, and with the same investment frameworks. Centralised and decentralised options also need to be evaluated within the same planning process and timings.

The momentum of urban water planning in Victoria is strongly shifting towards greater integration of centralised and decentralised investment decisions. The current momentum, driven by reforms over the last 15 years, provides a good basis for making the next step in putting centralised and decentralised investment planning on a level pegging.

Our overall recommendations focus on ensuring that longer-term augmentation and source planning process achieve greater integration at critical decision stages within Victoria’s existing long-term planning framework (Figure 6), and that the right participants are involved. We also recommend that centralised and decentralised investment planning use the same investment planning tools and frameworks. This will help ensure that centralised and decentralised investments are evaluated on a level pegging, and within the same planning cycle and timing.

We note that other urban water sector reviews have identified reforms that would support effective consideration of the interaction and centralised and decentralised investments, such as reviewing developer charges [1]. These recommendations are outside the scope of our governance evaluation, but they have merit and should be considered further by Infrastructure Victoria.

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
3.1	<p>Under s 6-1 of the current Statement of Obligations, the Minister instructs Victoria’s Water Corporations to develop, in accordance with any written guidelines issued by the Minister, an Urban Water Strategy for its supply districts.</p> <p>Section 6-1 requires that water corporations “must consult with the community and key stakeholders, and participate in the development of relevant local and regional plans” as they develop UWS.</p> <p>We recommend amending the Statement of Obligations 6-1 to recognise the scope of the urban water sector, and ensure that all relevant parties are brought to the table (Table 3). Water Corporations should work with water resource management agencies, VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), and indigenous representatives to develop the Water Corporation’s Urban Water Strategy for its supply districts.</p> <p>To maintain functional separation, representatives from the economic, environmental and health regulators should be observers.</p> <p>Doing this will support more robust and timely consideration of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	<p>Clarity role and purpose</p> <p>Accountability and performance</p>	0-2 years	I

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	The Minister should direct the Water Corporation to have a clearly developed terms of reference for how UWS decisions are made. These will include the details of the steering committee’s operations (such as quorum and voting requirements, conflict of interest policy and procedures, conduct of meetings and reporting arrangements).			
3.2	<p>Under s 6-2 of the current Statement of Obligations, the Minister instructs Melbourne Water (6-2) to “work with all entitlement holders in the Melbourne water supply system to develop, in accordance with any written guidelines issued by the Minister, a Melbourne Water System Strategy that establishes an integrated system view of available consumptive water in the Melbourne water supply system, having regard to relevant Urban Water Strategies and the strategies of other entitlement holders”.</p> <p>In preparing the Water System Strategy, the strategy must detail options that facilitate efficient investments in projects across the urban water cycle that optimise shared benefits and avoidable costs.</p> <p>We recommend that the Statement of Obligations 6-2 is amended to extend beyond entitlement holders. Melbourne Water should work with all entitlement holders in the Melbourne System, VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), and indigenous representatives.</p> <p>Doing this will support more robust and timely consideration of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p> <p>The Minister should direct the group with a clearly developed terms of reference. These will include the details of the steering committee’s operations (such as quorum and voting requirements, conflict of interest policy and procedures, conduct of meetings and reporting arrangements).</p> <p>Collaboration is already an important element of the Melbourne Water system strategy. For example, the current system strategy includes planning to delivery up to 80GL/yr through place-based integrated water management forums and plans. Including this in the Statement of Obligations will elevate the role of IWM forums, water grid partnerships and other identified parties.</p>	<p>Clarity role and purpose</p> <p>Accountability and performance</p>	0-2 years	D
3.3	<p>Support the industry development of a common investment evaluation framework for centralised and decentralised long-term investments.</p> <p>Through the Melbourne Water System Strategy and Urban Water Strategies, Melbourne Water and the retailers are establishing an investment evaluation framework to support future investment, especially in alternative water projects [33]. The framework will provide a consistent set of guidelines as well as input assumptions developed in consultation with the metropolitan retail water corporations, Melbourne Water and the Department of Environment,</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-2 years	D

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	<p>Land, Water and Planning [13]. Melbourne Water will lead continuous improvement of the investment evaluation framework.</p> <p>To support effective consideration of interaction of centralised and decentralised options we recommend that:</p> <ul style="list-style-type: none"> • This framework is progressed as a priority action, with additional resourcing and governance oversight if required. The framework has been under development since 2017. All parties will benefit from having a common framework for evaluating centralised and decentralised investments. • Consideration of water security options should be extended to include VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), indigenous representatives, and representatives from the economic, environmental and health regulators. It is important that the investment framework settled on is understood and accepted by parties who will have centralised and decentralised investment proposals evaluated using it in the future. • The resource and supporting tools should be published as an open access resource when finished. 			
3.4	<p>Better integrated centralised and decentralised urban water planning groups in urban water planning across Victoria.</p> <p>Our consultation revealed that urban water planning for centralised investments is typically the focus of water security groups within water corporations. Decentralised investments are typically the focus of 'IWM type' planners within water corporations.</p> <p>This means that centralised and decentralised planning has frequently occurred in parallel in the past, only coming together when water corporations develop regulatory pricing submissions. This creates risks of sub-optimal outcomes.</p> <p>To support effective consideration of interaction of centralised and decentralised options we recommend that:</p> <ul style="list-style-type: none"> • Water security and IWM teams should be merged into a single group with single governance structure. Water resource planning should be one process, not parallel processes. • Water security planning should also be extended to include VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), and indigenous representatives. To maintain functional separation, representatives from the economic, environmental and health regulators should be observers. • The group should have a clearly developed terms of reference. These will include the details of the steering committee's operations (such as quorum and voting requirements, conflict of interest policy and procedures, conduct of meetings and reporting arrangements). These should be published. 	Accountability and performance	0-2 years	I

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
3.5	<p>To support effective consideration of the interaction of centralised and decentralised options we recommend that, in addition to the recommendations above, that centralised and decentralised options are identified through growth corridor plans and precinct infrastructure plans.</p> <p>These spell out exactly what services and infrastructure growing communities will need and how they will be delivered. Currently, our experience is that decentralised augmentation often happens after precinct infrastructure plans (PIP) and precinct structure plans (PSP) are finalised. This is often too late to support proactive decentralised investments and efficient use from all sources. Bringing centralised and decentralised options into the PSP and PIP will address this.</p>	Accountability and performance	0-3 years	I
3.6	<p>The 2018 Stormwater Ministerial Advisory Council [9] made recommendations that will strengthen stormwater governance, and support effective consideration of interaction of centralised and decentralised supply options.</p> <p>To support effective consideration of interaction of centralised and decentralised options, we recommend that several of these reform recommendations are progressed as priorities. In particular:</p> <ul style="list-style-type: none"> • Establish effective offsetting arrangements. DELWP should support establishing voluntary stormwater quality offset schemes across Victoria in major metropolitan and regional centres (Stormwater MAC Recommendation 5). • Strengthen compliance requirements to make markets that support 'externalities' being priced into centralised and decentralised augmentation decisions: examine using the provisions of the Environment Protection Act 2018 to establish clear, enforceable obligations on land and infrastructure (such as roads) managers, so that externalities from investment decisions are internalised (Stormwater MAC Recommendation 7) [I]. • Clarify institutional and governance arrangements for stormwater (e.g. 60 hectare review). Clarify local governments' roles and responsibilities: DELWP investigate opportunities to clarify councils' stormwater management functions in legislation (such as in the Local Government Act 1989 or the Water Act 1989). (Stormwater MAC Recommendation 8) [D]. • Link water management with urban planning: that DELWP consider changing the VPPs to include linkages with IWM plans (when developed), to ensure that new developments within these plans are designed to deliver centralised and decentralised IWM-servicing solutions (Stormwater MAC Recommendation 9). 	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-3 years	I

Recommendation 4.

Reform governance so that planning is more adaptive.

Current adaptive management frameworks short-term and long-term actions to provide water security.

Existing adaptation plan actions were developed as part of the 2017 Urban water strategies and Melbourne Water System Strategy. Our research and stakeholder engagement revealed that there is room for improvement to deliver more efficient solutions with greater transparency. The implementation of inefficient solutions can ultimately result in higher costs to customers.

Our recommendations are based on improving the process to drive economically efficient decision-making, and to take into account customer preferences.

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
4.1	<p>The current governance arrangement for adaptive planning as defined in the Urban Water Strategies and Melbourne Water System Strategy provides an adaptive framework to guide decisions on water security.</p> <p>The framework consists of the water outlook, drought management plan and drought preparedness actions. In the short-term, these three plans provide a list of actions to ensure that water security is maintained.</p> <p>The current adaptive framework action plan does not provide clarity on how the sequencing of actions are determined. It is unclear if the actions are defined according to an economic framework or whether they consider customer preferences.</p> <p>On this basis, our recommendation is to develop an economic framework to assess the short-term actions in response to changing short-term water supply conditions. This framework should include economic costs and benefits of supply options, including whole-of-water cycle costs and positive and negative externalities, as well as customer willingness to pay for preferred supply options and or demand-side interventions.</p> <p>For example, IPART requires Sydney Water and Hunter Water to establish an economic level of water conservation (ELWC) framework to assess short-term water supply options. This could be used a basis for developing a framework in Victoria.</p> <p>This enables water corporations to assess the sequencing of response actions based on economic merit and customer preference.</p> <p>The outputs of the assessment can then be published. The short-term actions should be factored into the long-term economic investment evaluation framework as outlined in Recommendation 3. Reform governance so that planning and delivery support effective consideration of interaction of centralised and decentralised options.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-3 years	D
4.2	<p>The <i>Water Act 1989</i> gives the Minister for Water the power to delegate, “by instrument, to any person or class of persons certain powers, discretions, functions, authorities or duty of the Minister under the Act or any subordinate instrument made under the Act (s.306)”.</p>	Clarity role and purpose	0-2 year	D

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	<p>We recommend that the Minister should delegate short-term and long-term decisions on water security, including desalination water orders, operation of the North-South pipeline, the water grid/market and triggers to the water corporations responsible for augmentation planning, for centralised and decentralised sources.</p> <p>These water corporations are ultimately responsible for purchasing water supply and are therefore best placed to manage risks and make informed choices.</p> <p>The decisions of the water corporations should be guided by the framework proposed in Recommendation 4.1. As part of delegation, we recommend that decisions by water corporations around desalination water orders, operation of the North-South pipeline, the water grid market and triggers are made public. We also recommend that any interim and final directions from the Minister are made public.</p> <p>Doing this can help Victorians understand the basis for water orders, water trades through the grid and other matters that are material to augmentation and efficient use of all water resources.</p>	Responsibility, authority and autonomy		

1. Introduction

Infrastructure Victoria (IV) engaged Marsden Jacob Associates to investigate and recommend governance reform options in the Victorian urban water sector. In this report we focus on urban water planning, and how governance reforms can improve water supply security and make better use of all available water sources in Victoria. Our work will support recommendations in the 2020 Victorian Infrastructure Strategy update.

Infrastructure Victoria is an independent body tasked with ensuring that Victoria's future is planned with transparent, independent and expert infrastructure policy advice. Evidence-based public discussion around issues that will impact on Victoria's future lies at the heart of what Infrastructure Victoria does.

Infrastructure Victoria (IV) recognises that building new infrastructure isn't always the best way to meet Victoria's future infrastructure needs. Reforming infrastructure governance, regulation, policy and institutions can help meet current and future infrastructure needs by delivering outcomes valued by Victorians more effectively, efficiently and transparently.

1.1 Objectives

Infrastructure Victoria's 30-year Infrastructure Strategy [3] identified threats to water security as a key risk and opportunity for Victoria.

In urban water, the strategy recognised that the \$12 billion in water, wastewater and sewerage infrastructure investment during and following the Millennium Drought [4] has increased water supply security for Melbourne, and regional centres including Geelong, Ballarat and Bendigo. Investments in the Wonthaggi desalination plant, the North-South pipeline and the Melbourne Geelong pipeline will provide reliable supply over the short to medium term. The 30-year strategy also highlighted the responsiveness of the Victorian water sector to reforms and initiatives following the millennium drought.

The 30-year strategy recognised that Victoria has access to alternative sources of water. These sources include recycled water and stormwater. Infrastructure Victoria saw the potential of these sources to increase water security, while also improving environmental outcomes for the benefit of Victorians.

Infrastructure Victoria's 30-year Infrastructure Strategy water sector recommendations are in Table 2. The recommendations aimed to leverage the Victorian water sector's strengths as water resources become scarcer in Victoria. Infrastructure Victoria's recommendations targeted delaying major augmentation projects for as long as possible, "while also ensuring that clear structures are in place for the water industry to evolve as required to make efficient long-term decisions".

Table 2: Infrastructure Victoria’s 30 year strategy water sector recommendations

Recommendation	Sub-recommendation
14.1 Increase efficiency in meeting water demands	<p>14.1.1 called for water governance reforms within 5 years (by 2021) (ref WIO2). IV called for greater clarity over roles, responsibilities and governance structures within the water sector to enable efficient long-term planning and investment in the interest of customers. For Infrastructure Victoria this involves:</p> <ul style="list-style-type: none"> • increasing the transparency in the decision-making authority of water businesses and agencies and providing appropriate regulatory oversight on aspects ranging from public health impacts to monitoring and pricing; and • supporting increased efficiency in planning and investment governance reform, to enable innovative solutions to source and use water, accounting for all types of water use in a consistent manner, including water for recreational use, and optimal use of existing infrastructure.
14.2 Conserve readily available water resources	<p>14.2 called for Victoria to conserve readily available water resources, and make more efficient use of available water sources. Greater uptake of recycled water and stormwater harvesting was recommended “where this could significantly supplement demand from storages and contribute to delaying the need for major water supply augmentation projects” and reduce negative environmental impacts (RTH and SRH).</p>
14.3 Plan for the long-term availability of rainfall-independent water supply sources	<p>14.3.1 called for (the Government) to transparently determine trigger points for major supply augmentation by 2021. Determining trigger points by 2021 would let water businesses and other key stakeholders engage with communities about augmentation options over a longer time frame. It would allow community education about options, and education of water businesses about community and customer preferences. This can lead to informed augmentation plans that reflect the preferences of Victorians.</p>

Source: [3]

This Marsden Jacob report builds on the Infrastructure Victoria 30-year Infrastructure Strategy recommendations in Table 2. Infrastructure Victoria asked us to investigate and recommend governance reform options to improve water security and other water sector outcomes in the Victorian urban water sector. More specifically, IV asked us to provide clear, evidence-based governance reform recommendations that will support:

Better augmentation planning	Specifically, IV asked us to make urban water sector governance recommendations that can help make augmentation planning more robust and transparent where needed, and recognise the linkages between centralised and decentralised supply options.
More efficient use of all available water source	Specifically, IV asked us to make urban water sector governance recommendations to help ensure that remaining policy barriers and distortions that may affect the uptake of decentralised urban water options and approaches are addressed.

In this report, we refer to these two areas under the banner of urban water planning governance. Consistent with Infrastructure Victoria’s brief, this report develops governance recommendations that focus on these two urban water planning areas.

Infrastructure Victoria asked us to prioritise our reform recommendations on areas identified as having the greatest “bang for buck” within the existing governance instruments and practice in Victoria. They also asked us to identify and prioritise recommendations that reflect the current views of Victoria’s urban water sector, and Victorians overall. We were also asked to focus on making practical and implementable recommendations in the following matters:

- **Objective setting, regulation and service delivery** where appropriate role clarity and separation of responsibilities has not been achieved (or where it is subject to artificial constraints);
- **Identify where additional clarity is required** in setting urban water sector objectives, and managing trade-offs between objectives (e.g. to specify or trade-off between objectives); and
- **Identifying where processes can be streamlined** or improved.

1.2 How we developed our recommendations

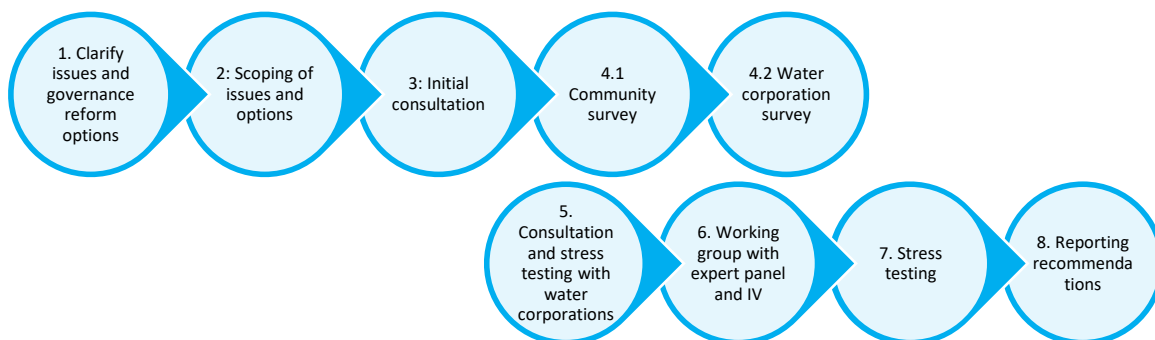
To deliver on these outcomes, we developed and implemented a mixed methods evaluation approach (Figure 1). Key elements of our approach include:

- **Our recommendations are based on a clear definition of the scope of the Victorian urban water sector, and urban water sector objectives.** We set these definitions out in the next chapter.
- **Our recommendations reflect the best available current evidence base.** Recommendations are based on the best available current evidence base of urban water in Victoria, and our understanding of current governance arrangements and likely future urban water governance changes.
- **We use a consistent evaluation approach that aligns with best practice governance arrangements, and urban water planning principles.** We have developed our recommendations against key governance elements and principles of the COAG National Urban Water Planning Principles. We discuss these principles later in this report. The Principles set out urban water planning governance objectives in plain English.
- **Many of our recommendations reflect deep and iterative consultation with water sector participants.** We developed and refined the evidence and recommendations in this report through extensive and iterative industry consultation. We have prepared this report working with most parties involved in Victoria’s urban water planning sector, including government, water businesses, and their regulators.

We have worked closely and iteratively with these parties to identify key urban water planning governance issues and come up with practical governance reform recommendations. This means that while all recommendations in this report to Infrastructure Victoria are our own, the recommendations reflect the considered input from the more than 50 professionals with long-standing involvement and commitment to urban water planning in Victoria. We also acknowledge and appreciate input from interstate water sector planning and governance colleagues, where we have looked across administrative boundaries to identify how governance arrangements can benefit from taking lessons from other states and jurisdictions

- **Community survey.** We surveyed a representative sample of almost 1,000 Victorian households asking them (1) about their expectations for being consulted in water supply augmentation decisions and (2) preferences for use of recycled water, including willingness to use recycled water as a potable supply.

Figure 1: Our IV urban water governance evaluation approach



1.3 This report

We have aimed to keep this report short and focussed on actionable recommendations for IV to consider taking forward. We assume most readers have some familiarity with contemporary urban water governance arrangements in Victoria, and urban water planning in Victoria. Readers without a background familiarity with contemporary urban governance arrangements in Victoria can find more information in references cited in this report.

2. Background

All Australian Governments agreed to water governance reform under the National Water Initiative in 2004, and to COAG national principles for urban water planning in 2008. Victoria's progress against these agreements is significant and evident. Further urban water planning governance reforms should only occur if they can deliver better outcomes for Victorians.

This background chapter briefly introduces the Victorian urban water sector and urban water planning. It also identifies key challenges for the Victorian urban water sector in the future, and how the sector is responding to these challenges. We also look at how urban water governance and governance reform can help Victoria better plan for the future.

This background chapter provides a high-level context of key issues. It helps to frame the evaluation and recommendations made in the report. The chapter is not intended to be an exhaustive account of Victoria's urban water sector, or urban water planning governance arrangements in Victoria.

Readers seeking more background context to Victoria's urban water sector should refer to documents cited in this chapter. The objectives and performance of Australia's and Victoria's urban water sector are set out in recent publications [1, 5]. Key national urban water planning agreements include [6, 7]. Key Victorian water sector policies and governance reports include [8-10].

2.1 Scope and boundaries of Victorian urban water sector

For this evaluation we define the Victorian urban water sector broadly. Our scope is consistent with how the former National Water Commission [5] and Victorian Government [8] scope the urban water sector.

The urban water sector includes organisations and people working in policy, regulation and delivery of urban water services (Figure 2). It includes metropolitan and regional centres, and smaller towns and communities.

Table 3 lists some of the key agencies involved in Victoria's urban water sector. Appendix 1 provides a more comprehensive accounting of key agencies, and sets out their urban water objectives, functions and enabling policies and legislation.

Services provided by the urban water sector include the 'core' urban water services provided by water utilities. These core water services include water and wastewater, trade waste and recycled water, including supply, distribution, treatment, disposal and retailing.

Victoria's urban water sector also includes agencies and people working in integrated urban water cycle management and delivering liveability and other outcomes that interact with water and wastewater services. For example, Victorian Councils are responsible for some elements of stormwater management. Other organisations such as the Victorian Planning Authority are not part of the 'core' urban water sector, but their decisions and planning directly impacts on the urban water sector.

We use an encompassing definition of the Victorian urban water sector in this report in part because many of the governance issues we discuss later in this report happen because of the multiple interfaces between the agencies working in the Victorian water sector. Many of the governance issues are happening because there is no one agency tasked with governing the urban water sector, and because the contributions agencies in the Victorian urban water

sector are changing over time in response to, and anticipation of, changes in policy, regulation and citizen preferences.

Figure 2: Victoria’s urban water services



Source: Marsden Jacob based on [5]

Table 3: Key participants Victoria’s urban water management

Agency	Accountability
Victorian Government Ministers and Departments	Legislation, Policy, and Regulation
Essential Services Commission	Economic Regulation
Department of Health and Human Services	Health regulation (Safe Drinking Water Act)
Environment Protection Agency	Environmental regulation (including best practice guidelines and protection policies)
Water corporations	Water supply Wastewater management (including sewerage and sewerage treatment) and trade waste management Waterway and major drainage systems (Melbourne Water Only)
Catchment management authorities	Waterway health Floodplain management Environmental water
Local government	Urban stormwater management Parks and gardens management Onsite domestic wastewater management Urban planning including building and planning approvals
Property owners, residents and businesses	Meeting terms and conditions of services provided Following permit conditions Onsite water management e.g. rainwater, stormwater
Victorian Planning Authority	Urban growth structure planning for Melbourne and (where invited) regional Victoria
Integrated Water Management Forums	Integrated water planning for Melbourne and regional Victoria
Water grid partnership	A partnership of water corporations, DELWP, CMAs and groups working to ensure Victoria’s connected water grid contributes to water affordability and water security
Developers	Construction of scale water infrastructure

Source: Marsden Jacob based on [11] and [12]

2.2 Urban water planning

For this evaluation we define urban water planning broadly, drawing on [6]. Urban water planning involves developing plans for the supply and operation of water, wastewater, stormwater and other water services within Victoria. Urban water planning is about planning for the future by understanding the gap between current agreed levels of service and capacity to provide these services, and future agreed service levels, demands and needs.

Contemporary urban water planning in Victoria extends well beyond the conventional planning around 'core' water supply and wastewater services. WSAA's *Urban water planning framework and guidelines* [6] recognises that urban water planning extends well beyond the boundaries and system requirements of utilities and planning for core service delivery. Planning involves collaboration and integrated planning across customers, developers, Government departments, regulators and stakeholders, as shown in Table 3 and Figure 2.

Contemporary urban water planning involves evaluating demand and supply capacities for things like water and wastewater services. It also involves evaluating how providing these services and service levels will impact the Victorian community more broadly, and on things like amenity and environmental impacts and outcomes. It also involves coordinating planning activities across the other sectors providing liveability, environmental, health and other essential services in Victoria.

Urban water planning occurs at multiple spatial and time scales. For this report, we distinguish between longer and shorter-term urban water planning following [13]:

- **Policy planning and direction** establishes the overall policy direction for urban water, including high-level objectives and expected outcomes. *Water for Victoria* [8] is Victoria's high-level urban water planning policy direction.
- **Longer-term strategic urban water planning** includes plans for securing water supplies and delivering other water cycle services and linked services over the longer term. These strategies consider longer-term forecasts and uncertainty with things like population growth, climate change and climate variability. Longer-term planning includes major augmentation planning for things like new desalination plants, new dams, new wastewater treatment plants, and new water grid connections. Victoria's Sustainable Water Strategies and Melbourne Water's Sewerage Strategy are examples that cover longer-term urban water planning. These strategies can often focus on innovative and new approaches to facilitate change in the face of "complex challenges and opportunities.
- **Shorter-term annual decision-making and implementation** water planning includes plans for securing water supplies and delivering other water cycle services over the short term, which we define as a year. These strategies are focussed on achieving agreed levels of service over the next 12 months, given system constraints, resource availability and future expectations. As we show later in this report, shorter-term urban water planning is nested in, and determined by, longer-term urban water planning decisions.

2.3 Urban water governance

For the purpose of this evaluation, we've defined water governance as the set of formal and informal rules, practices and processes through which decisions about objectives for the management of urban water resources and services are taken, for ensuring objectives are achieved, and for using resources responsibly and with accountability.

By extension, urban water planning governance is about the set of formal and informal rules, practices, and processes through which decisions for urban water planning and servicing objectives are set and implemented, and decision-makers are held accountable. There are several key points to make here:

- **Governance includes formal and informal rules, practices and processes.** Formal rules, practices and processes are shared understandings that are codified and documented – these are things like responsibilities and objectives set out in Statements of Obligations, and legislative requirements under the Water Act. Informal rules, practices and processes are norms, understood 'rules of the game' and implied codes of conduct based on shared understanding of what is allowable, required or prohibited. Common sense and a large body of academic

literature [see for example 14, 15] shows that informal rules, practices and processes are at least as important as formal ones in many cases.

- **Governance includes external and internal governance.** External governance is about the formal and informal rules, practices and processes between stakeholders and agencies, such as the systems used by the Ministers to control and supervise Victorian water corporations. Internal governance refers to the systems of direction and control within an organisation, and is the responsibility of the board (or equivalent) and senior management of the water corporation [16].
- **Governance is a means to an end, not an end itself.** What this means is that good governance is about establishing formal and informal rules, practices and processes that deliver on agreed objectives in an efficient and acceptable way, by which stakeholders can articulate their interests and have their concerns considered, and decision-makers are held accountable [17].

Our focus in this report is on urban water planning governance, relating to large-scale system augmentation planning and the efficient use of all available water resources throughout Victoria.

Effective and efficient urban water resource planning requires good governance, good regulation and good legislation. Good governance is not a substitute for clear and comprehensive legislation and outcome- and risk-based regulation [18]. For this reason, when we discuss governance issues we also include discussion on regulation and legislation where required.

2.4 What are Victoria's urban water sector objectives

While there is not a single statement of objectives for urban water in Australia, urban water system objectives and principles have been broadly understood for more than a decade [1, 5, 7, 19, 20], despite differences in how they are framed and communicated [2].

Victoria's urban water sector objectives are reflected in relevant legislation, government policies and statements of obligation. We've mapped out many of these instruments in Appendix 1. The overarching objectives of urban water are set out in *Water for Victoria*.

Table 4 shows that Victoria's urban water objectives align with key urban water objectives and principles set out by the National Water Commission [5] and the Productivity Commission [16].

2.5 Challenges and opportunities facing Victoria's urban water sector

The challenges and opportunities facing Victoria's urban water sector are well defined and detailed in recent publications [8-13, 21] with assessments covering all Australian States and Territories [1, 2]. As a result, we only provide a brief accounting of the issues here.

The overarching challenge facing urban Victoria is about balancing supply and demand efficiently and sustainably in a sector where there is increasing uncertainty [5], where the sector has been expanding beyond the scope of its traditional core water and wastewater supply roles, and where the focus is increasingly shifting to putting the citizen-customer at the centre of planning decisions. Key challenges and opportunities are:

- **Victoria's population is growing.** Our population will probably grow from just over 6 million people in 2018 to more than 10 million people by 2051. About 8 million people will live in greater Melbourne. The populations of Ballarat, Bendigo and Geelong are estimated to almost double. Much of Melbourne's population growth will occur in greenfield developments in the west (Figure 3).
- **Climate change is putting more pressure on our drinking water supplies.** If a warmer, drier climate happens in the future, we will have less water flowing into our dams, and we will potentially need more water for essential use and to keep our cities and towns green.
- **Extreme events could increase in the future.** If climate change happens the way it is projected, essential water and wastewater services may be disrupted more often. We may have more extreme events like flooding and

Table 4: Urban water sector objectives and Victoria’s objectives.

National Water Commission	Productivity Commission
<p>Outcomes for the urban water sector include:</p> <ul style="list-style-type: none"> • Delivering healthy, safe and reliable water supplies • Economically efficient and environmentally sustainable use of urban water infrastructure • Encouraging reuse and recycling of wastewater where cost-effective, and innovation in water supply, storage, treatment and discharge • Facilitate water trading between and within the urban and rural sectors 	<p>Governments should set an overarching objective for the urban water sector of delivering water, wastewater and stormwater services in an economically efficient manner. Doing this maximises net benefits to the community.</p> <p>Economically efficient urban water infrastructure means that water is sourced and distributed at the lowest possible social cost for fit-for-purpose and customer-defined service levels. It also means that investments to add to water supplies occur when the value of the extra water and water security to users exceeds the social costs of the investment. Efficiency also means that at the margin, water is allocated to those users and uses, including environmental uses, where its value is highest, and that decision-making responds to changing circumstances over time.</p>
<p>Water for Victoria</p>	
<p><i>Water for Victoria</i>, which outlines Victoria’s long-term direction for managing its precious water resources, supporting a healthy environment and maintaining a prosperous economy and thriving communities.</p> <p>Overarching policies and strategies for managing water supplies over the long-term in Victoria share common objectives with the National Water Initiative and Productivity Commission, including efficiency objectives:</p> <ul style="list-style-type: none"> • Maximise shared and complementary (net) benefits from all water uses; • Ensure reliable and safe water supplies for all uses into the future; • Long-term water planning will consider all values of water and engage more with communities; • Make the best use of water resources locally and throughout the region; • Adapt to climate change and the changing values and uses of water, as well as protect the environment; and • Development of Victoria’s water grid and markets to help realise the greatest benefit from our valuable water resources. 	

Source: [5, 8, 16]

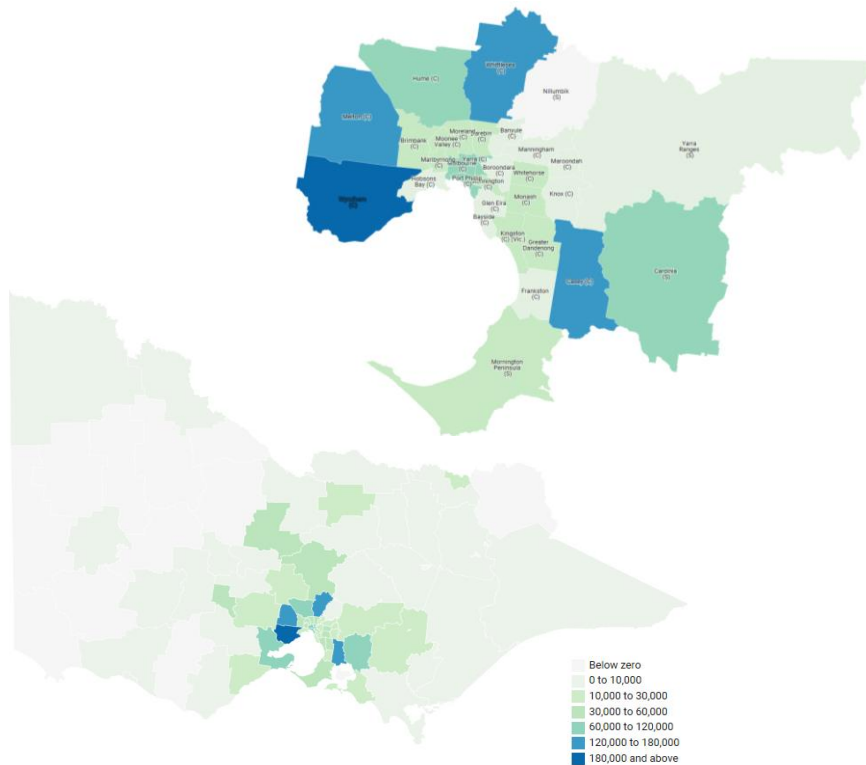
greater risks of fire in water supply catchments. More significant rainfall events could create overland flows of stormwater [8].

- **Customer needs and community expectations are changing.** Customers are wanting Governments and water utilities to shift from being suppliers of core services to providing wider liveability and community services. They are also wanting to be more involved, and more meaningfully involved, in making decisions around things like future supply augmentation [22]. Victoria’s economic regulator has pivoted and put the customer at the centre of water business’ planning decisions through PREMO.
- **Victoria’s urban water infrastructure is ageing.** Ageing infrastructure will need to be replaced, and maintenance and operating costs generally increase as infrastructure ages.

Some of the consequences of these challenges and opportunities are:

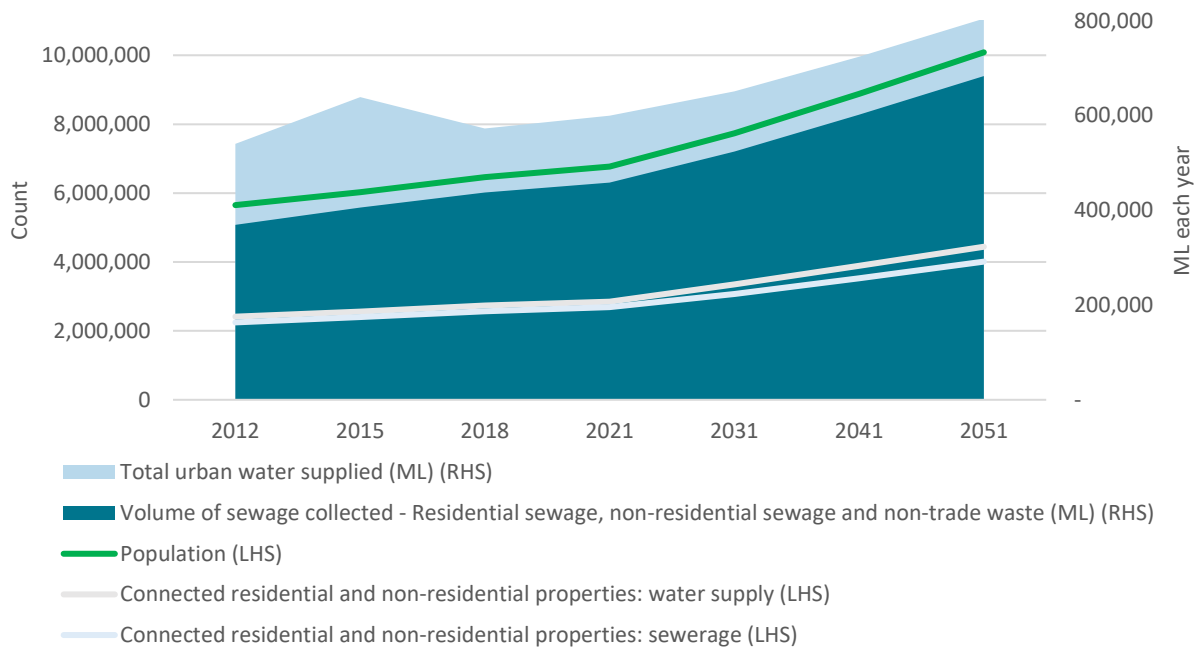
- **Demand for water supply could increase by around 40 per cent and by 55 per cent for sewerage services by 2051** (Figure 4). These demand forecasts are conservative in that they assume greater water use efficiency in the future that will reduce per capita consumption.
- **Reductions in streamflows would reduce dam supplies and have implications for water availability across Victoria.** Average annual streamflow reductions of around 50 per cent could occur in some catchments by the year 2065 (Figure 5) [8].
- **Under a medium climate change and population growth scenario, Melbourne Water's system strategy** forecasts that water resource shortfalls would begin to appear by 2043 if we continue to rely on conventional dam storage supply. Under a rapid change climate and population growth scenario, water resource shortfalls would begin to appear by 2028 [13].
- **Falling reliability of conventional dam storage supplies may mean that we need to rely** more on non-conventional water supply sources such as desalinated water and recycled water.
- **Volumes of treated sewerage** being released into waterways and bays will increase in line with increased demand for wastewater services (Figure 4).
- **Volumes of stormwater runoff** being released into waterways and bays will increase in line with increased impervious area (Table 5). With more extreme events, the negative impacts of high velocity stormwater flows into our waterways and bays will exacerbate negative impacts.
- **The cost of extreme events may increase.** Victoria's recent Improving Stormwater Management Advisory Committee report estimated that flooding damages could increase substantially. Flooding in Melbourne is already estimated to cost, on average, around \$400 million per year [13].
- **The costs of maintaining, renewing and replacing ageing infrastructure** will increase. Infrastructure Australia's 2015 audit report estimated that water and sewerage costs in Victoria could increase by around 50 percent by 2030. Price increases will be recovered from Victorian water and sewerage customers.

Figure 3: Forecast population growth by local government area 2011-51



Source: Marsden Jacob analysis based on [23]

Figure 4: Forecast Victorian urban water and wastewater demand 2011-51



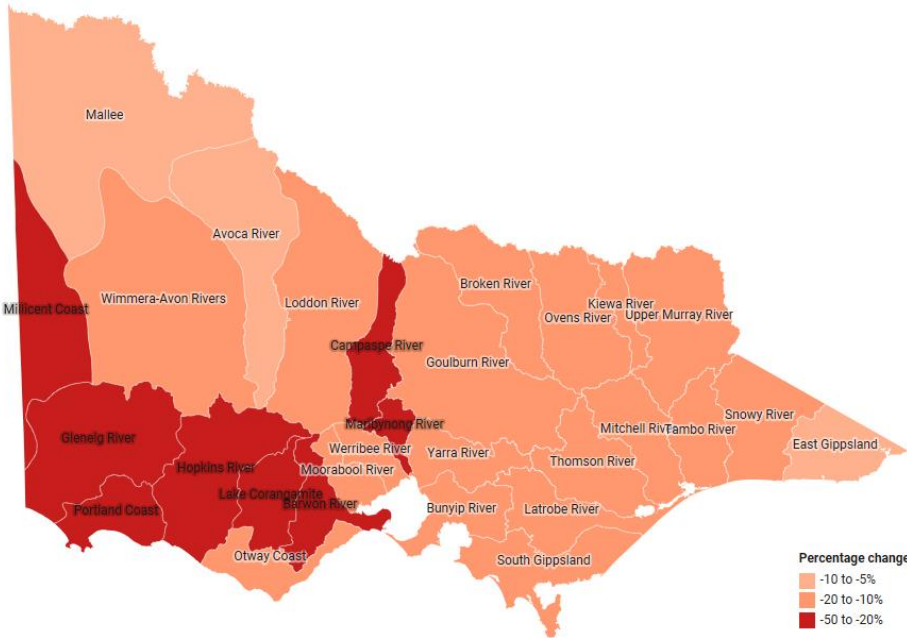
Source: Marsden Jacob analysis based on [4, 13]

Table 5: Projected changes in impervious area, stormwater runoff and nitrogen discharge. Medium climate change and population growth 2011-51

Region	Total area (sqkm)	Total impervious area (sqkm)	Mean annual stormwater volume discharge (GL per annum)	Mean annual nitrogen discharge (TN tonnes per annum)
2011	226,720	1,197	700	1,968
Non-Melbourne	214,000	278	163	459
Greater Metropolitan Melbourne	12,720	919	538	1,509
Werribee catchment	2,720	150	88	239
Maribyrnong Catchment	1,390	78	46	128
Yarra Catchment	4,050	402	235	667
Dandenong Catchment	1,250	220	129	364
Westernport Catchment	3,310	69	40	111
2051	226,720	1,785	1,006	2,670
Non-Melbourne	214,000	428	240	634
Greater Metropolitan Melbourne	12,720	1,357	766	2,035
Werribee catchment	2,720	307	173	427
Maribyrnong Catchment	1,390	121	68	179
Yarra Catchment	4,050	524	296	818
Dandenong Catchment	1,250	287	162	441
Westernport Catchment	3,310	118	67	170

Source: Marsden Jacob analysis

Figure 5: Projected changes in runoff for 2065 under medium climate change 2011-51



Source: [8]

2.6 How Victoria is responding to challenges through planning and reforms

Victoria has a long history of proactively responding to opportunities and challenges through urban water sector reform. Victoria is recognised across Australia for its water sector reform leadership [1, 2]. Urban water planning in Victoria has changed significantly and rapidly over the last 15 years or so.

The Millennium Drought saw significant investment in response to falling water storages [24]. Victoria and Melbourne saw major supply-side investments in recycled industrial water and desalinated potable water undertaken to improve water security.

Over the same time period, the performance of many Melbourne retailers improved against key customer performance metrics [5].

Victoria's urban water sector policies have extended significantly to encompass services in Figure 2. Victoria's overarching water policy *Water for Victoria* focusses on managing water to support a healthy environment, a prosperous economy and thriving communities, now and into the future [13].

Victoria has been shifting towards a more integrated and whole-of-water cycle approach to water planning, particularly urban water planning. Examples include:

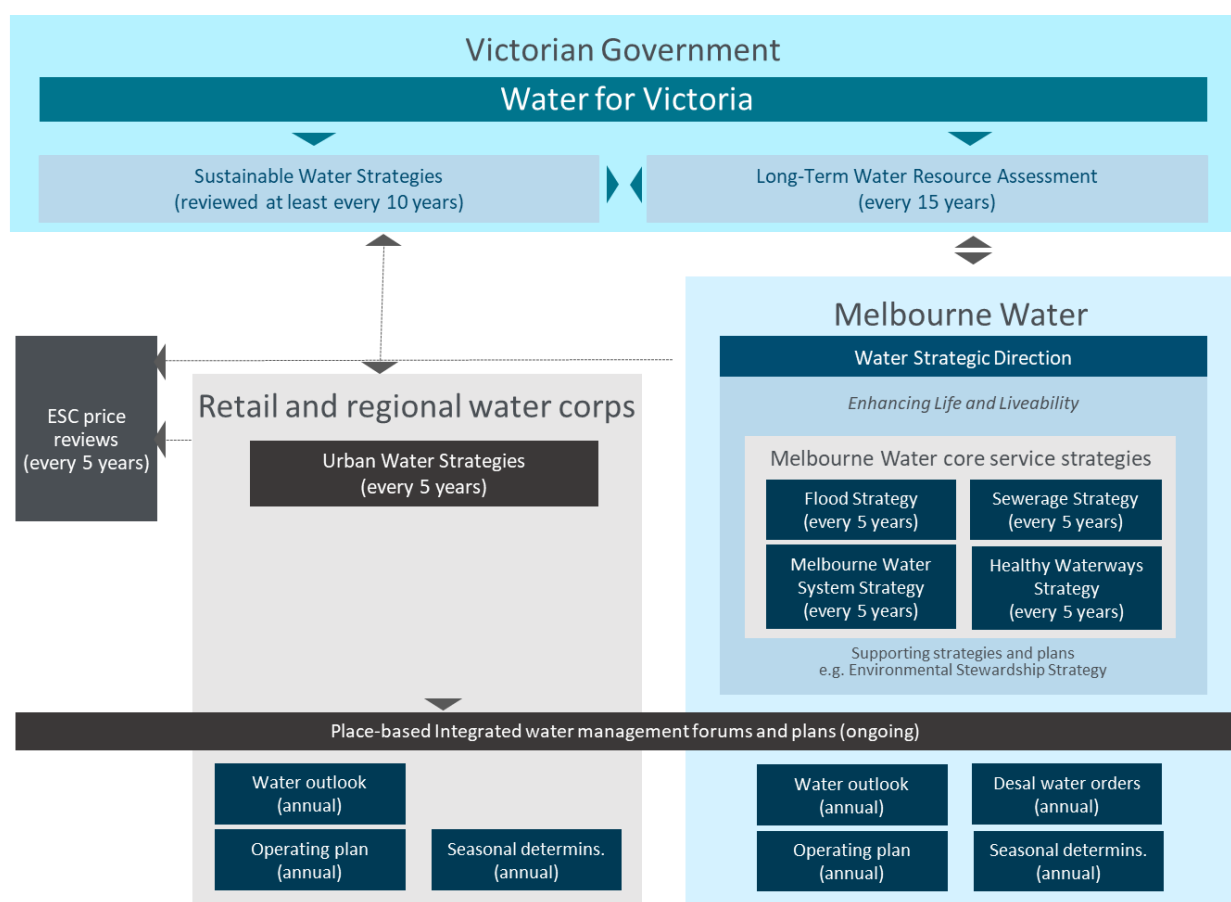
- **the Statement of Obligations under the Water Industry Act 1994**, which requires Water Corporations to effectively integrate economic, environmental and social objectives into its business operations, support sustainable and livable communities and work collaboratively with other parties to deliver sustainable water solutions for geographic areas.
- **Sustainable Water Strategies**, which are developed through Government-led processes, must have regard to the principles of informed decision-making, integrated decision-making, risk management, complementarity and community engagement.
- **The Minister's expectations of Water Corporations for the 2018-19** business planning year [25] require that Corporations commit to developing, delivering and participating in projects with livability benefits. Livability also includes the dimensions of affordability and support for vulnerable customers. Water corporations are therefore expected to maintain downward pressure on prices and water bills, whilst managing an efficient and compliant business.
- **Victoria's Urban Water Strategies** and Melbourne Water's System Strategy are required to integrate water cycle management with relevant planning schemes and identify options to facilitate efficient investments in projects across the water cycle that optimise shared benefits and avoidable costs [26].
- **The Integrated Water Management Framework for Victoria** outlines a place-based approach to planning water services in Melbourne and the surrounding region [13]. Local integrated water management plans are developed in close consultation with the community and all stakeholders, which may include private organisations such as developers, not-for-profit organisations and health providers.
- Victoria has developed - and is in the process of implementing - strong climate change mitigation and adaptation frameworks that are supported by legislation and action plans [21].

Victoria's current framework for planning, long-term augmentation and efficient use of all water sources is summarised in Figure 6. Key points are:

- **Victoria's approach to planning (long-term urban) augmentation and efficient use of all water sources is integrated, at least to the level of urban water cycle management shown** in Figure 2. Service planning by distributor-retail and regional water corporations are linked to integrated water management forums, and plans as initiatives from *Water for Victoria* [13].
- **Planning augmentation and efficient use of all water sources integrates longer-term policy and planning directors** with longer-term strategic urban planning and shorter-term annual decision-making.

- **Planning process engages with local government, the Victorian Planning Authority and the Department for Planning and Community Development** and relevant developers and builders in different ways through the process [6].
- **Citizen-customer planning has different levels of interaction (Table 6).** This customer engagement also informs the regulatory pricing submissions through the PREMO framework.
- **Planning framework can accommodate consideration of costs and benefits beyond direct capital.** For example, Urban Water Strategies can consider the benefits of avoiding discharge to receiving waterways and bays and benefits of reducing carbon pollution and impact on customer levels of service, and take these impacts into account when prioritising long-term augmentations and use of diffuse sources.
- **The planning process is evolving** the process of developing and implementing integrated planning has helped to formalise and strengthen relationships, particularly across entities involved directly in Figure 6. The process is continuing to evolve.

Figure 6: Victoria’s framework for long-term planning



Source: [13]

Table 6: Victorian urban water strategies, customer consultation and setting service levels

Strategy/Policy	Review Frequency	Customer consultation undertaken in latest review	Levels of service
Water for Victoria – Policy for	Depending on government	Community consultation on draft versions of the policy. Limited shifting.	Sets high level policy directions and actions for managing Victoria’s water resources. No explicit reference to water security objectives or service levels.
Sustainable Water Strategies	10 years. CRSWS last reviewed in 2018, revised CRSWS being developed in 2019/20.	Public consultation on draft report for CRSWS for 1 month period. Opt-in.	SWS sets out policies and 112 actions to secure supply of water for the region as a high-level objective. Maintaining water security is not defined.
Melbourne Water System Strategy and Urban Water Strategies	5 years. Last completed 2017.	Customer engagement on water security issues and other issues [22]. Limited assessment of customer preferences of ‘all options on the table’ and around storage level augmentation triggers.	In metro area based on water outlook zones. Aim is to avoid having storage levels fall into the water outlook low zone (<40%) by undertaking a set of actions outlined in annual outlook. This represents a base level of service (but it is not directly based on customer consultation).
IWM planning framework	Ongoing	Customer engagement undertaken on specific IWM projects. Special interests driven.	IWM projects contain broad water security objectives without direct links back to levels of service for water security.
Price submissions	5 years	Extensive engagement with customers on all aspects of water and sewerage services delivered to customers. Customer-driven.	Customer outcomes and service levels set across a range of services provided to customers. Reference back to service levels in metro area tied back to water outlook zones.

2.7 How good governance can help Victoria’s urban water planning for the future

Governance reform efforts over the last two decades have supported better urban water sector performance and outcomes. Victorian governance reforms have included structural separation of policy, regulatory and service delivery functions, greater role clarity, and independent monitoring of pricing, environmental and health performance. All of these governance changes were consistent with National Competition Policy reforms that sought to align sector performance with the interests of consumers, and National Water Initiative objectives [1].

There have been multiple independent reviews of Australia’s urban water sector over the past decade. Each review has used similar criteria to define what good governance in the urban water sector is, and to benchmark Victoria’s urban water sector performance. Each review has drawn similar conclusions and identified similar reform priorities. Each review has concluded Australian urban water sectors, and the Victorian urban water sector, will benefit from additional governance reform.

The Productivity Commission [16] and IPA and WSAA [24] have set out key principles for good governance of State-owned corporations. These principles also apply well for the overall urban water sector.

Table 7: Victorian urban water strategies, customer consultation and setting service levels

Initiative	What it will achieve	Planning cycle length	Timing of next update
Water for Victoria	Establish a water grid oversight function to inform strategic regional and system-wide (across water corporations' boundaries) water resource planning and investment decisions. Establish a South central water market. Improve state-wide water resource planning and risk assessments		Current
Stormwater MAC recommendations	Stormwater planning reforms – clause 56 applied to commercial, industrial, residential developments. 80 per cent of stormwater runoff regulated.		2018-19
EPA BPEMG review	Introduces flow-based standards for developments covered by clause 56 or equivalent		2019
IWM forums	Coordinated approach to integrated water management between critical agencies including water corporations, catchment management authorities, local government, traditional owner groups and Victorian Planning Authority.		Current
Victorian Infrastructure Plan (2017)	(1) streamlining the process for reviews of sustainable water resource strategies and long-term water resource assessments and reviews (section 22B and section 22V of the Water Act) to reduce the risk of community and stakeholder consultation fatigue; (2) maintaining independent oversight of planning arrangements; (3) providing clear information about water resources and options to the community; and (4) improving water resource information to support planning and decisions.		Current
PREMO framework	Shifting to customer-focussed service delivery. Opens door for alternative sources to come online if there is evidence of customer ability and willingness to pay for the different level of service		Current
Water Grid Partnership	The partnership will oversee the operation of Victoria's water grid and create a forum for delivering the best possible solutions to Victoria's water security challenges.		Current
Melbourne Water Systems Strategy	Optimise the water grid and the South central market Make the most of the water supply system Use water efficiently Use diverse sources of water	50 years	
Urban Water Strategies	Provides framework for water retailers to manage water availability and sewerage capacity over the next 50 years to deal with key challenges – population growth, climate change and weather variability – while still delivering water-related urban amenity and improving the environment.	50 years	
Climate Change Adaptation Action Plans	Provides an opportunity for the Government and water sector organisations to partner and to further enhance the climate change adaptation of the sector. It will also help the sector to further embed climate change considerations into planning, design and operations.	50 years	

Using these principles, we have mapped the key findings from recent independent reviews of the water sector over the past decade. Headline selected findings from independent reviews of Australia's urban water sector from the last decade are summarised in Table 8. Table 8 highlights the universality of governance reform recommendations from independent reviews. These universally applicable governance reforms centre on:

- **setting an overarching objective for government policy in the sector for the provision of water, wastewater and stormwater services** in an economically efficient manner to maximise the net benefits to the community
- **developing appropriate policies and principles** that align with this objective and are citizen-customer driven
- **assigning roles and responsibilities** appropriately and ensuring structural and functional separation between policy making, service delivery and performance evaluation

- **Imposing effective sanctions for non-performance.**

A common theme throughout these reports was the need to further separate governance arrangements so that the water sector shifts from a state where governments are owners, regulators and policy-makers to where the water sector has greater independence to prudently and efficiently optimise their investment and operations based on customers’ needs and wants. All reports recognised that water corporations continue to be given multiple and sometimes conflicting objectives, and that these objectives often fall well outside their Statement of Obligation commitments.

Addressing the urban water governance issues as they relate to Victoria through another round of reform can help Victoria’s urban water sector deliver what citizen-customers want more productivity and effectively.

Table 8: Headline finding statements of urban water sector reviews mapped against ANAO Better Practice Principles for Governance

Principles	Infrastructure Australia 2018 [2]	PC National Water Reform 2017	IPAA and WSAA 2015 [24]	NWC 2011	Prod Comm 2011
Clear and non-conflicting objectives.	Governments should ensure that service providers, regulators and other parties have clear objectives and accountabilities, which align with clearly specified roles, functions, resourcing and funding.	A priority action in urban water management is making clearer roles and responsibilities for supply augmentation planning, and enabling decentralised solutions. Specific reforms include clarifying the planning roles and responsibilities of governments and utilities, including in Victoria.	Called for new national standards for best practice governance in urban water. In a more competitive environment, these standards should aim to provide clarity on the roles of utilities, regulators, shareholders, system planners and policy makers.	Primary recommendation: Governments should ensure that service providers, regulators and other parties have clear objectives and accountabilities, which align with clearly specified roles, functions, resourcing and funding.	The primary objective of the urban water sector is to provide water, wastewater and stormwater services in an efficient manner. This should be set as the clear objective of the urban water sector. Currently the urban water sector has multiple and sometimes conflicting objectives.
Responsibility, authority and autonomy	While the degree of independence varies across the country, no jurisdiction’s regulatory and governance frameworks are fully and genuinely independent. This means conflicts of interest can arise, and governments may lack incentives to commit to reforms.	It is the role of governments to create the conditions necessary for institutions to operate efficiently. Governments should not be actively involved in making operational decisions.	To promote a greater customer focus, utilities should have greater independence in return for clear accountability to their customers and shareholders.	Jurisdictions should improve the transparency of performance monitoring of policy objectives, obligations and standards to provide governments and communities with confidence and certainty that objectives and criteria are being met.	It is the role of governments to create the conditions necessary for institutions to operate efficiently. Governments should not be actively involved in making operational decisions.

Principles	Infrastructure Australia 2018 [2]	PC National Water Reform 2017	IPAA and WSAA 2015 [24]	NWC 2011	Prod Comm 2011
Performance monitoring by owner-governments and accountability (including to customers)	<p>Performance results should be open to public comment and examination.</p> <p>Trade-offs between costs and service standards should also be a matter of customer choice, whereby water service providers are encouraged to provide tailored customer offerings and service choices to customers.</p> <p>The regulatory frameworks for urban water are broadly more prescriptive than those in other economic infrastructure sectors.</p>	<p>The Commission considers that, given the information they possess about the preferences of their customers, water utilities are best placed to make supply augmentation decisions. These decisions should be based on customer wants.</p> <p>Prescriptive government directions can impose higher costs on customers.</p> <p>The interaction of the water sector with land-use planning creates barriers to the uptake of decentralised options. Reducing transaction costs could increase efficiency and deliver better outcomes.</p>	<p>There is an insufficient focus on customer needs and preferences, and accountability to customers.</p> <p>Performance is being impacted by poorly identified and inconsistent linkages between economic and environmental regulation, unclear and embryonic frameworks governing competition and third party access, creating barriers to private investment and long-run financial uncertainty for public utilities.</p>	<p>Governments, regulators and service providers should ensure that the urban water sector gives a greater voice to customers through exploring opportunities for customer choice in pricing and service delivery, improved engagement in objective setting and the determination of trade-offs, improved customer protection frameworks and competition.</p> <p>Responsible agencies and service providers should adopt risk-based approaches to supply-demand planning.</p> <p>All parties should strive for greater transparency and accountability.</p>	<p>The Commission considers that, given the information they possess about the preferences of their customers, water utilities are best placed to make supply augmentation decisions.</p>

3. Opportunities for urban water governance reform in Victoria

Governance reforms work best when they have sector backing. To identify governance reform priorities for the Victorian urban water sector, we worked closely with sector participants in this Infrastructure Victoria evaluation. The evidence base assembled from our collaboration with urban water sector participants highlighted their reform priorities, and their preferred reform pathways.

Our consultation approach with the Victorian urban water sector focussed on identifying key areas where current urban water governance arrangements were perceived to be inhibiting (1) robust and transparent augmentation planning and recognition of linkages between centralised and decentralised supply options and (2) where barriers and distortions were inhibiting more efficient use of all available water sources.

We worked with more than 50 professionals with long-standing involvement and commitment to urban water planning in Victoria to develop understanding across these two areas. People we engaged with were involved in Victoria's urban water planning sector, including government, water businesses, and their regulators. They worked at the senior planning and executive levels within their organisations. We sought representation from metropolitan and regional urban water sector participants.

We gathered input from urban water sector professionals through structured surveys, several workshops, and small group meetings. What we heard from Victorian urban water sector professionals has helped to inform the recommendations that we set out in the next chapter of this report. While all recommendations in this report to Infrastructure Victoria are our own, the recommendations reflect the considered input from the professionals we engaged with. As a result, we summarise what we heard from these professionals in this chapter.

Our consultation evaluation framework is summarised in Figure 7. Our consultation with the Victorian urban water sector was built around two resources that we benchmarked governance against:

- **Elements of good governance of State-owned entities:** defined by governance frameworks recommended by thought-leading organisations, such as the Australia National Audit of Office (ANAO), the Productivity Commission and IPA and WSAA see Table 9, and State Service Authority (SSA) (Table 9).
- **COAG National Urban Water Planning Principles.** The Principles set out urban water planning governance objectives in plain English (Table 10).
- **Overall, feedback from those consulted was that Victoria is average in its urban water augmentation planning,** the efficient use of all available water resources, and in delivering optimal long-term water security from all water sources in Victoria (Figure 8).
- **There is evidence of in-principle support for having all augmentation options on the table** as part of Victoria's potential long-term water supply mix (Figure 9). We tested this view through survey consultation and discussions with stakeholders.
- **Governance, regulation and policy** are perceived key barriers for some urban water supply augmentation options. These barriers are one of several barriers to urban water augmentation (Figure 9 to Figure 13). Governance, regulation and policy barriers reflect current Victorian government support for, and government policy on, water augmentation. For example, current Victorian government policy is that recycling wastewater

for drinking is not supported and not government policy. This is despite there being majority support from Victorians for indirect potable reuse (Appendix 1) and support from the Victorian urban water sector (Figure 9)

- **There are a range of governance reforms that urban water sector professionals think could improve Victoria’s urban water sector planning and performance** and make better use of centralised and decentralised sources. We have summarised the key issues and reform options identified through our consultations against the better practice principles for governance (Table 8) in Table 11. Comments in Table 11 are a mix of verbatim and summarised responses. Core governance reforms identified by those we consulted with are highlighted in bold in the table.

Figure 7: Review Framework

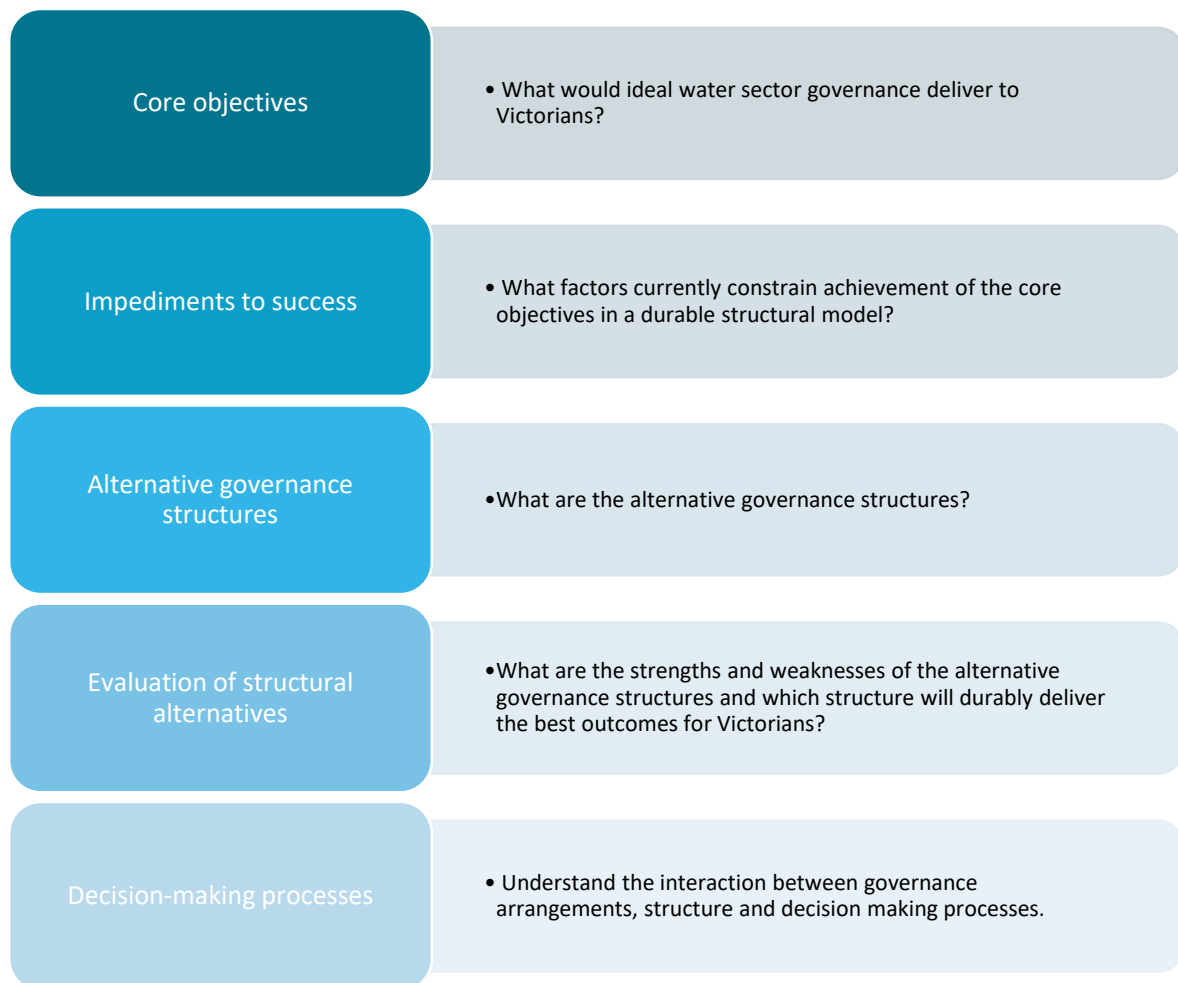


Table 9: Better Practice Principles for Governance, applied to Victorian urban water

Principle	Better Practice Criteria
Clarity of role and purpose	<ul style="list-style-type: none"> Objectives for all parties involved in Victorian urban water sector are clear and non-conflicting. Where there is potential for competing priorities, there is clear guidance from policy makers and/or regulators on how priorities should be ranked. Conflicts between policy, operation and regulation functions are avoided by structural and/or functional and/or operational separation.
Responsibility, authority and autonomy	<ul style="list-style-type: none"> Those best placed to manage risks are allocated responsibility for managing the risk. Board and management should have the authority to make strategic and operational decisions that impact on the performance of the water corporation. Directors should be appointed to represent the commercial interests of the owner. Owner-imposed constraints should be limited to certain issues, such as defining the activities the enterprise should undertake and determining dividends and borrowing policies.
Accountability and performance monitoring by owner governments and citizen-customers	<ul style="list-style-type: none"> Urban water sector decisions should be citizen-customer centric and informed by real consultation and engagement around augmentation and supply options and trade-offs. Independent and objective performance monitoring should be in place. All planning processes should consider options fully and transparently. Performance results should be open to public examination. All ministerial and regulatory directions should be publicly disclosed. Regulation (economic, environmental, health, other) should be risk-based and outcome-focussed. Bans on augmentation options (whether or not explicitly stated) should be removed, including rural-urban trade and indirect potable reuse.
Sanctions for non-performance	<ul style="list-style-type: none"> Rewards and sanctions need to be pre-defined against agreed performance

Source: Marsden Jacob based on [16] and [24].

Table 10: COAG National Urban Water Planning Principles

	Criteria
Options	<ul style="list-style-type: none"> All options should be 'on the table' Urban water planning should be based on the best information available, for all options Selection of options for the portfolio should be made through a robust and transparent comparison of all demand and supply options, examining the social, environmental and economic costs and benefits and taking into account the specific water system characteristics
Planning	<ul style="list-style-type: none"> Planning should be transparent. Planning should ensure all relevant urban water sector stakeholders are involved. Planning should have clearly developed terms of reference. Terms of reference should include operations, decision-making policy and procedures, conflict of interest policy and procedures and reporting arrangements).
Consultative	<ul style="list-style-type: none"> Urban water supplies should be developed in accordance with agreed levels of service. Service levels should be set based on transparent consultation and understanding of citizen-consumer preferences and willingness to pay. Planning should be based on these customer-centric service levels.
Integrated	<ul style="list-style-type: none"> Planning and delivery should consider interaction of centralised and decentralised supply options. Potable water supplies should be integrated with other aspects of the urban water cycle, including stormwater management, wastewater treatment and public and waterway health impacts.
Adaptive	<ul style="list-style-type: none"> Planning should be adaptive. All parties involved in the development of an urban water plan should be committed to ensuring that the plan can adapt as necessary to reflect additional information/knowledge and changing circumstances.

Source: Marsden Jacob based on [7]

Figure 8: Overall, how good are we currently in Victoria at urban water augmentation planning, economic efficient use of resources, and delivering optimal long-term water security from all water sources in Victoria (n=30)?

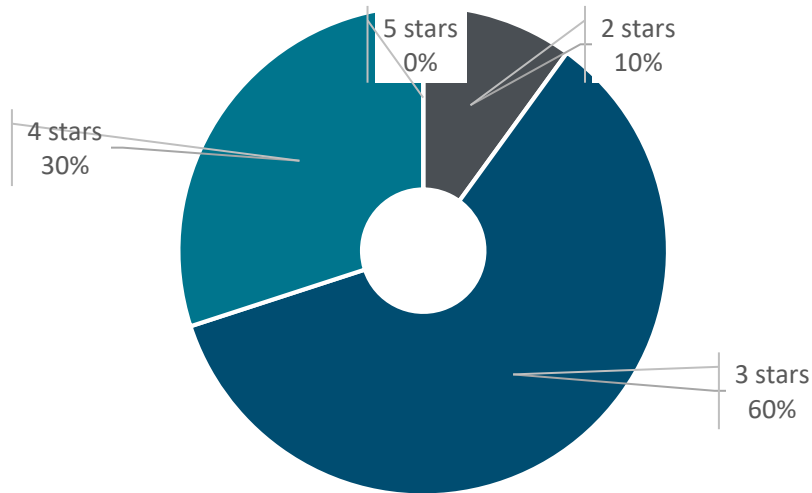


Figure 9: In principle, do you support the following as potential long-term water supply sources in Victoria? (n=30)

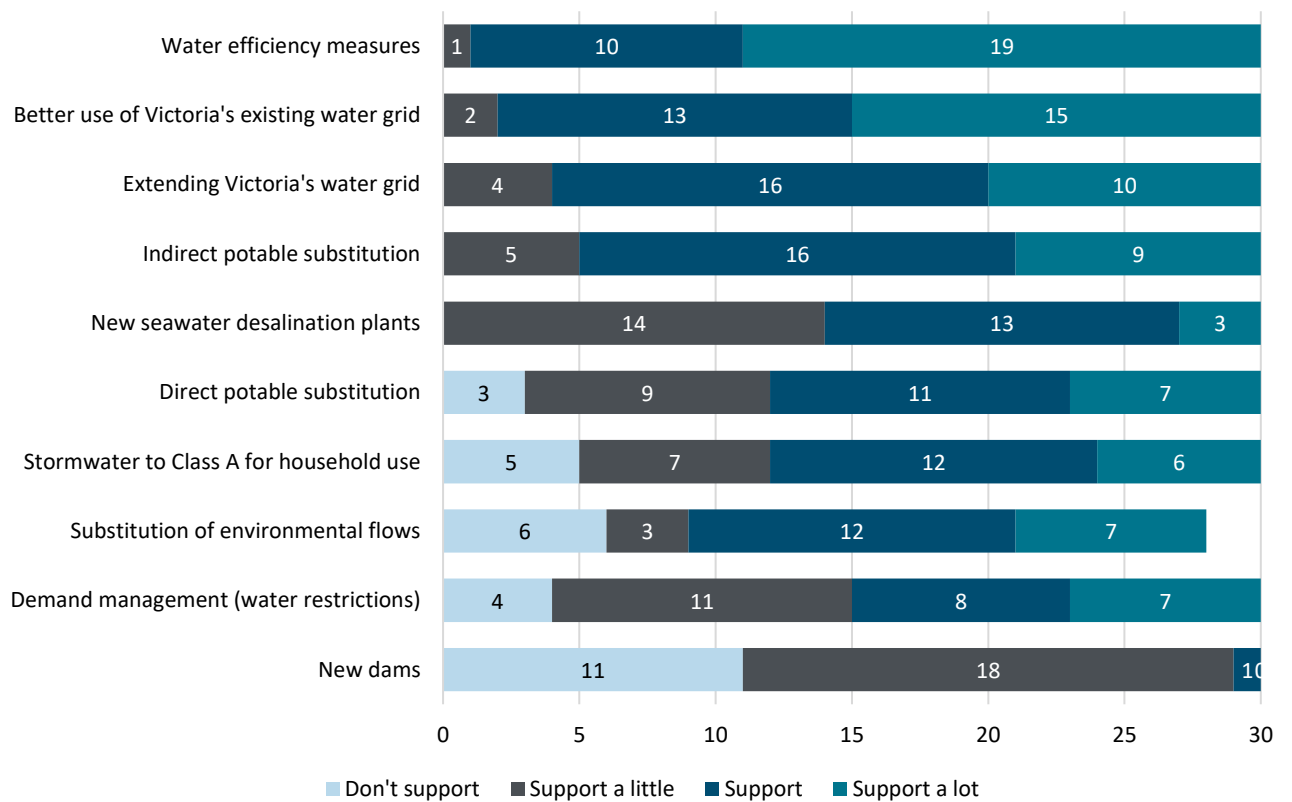


Figure 10: What are the main barriers for each urban water supply option in Victoria over the next 30 years? Better use of the water grid (n=30)

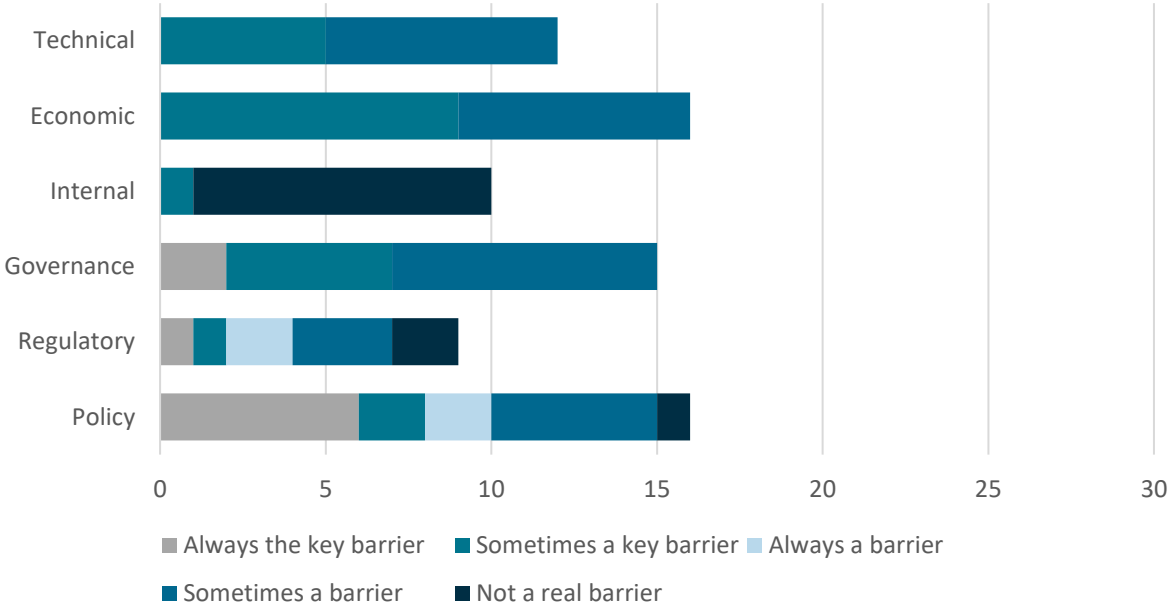


Figure 11: What are the main barriers for each urban water supply option in Victoria over the next 30 years? More desalination (n=30).

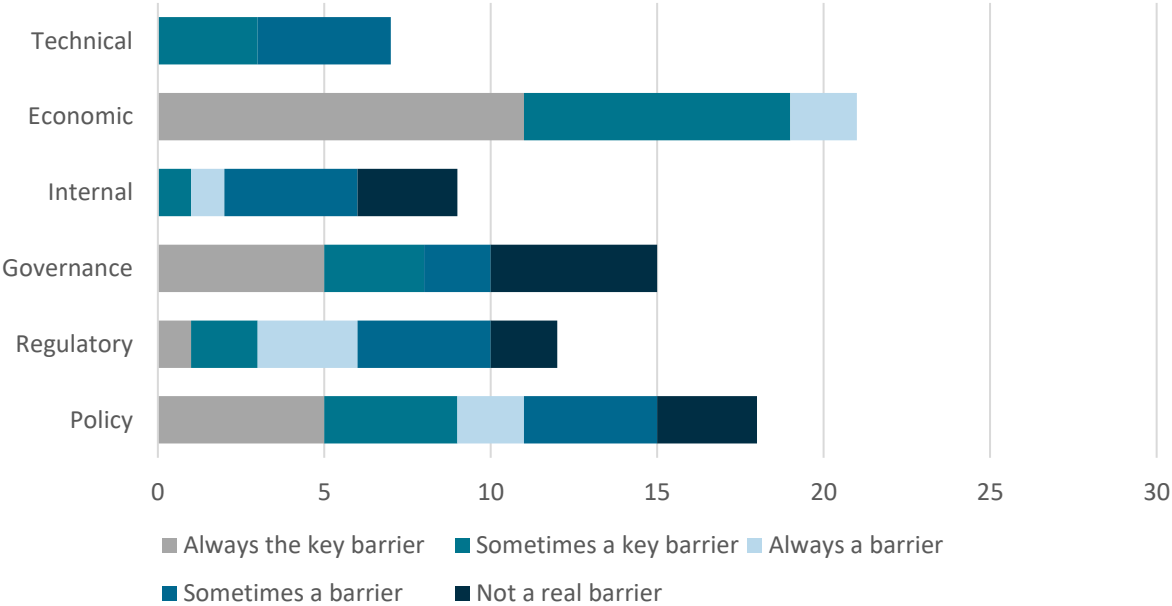


Figure 12: What are the main barriers for each urban water supply option in Victoria over the next 30 years? Stormwater to Class A (n=30).

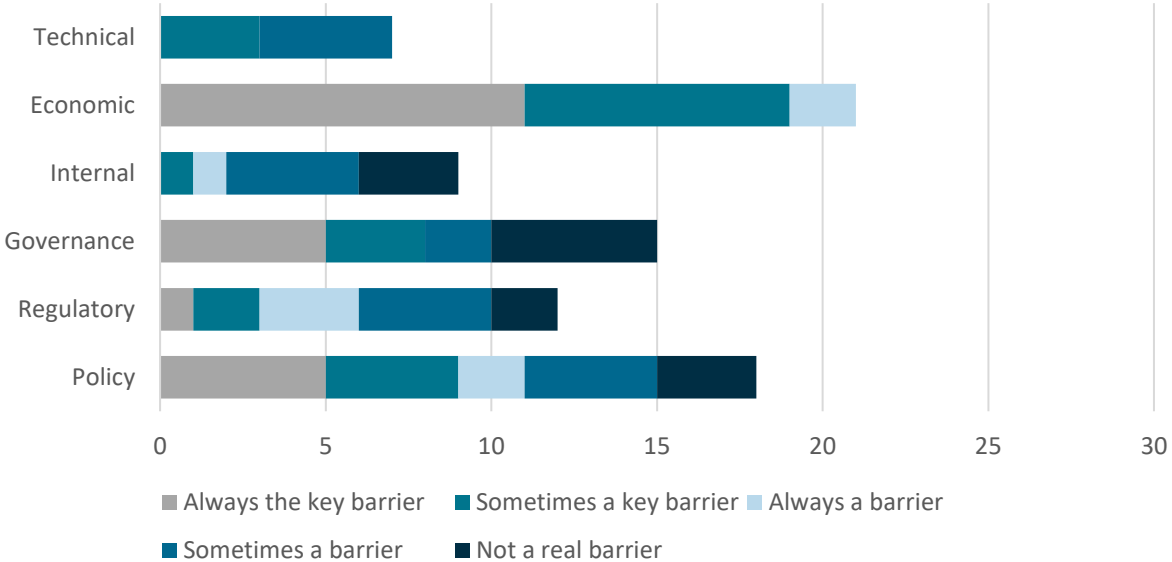


Figure 13: What are the main barriers for each urban water supply option in Victoria over the next 30 years? Indirect potable reuse (n=30).

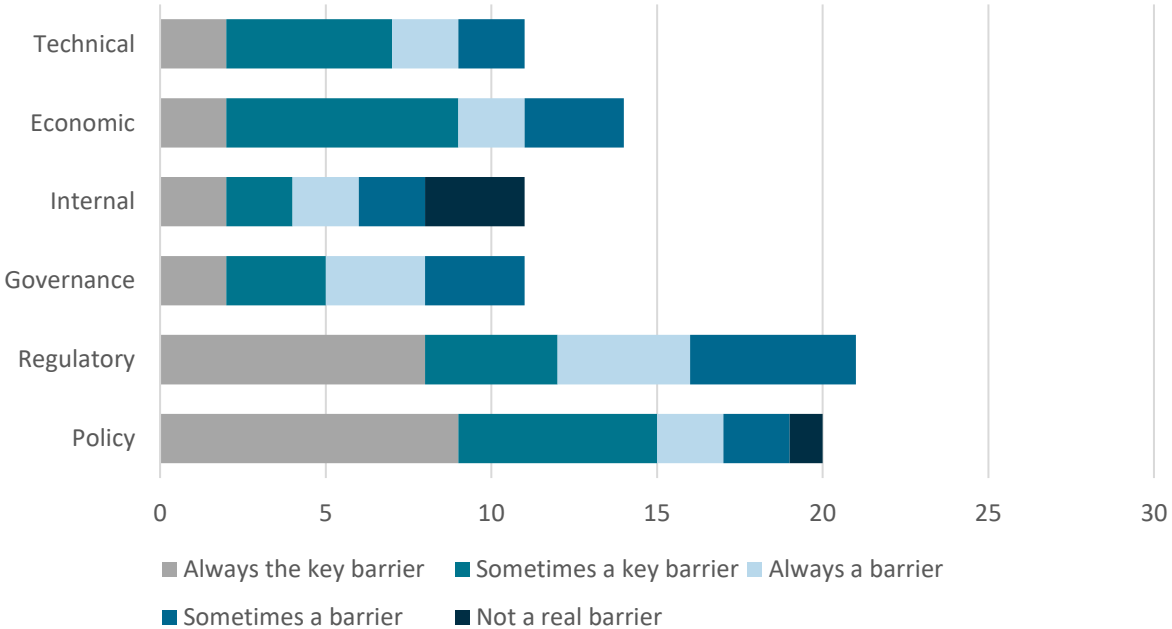


Table 11: Key urban water planning governance issues identified by Victorian urban water sector professionals. A mix of verbatim and summarised comments (n=50).

Key urban water planning governance issues identified by water sector	
Clarity of role and purpose	<p>Urban water planning in Victoria will benefit from additional role clarity around planning for augmentation and the efficient use of all water source.</p> <ul style="list-style-type: none"> • Many water corporation objectives are clear through the Statement of Obligations and Letter of Expectation. But water businesses want clearer guidance on prioritising trade-offs. Letter of Expectation guidance is ambiguous. More guidance is needed on how to prioritise trade-offs. • A broader definition of the role of water corporations than that defined in the current SOO would support broader community objectives and outcomes. It would also help deliver services in a more economically responsible manner. • Roles and purpose, particularly around recycling and stormwater harvesting, need more clarification. In Melbourne, the role that the bulk water supplier, distributor and retailers have in augmentation planning makes it unclear who is responsible for augmentation planning decisions. There is no clear decision-maker around when an augmentation will be triggered and who ultimately makes the decision. • Where there are joint assets there needs to be more guidance on who, ultimately, owns the asset and whose balance sheet the joint assets sit on. This will help clarify governance arrangements. • Need for greater integration between agencies involved in Victoria’s urban water sector during planning. “The main scope for improvement is likely to be through collaboration between planning bodies, water service providers, and other stakeholders rather than formal integration”
Responsibility, authority and autonomy	<p>Victorian urban water planning will benefit from having more separation between government, operators and regulators and authorising environments.</p> <ul style="list-style-type: none"> • Victoria’s urban water sector is structurally and functionally separated between policy makers, operations and regulators. Despite this separation, the Victorian urban water industry experience is that policy makers are directing operational planning decisions, in some cases. • The role of the government should be to create the conditions that are necessary for institutions to make strategic and operating decisions to operate effectively. Governments should not be actively involved in making operational decisions, such as the size or timing of desalination orders, or the trigger for using the north-south pipeline. Owner-imposed constraints should be limited to key issues such as defining the activities that the enterprise should undertake and determining dividends and borrowing policies. • Boards and water corporations should be allowed to have all options on the table with respect to long-term augmentation decisions. We need to remove barriers (real or perceived) to Boards and water corporations making independent decisions around long-term augmentation options. For example, responses during the millennium drought were limited by Government by excluding new dams, transfers between catchments, indirect potable substitution, et cetera. To the extent these constraints still operate, they should be removed. • There are de-facto or actual policy bans by State government on augmentation options. For example, the Statement of Obligations (System Management) currently allows the Sugarloaf Pipeline to be used when storages are below 30% on 30 November of any given year. Water orders are being made (with Minister having the final say) so that storages stay well above 30%, even though it would be cheaper to pipe water down. These should be removed. • The de-facto bans on price increases shouldn’t be set by the Minister. It should be up to the economic regulator to make the call on what is acceptable based on evidence of customer preference. If customers are willing to pay for higher levels of service, then they should be allowed to pay more for this higher service.
Performance monitoring by owner governments and accountability	<p>Augmentation planning and decisions around the efficient use of water sources needs to be based on citizen-customer input. We need to get a better understanding about citizen-consumer preferences and trade-offs through all stages of urban water planning.</p> <ul style="list-style-type: none"> • Currently, Victorian water planning uses different types of citizen-consumer engagement. Sustainable Water Strategies and Long-Term Water Plans involve citizen-consumer consultation.

Key urban water planning governance issues identified by water sector

to citizen-customers

But consultation focusses on options and issues in *Water for Victoria*. Citizen-customers are not consulted around policy options that are off the table. SWS are focussed on technical feasibility and cost-effectiveness of options. Citizen-consumer preferences are not well accounted for in the evaluation of options. We don't know how community preferences for augmentation and water source use align with the technical evaluation. Because servicing strategies follow from SWS and LTWPs, options that customers might prefer are off the table by the time they reach urban water strategies.

- What this means is that high level customer preferences need to be established in real terms at the highest level of planning. This means that the Government needs to do more comprehensive and transparent engagement with communities at the SWS and LTWP stages. Consumer-citizen preferences need to be understood, and what they are willing to trade off. Government needs to do this because no single water corporation or waterway management authority can lead this, it's a State-wide or region-wide question.
- We need to have more transparent discussions around augmentation in the public domain. We need greater transparency around how decisions are made for augmentation and use of all resources.
- Engaging with citizen-consumers needs to become an ongoing process that feeds into the adaptive management framework for Victorian urban water. We need to move beyond understanding and consulting with communities just around our policy and planning cycles.
- Better coordination is needed across various agencies (local government, state government, etc) and longer timeframes so that major augmentation are more proactive and less reactive.
- The stated position from the health regulator (on alternative water supplies) is known, but the key governance issue is that this option is at the mercy of individual government officers' opinions, rather than being subject to an open and dispassionate governance process that looks at the risks, mitigation, water quality standards and technical requirements of the solution.
- DHHS is very risk-averse and seems to actively resist conversations (around all options being on the table) being had with the Victorian community.
- We need to compare options on an equal footing and in an equal forum. Currently decentralised investment decisions are being evaluated in different forums to centralised augmentation forums. Ultimately, they all come into the same portfolio and therefore need to be considered within the same portfolio framework.

Sanctions for non-performance

We currently don't have any sanctions for non-performance of urban water planning, other than PREMO and poor outcomes.

- We need agreed urban water servicing targets that reflect community preferences
- Rewards and sanctions need to be pre-defined against agreed performance metrics. These need to go beyond what is currently in SOO.

4. Recommendations

Having strong urban water governance in Victoria is important. With strong governance, we can plan and deliver the urban water services that Victorian communities need and want effectively, efficiently and transparently over the next 30 years.

The recommendations to Infrastructure Victoria set out in this chapter aim to help deliver these outcomes. We have developed our recommendations in this chapter against the key governance elements and principles in Table 9 and the COAG National Urban Water Planning Principles (Table 10). Our view is that the National Urban Water Planning Principles are what urban water planning governance reforms should be aiming to achieve. As a result, we have developed recommendations against these criteria primarily, and the Better Practice Principles secondly.

We have separated our recommendations to Infrastructure Victoria into headline urban water governance planning reform recommendations, and recommended actions that will support the headline recommendation. Supporting recommended actions have suggested timeframes for achieving these actions. Recommended actions include direct and indirect actions:

- **Direct recommended actions** are activities that change governance arrangements directly by changing rules, practices or processes.
- **Indirect recommended actions** are activities that change governance arrangements indirectly by changing signals and incentives that support changes in guidance, rules, practices and processes, without changing the underlying governance arrangements. For example, a change of objectives in a SOO is an indirect governance reform action.

4.1 Recommendation 1. Reform Victorian urban water governance to ensure all options are on the table.

Water for Victoria commits to “taking a long-term view of our resources and allowing sufficient time to explore all options. We will meaningfully engage the community” [8].

Urban water augmentation planning and decisions around the efficient use of all available water sources should not be constrained by barriers and distortions. In Victoria, all augmentation and use options should be evaluated based on their economic merit, and whether they meet minimum public health and environmental requirements. This view is consistent with [16]. We recommend that current policy bans, such as indirect potable reuse, are removed and these supply options are objectively considered on their merits, citizen-customer support for the option, and assessed against the same health standards as other water sources [27].

We consider the following recommended actions will improve the formal urban water governance rules and allows all options to be considered on their merit. They also aim to provide greater clarity around what centralised and decentralised investments and co-benefits can be included within the scope of prescribed services.

Table 12: Recommended actions supporting all options should be on the table.

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
1.1	<p>The <i>Water Act 1989</i> empowers the Minister for Water to prepare sustainable water strategies (SWSs) for a region of Victoria. SWSs are long-term plans for water resources in Victoria. They identify threats to water supply and quality, and they include actions to help water users, water corporations and catchment management authorities (CMAs) manage and respond to threats over the 50-year planning horizon [21].</p> <p>Under Pt 3 Div. 1B of the Act, the Minister may request action and advice on specific matters relating to the preparation of the Strategy. We recommend that the Minister should use powers under the Act to explicitly request, either directly or through a Consultative Committee (s22D), that SWS demonstrate that all technically feasible centralised and decentralised augmentation options have been considered, and how the proposed plans and investments have been prioritised to optimise shared benefits and avoidable costs.</p> <p>Making this amendment will support planning of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-1	I
1.2	<p><i>The Water Industry Act 1994</i> grants the Minister for Water power to make and issue Statement of Obligations to Victorian water corporations. Under s 6-1 of the current Statement of Obligations, the Minister instructs Victoria’s Water Corporations to develop (in accordance with any written guidelines issued by the Minister) an Urban Water Strategy (UWS).</p> <p>A UWS outlines how the water corporations will effectively manage the increasing demand for water and rising sewage volumes. The strategies also align with <i>Water for Victoria</i> and the relevant SWS. Urban Water Strategies identify what the Water Corporation will do to ensure water availability for the next 50 years. It also outlines specific actions for the next five years.</p> <p>S6-1.1 includes directions on the things an UWS must include. The existing directions broadly support consideration of centralised and decentralised options across the 50-year horizon, and efficient investments in projects across the urban water cycle that optimise shared benefits and avoidable costs.</p> <p>We recommend amending the Statement of Obligations S6-1.1. The amendment should instruct that UWS must demonstrate that all technically feasible centralised and decentralised augmentation options have been considered, and how the investments have been prioritised to optimise shared benefits and avoidable costs.</p> <p>Making this amendment will support planning of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-1	I
1.3	<p>Under s 6-2 of the current Statement of Obligations, the Minister instructs Melbourne Water (6-2) to “work with all entitlement holders in the Melbourne water supply system to develop, in accordance with any</p>	<p>Clarity role and purpose</p>	0-1	D

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
	<p>written guidelines issued by the Minister, a Melbourne Water System Strategy (MWSS) that establishes an integrated system view of available consumptive water in the Melbourne water supply system, having regard to relevant Urban Water Strategies and the strategies of other entitlement holders.”</p> <p>S6-2.1 includes directions on the things an MMWS must include. The existing directions broadly support consideration of centralised and decentralised options across the 50-year horizon, including investing in “efficient investments in projects across the urban water cycle that optimise shared benefits and avoidable costs”.</p> <p>We recommend amending the Statement of Obligations S6-2.1. The amendment should instruct that MWSS must demonstrate that all technically feasible centralised and decentralised augmentation options have been considered, and how the investments have been prioritised to optimise shared benefits and avoidable costs.</p> <p>Making this amendment will support planning of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	Responsibility, authority and autonomy		
1.4	<p>To help achieve the actions identified in Water for Victoria, the Minister for Water issues an annual Letter of Expectations (LoE). These annual letters help water corporations to focus on the Minister’s priority policy areas. The LoE outlines the Victorian Government’s key priorities for the water sector and, in certain circumstances, individual water corporations. The LoE are prepared within the context of the objectives, obligations and functions outlined in the <i>Water Act 1989</i>, as well as the policy direction set out in Water for Victoria.</p> <p>We recommend the Minister should use future LoE to explicitly direct that water authorities demonstrate that all technically feasible centralised and decentralised augmentation options are considered in planning, irrespective of any current policy bans are in place.</p>	Clarity role and purpose Responsibility, authority and autonomy	0-1 year	D
1.5	<p><i>The Water Industry Act 1994</i> empowers the Minister for Water to make and issue Statement of Obligations to Victorian water corporations. “Pursuant to Section 41(2) of the Water Industry Act 1994, the Minister issued the Statement of Obligations (System Management). The SOO(SM) remains in effect until 31 December 2019, or until revoked, whichever occurs first.”</p> <p>The SOO(SM) constrains the use of the North-South Pipeline to when storages in the Melbourne system are below 30% on 30 November of any given year. As discussed in Table 11, water orders from the desalination plant mean that this storage trigger will never be triggered (except in the case of force majeure at the desalination plant). This has the effect of removing the North-South Pipeline supply option from the table.</p> <p>We recommend that the Minister allow the Statement of Obligations (System Management) to lapse on 31 December 2019. This will bring the North-South Pipeline back onto the table.</p>	Clarity role and purpose Responsibility, authority and autonomy	0-1 year	D

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
1.6	<p>As noted above, the Minister for Water issues an annual Letter of Expectations (LoE) to Victorian water corporations.</p> <p>The LoE for 2018-19 stated that water corporations should commit to developing, delivering and participating in projects with liveability benefits. Under the same heading, the LoE expects water corporations to have stable, or preferably falling, water prices through the next period.</p> <p>We recommend that the Minister should consider the balance between maintaining affordable water prices and customer willingness to pay for additional outcomes that centralised and decentralised investments may provide.</p> <p>This would require that future LoEs state that water corporations should have stable, or preferably falling, water prices except where there is clear evidence from customer consultation that customers have the willingness and ability to pay more for higher service standards, including liveability outcomes.</p> <p>Enacting this recommendation will have the effect of signalling to water corporations that they can consider centralised and decentralised augmentation options for prescribed services that increase customer bills, in cases where there is clear evidence that the customer base is willing to pay for these additional services.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-1 years	I
1.7	<p>The Essential Services Commission Act 2001 (Vic) (ESC Act) establishes the ESC and provides the economic regulatory framework for all regulated industries [28].</p> <p>The ESC regulates Victorian water businesses under WIRO and for the scope of prescribed services under the WIRO (s7) and the Water Industry Act 1989. In conducting price reviews, the ESC must have regard to the promotion of efficient use of prescribed services by customers.</p> <p>Victorian water businesses have sought to include investments in price submissions that deliver community benefits. For example, Melbourne Water's price submission included proposals for around \$30 million of investments that would improve the condition of Melbourne Water land for community use, while also improving waterway and other outcomes [29]. The ESC accepted around half of the proposed investments.</p> <p>We recommend that the ESC publishes guidelines to support water businesses to understand what community and liveability projects fall within the scope of prescribed services under the WIRO and the Water Industry Act 1989, and what the ESC will accept as prescribed liveability and community services.</p> <p>Doing this will help water corporations to understand what options are on the table as part of prescribed service delivery, particularly for augmentation decisions that involve the development of community and liveability infrastructure.</p>	<p>Clarity role and purpose</p> <p>Responsibility, authority and autonomy</p>	0-3 years	I

#	Recommended actions	Best governance	Timing (years)	Direct (D) Indirect (I)
	ESC should also publish guidelines, similar to those published by other Australian economic regulators [30], around its expectations for demonstrating customer willingness and ability to pay for these liveability and community investments, as part of prescribed services delivery.			

4.2 Recommendation 2. Reform Victorian urban water governance to make supply augmentation planning processes options more consultative and transparent.

Water for Victoria recognises the importance of building the capacity and capability of Victorians to engage in an ongoing conversation about water. To do this, Victorians need open, impartial, transparent and accessible information [8].

We recommend that augmentation planning and the efficient use of all available water sources should reflect citizen-consumer preferences. More specifically, urban water planning in Victoria should reflect customers' preferred service levels and, equally importantly, their willingness to pay for these service levels.

Transparency and consultation are hallmarks of Victoria's urban water planning processes, and are in many ways recognised as being among the best in Australia [1]. But we can do more to better reflect citizen-consumer preferences about how augmentations are planned, and how we decide to use water from different sources. If we do this, we will make planning decisions that support delivery of the outcomes most valued by Victoria's citizen-customers.

Our current urban water planning arrangements provide a strong basis for achieving best practice, and for identifying areas where planning consultation and transparency may be improved through governance reform. They provide a good basis for making the next step in making planning more consultative and transparent.

However, customer engagement conducted for the current urban water strategies revealed that customers were not aware of the existence of the annual Water Outlook and are looking for better, more regular and accessible engagement. There is an opportunity to be more proactive with communications and provide education, guidance, reminders and reassurance about the future [22].

Our overall recommendation is that longer-term augmentation and source planning process are more aligned with the PREMO approach to customer engagement. What this involves is a more structured evaluation of alternatives augmentation planning with community, and the development of a 'golden thread', showing how the long-term augmentation plans directly link to what citizen-consumers told planners during consultation.

Establishing a clearer link between citizen-customer preferences and long-term augmentation plans will have a trickledown effect on urban water governance. It will allow strategic planning decisions to link more to longer-term plans. It will also help to clarify objectives and trade-offs between objectives, which will make planning governance easier.

Our second overall recommendation is that evidence used to make decisions impacting augmentation and decisions around augmentation are made transparent. This will open up understanding for how citizen-consumers have been accounted for, and decision-making process.

These recommendations build on Infrastructure Victoria's Recommendation 14.3.1 which called for (the Government) to transparently determine trigger points for major supply augmentation by 2021 – see table 1.

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
2.1	<p>Socially responsible decision-making is included as a guiding principle in the current SWS. The principle calls for “decisions about water resource management to include meaningful engagement with Indigenous people” and for “decisions about water sharing to be equitable and consider community values identified through the Strategy’s consultation processes, which will be open and transparent.”</p> <p>SWS should pivot attention squarely towards the needs and wants of Victorian citizen-customers. Pivoting attention and putting citizen-customers at the fore of the SWS planning process is a different guiding principle and approach to what has been done in previous SWS consultation. To pivot:</p> <ul style="list-style-type: none"> • All SWS should include putting the citizen-customer at the fore of SWS planning as a separate guiding principle. PREMO guidance can be used to help draft the guiding principle. • SWS should express their long-term decentralised and centralised urban water augmentation strategies (and all other strategies) in terms that reflect the outcomes they will be delivering to their citizen-customers, based on what citizen-customers told them they want over the long-run. There should be a ‘golden thread’ between what SWS propose and priority investments, and clear evidence that citizen-customers prioritise investments in this order. • Engagement with citizen customers should be meaningful. It should move beyond the approaches used in the last SWS consultation to clearly present a clear evidence base that shows how it has identified high-level (1) preferred service levels for urban water augmentation; (2) trade-offs that citizen-consumers are willing or not willing to make and (3) priorities for augmentation decisions. Lessons from PREMO stakeholder consultation can be used to guide this. <p>Appendix 2 includes a simple example of citizen consumer consultation that we completed for this Infrastructure Victoria project that clearly shows that Victorians are willing to use direct potable reuse if this keeps water bills down and helps with security of supply. This type of structured engagement can be used to evidence augmentation planning in the SWS in the future. Similar approaches have been used in the most recent Victorian price submissions, and in the UWS in some cases.</p> <p>The review of the Central Region Sustainable Water Strategy will start in late 2019. The Northern Region SWS could adopt these recommendations.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-10 years	D
2.2	<p>The outcomes of the customer consultation for the Urban water strategies in 2017 revealed how customers valued the provision of water and sewerage services and their general values with respect to the role of water in the community.</p> <p>Future Urban Water Strategy engagement process should seek to gain customer preferences with respect to the choices available to maintain water security, or the customers’ preferences for trade-offs that relate to levels of service.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-3 years	D

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	<p>To gather public support for consideration of augmentation options, reliable information on the costs, benefits and risks of various supply augmentations should be publicly available so that the community is well informed about them and the trade-offs are well understood [1].</p> <p>The investment required to meet customer preferences for water security levels of service can then be incorporated in water corporations' price submissions to the ESC.</p>			
2.3	<p>Align the evidence of citizen-customer urban water augmentation preferences and willingness to pay through the tiers of augmentation planning.</p> <p>What this recommendation means is that there should be a clear line of sight between the high-level, levels of service and preferences for urban water augmentation planning that are established in the SWS by citizen-customers, and level of service and augmentation planning in the Urban Water Strategies, Melbourne Water's system strategy and regulatory price submissions.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-5 years	D
2.4	<p>The Department of Environment, Land, Water and Planning (DELWP) is currently leading a whole-of-government review and update of Victoria's recycled water guidance. The review will be complete by late 2019 or early 2020.</p> <p>The current guidance [32] states that there is not enough information available to develop generic guidelines for the use of reclaimed water as a direct or indirect potable water source. The current guidance states that proposals under these categories "need to be assessed on an individual case basis by appropriate authorities, such as EPA Victoria, DHS, DELWP and the relevant Water Authority".</p> <p>For greater transparency, we recommend:</p> <ul style="list-style-type: none"> that generic guidelines are indirect and direct potable reuse are developed, drawing on existing generic guidelines for direct and indirect potable substitution, such as by the US EPA (ref). We recommend that these generic guidelines are developed jointly by appropriate authorities, including EPA Victoria, DHS, DELWP and relevant water authorities. a transparent process for augmentation proposals is developed where generic guidelines are not available. The process should include at a minimum (1) the initial water corporation application; (2) the regulator's interim and final advice and (3) the process followed to develop the interim and final advice, including consultation with citizen-customers. We recommend that this transparent process is developed jointly by appropriate authorities, such as EPA Victoria, DHS, DELWP and the relevant water authorities. 	Accountability and performance	0-1 years	I

4.3 Recommendation 3. Reform governance so that planning and delivery support effective consideration of interaction of centralised and decentralised options.

Water for Victoria emphasises the need to use diverse water sources to lessen pressure on drinking water supplies, increase urban water security and help to keep our cities and towns liveable through drought [8].

To make this happen, centralised and decentralised investment solutions need to be evaluated on an even pegging, and with the same investment frameworks. Centralised and decentralised options also need to be evaluated within the same planning process and timings.

The momentum of urban water planning in Victoria is strongly shifting towards greater integration of centralised and decentralised investment decisions. The current momentum, driven by reforms over the last 15 years, provides a good basis for making the next step in putting centralised and decentralised investment planning on a level pegging.

Our overall recommendations focus on ensuring that longer-term augmentation and source planning process achieve greater integration at critical decision stages within Victoria’s existing long-term planning framework (Figure 6), and that the right participants are involved. We also recommend that centralised and decentralised investment planning use the same investment planning tools and frameworks. This will help ensure that centralised and decentralised investments are evaluated on a level pegging, and within the same planning cycle and timing.

We note that other urban water sector reviews have identified reforms that would support effective consideration of the interaction and centralised and decentralised investments, such as reviewing developer charges [1]. These recommendations are outside the scope of our governance evaluation, but they have merit and should be considered further by Infrastructure Victoria.

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
3.1	<p>Under s 6-1 of the current Statement of Obligations, the Minister instructs Victoria’s Water Corporations to develop, in accordance with any written guidelines issued by the Minister, an Urban Water Strategy for its supply districts.</p> <p>Section 6-1 requires that water corporations “must consult with the community and key stakeholders, and participate in the development of relevant local and regional plans” as they develop UWS.</p> <p>We recommend amending the Statement of Obligations 6-1 to recognise the scope of the urban water sector, and ensure that all relevant parties are brought to the table (Table 3). Water Corporations should work with water resource management agencies, VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), and indigenous representatives to develop the Water Corporation’s Urban Water Strategy for its supply districts.</p> <p>To maintain functional separation, representatives from the economic, environmental and health regulators should be observers.</p> <p>Doing this will support more robust and timely consideration of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p>	<p>Clarity role and purpose</p> <p>Accountability and performance</p>	0-2 years	I

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	The Minister should direct the Water Corporation to have a clearly developed terms of reference for how UWS decisions are made. These will include the details of the steering committee’s operations (such as quorum and voting requirements, conflict of interest policy and procedures, conduct of meetings and reporting arrangements).			
3.2	<p>Under s 6-2 of the current Statement of Obligations, the Minister instructs Melbourne Water (6-2) to “work with all entitlement holders in the Melbourne water supply system to develop, in accordance with any written guidelines issued by the Minister, a Melbourne Water System Strategy that establishes an integrated system view of available consumptive water in the Melbourne water supply system, having regard to relevant Urban Water Strategies and the strategies of other entitlement holders”.</p> <p>In preparing the Water System Strategy, the strategy must detail options that facilitate efficient investments in projects across the urban water cycle that optimise shared benefits and avoidable costs.</p> <p>We recommend that the Statement of Obligations 6-2 is amended to extend beyond entitlement holders. Melbourne Water should work with all entitlement holders in the Melbourne System, VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), and indigenous representatives.</p> <p>Doing this will support more robust and timely consideration of centralised and decentralised options and facilitate investments in projects that optimise shared benefits and avoidable costs.</p> <p>The Minister should direct the group with a clearly developed terms of reference. These will include the details of the steering committee’s operations (such as quorum and voting requirements, conflict of interest policy and procedures, conduct of meetings and reporting arrangements).</p> <p>Collaboration is already an important element of the Melbourne Water system strategy. For example, the current system strategy includes planning to delivery up to 80GL/yr through place-based integrated water management forums and plans. Including this in the Statement of Obligations will elevate the role of IWM forums, water grid partnerships and other identified parties.</p>	<p>Clarity role and purpose</p> <p>Accountability and performance</p>	0-2 years	D
3.3	<p>Support the industry development of a common investment evaluation framework for centralised and decentralised long-term investments.</p> <p>Through the Melbourne Water System Strategy and Urban Water Strategies, Melbourne Water and the retailers are establishing an investment evaluation framework to support future investment, especially in alternative water projects [33]. The framework will provide a consistent set of guidelines as well as input assumptions developed in consultation with the metropolitan retail water corporations, Melbourne Water and the Department of Environment,</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-2 years	D

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	<p>Land, Water and Planning [13]. Melbourne Water will lead continuous improvement of the investment evaluation framework.</p> <p>To support effective consideration of interaction of centralised and decentralised options we recommend that:</p> <ul style="list-style-type: none"> • This framework is progressed as a priority action, with additional resourcing and governance oversight if required. The framework has been under development since 2017. All parties will benefit from having a common framework for evaluating centralised and decentralised investments. • Consideration of water security options should be extended to include VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), indigenous representatives, and representatives from the economic, environmental and health regulators. It is important that the investment framework settled on is understood and accepted by parties who will have centralised and decentralised investment proposals evaluated using it in the future. • The resource and supporting tools should be published as an open access resource when finished. 			
3.4	<p>Better integrated centralised and decentralised urban water planning groups in urban water planning across Victoria.</p> <p>Our consultation revealed that urban water planning for centralised investments is typically the focus of water security groups within water corporations. Decentralised investments are typically the focus of 'IWM type' planners within water corporations.</p> <p>This means that centralised and decentralised planning has frequently occurred in parallel in the past, only coming together when water corporations develop regulatory pricing submissions. This creates risks of sub-optimal outcomes.</p> <p>To support effective consideration of interaction of centralised and decentralised options we recommend that:</p> <ul style="list-style-type: none"> • Water security and IWM teams should be merged into a single group with single governance structure. Water resource planning should be one process, not parallel processes. • Water security planning should also be extended to include VPA, integrated water management representatives, water grid partnership representatives (Steering Committee), and indigenous representatives. To maintain functional separation, representatives from the economic, environmental and health regulators should be observers. • The group should have a clearly developed terms of reference. These will include the details of the steering committee's operations (such as quorum and voting requirements, conflict of interest policy and procedures, conduct of meetings and reporting arrangements). These should be published. 	Accountability and performance	0-2 years	I

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
3.5	<p>To support effective consideration of the interaction of centralised and decentralised options we recommend that, in addition to the recommendations above, that centralised and decentralised options are identified through growth corridor plans and precinct infrastructure plans.</p> <p>These spell out exactly what services and infrastructure growing communities will need and how they will be delivered. Currently, our experience is that decentralised augmentation often happens after precinct infrastructure plans (PIP) and precinct structure plans (PSP) are finalised. This is often too late to support proactive decentralised investments and efficient use from all sources. Bringing centralised and decentralised options into the PSP and PIP will address this.</p>	Accountability and performance	0-3 years	I
3.6	<p>The 2018 Stormwater Ministerial Advisory Council [9] made recommendations that will strengthen stormwater governance, and support effective consideration of interaction of centralised and decentralised supply options.</p> <p>To support effective consideration of interaction of centralised and decentralised options, we recommend that several of these reform recommendations are progressed as priorities. In particular:</p> <ul style="list-style-type: none"> • Establish effective offsetting arrangements. DELWP should support establishing voluntary stormwater quality offset schemes across Victoria in major metropolitan and regional centres (Stormwater MAC Recommendation 5). • Strengthen compliance requirements to make markets that support 'externalities' being priced into centralised and decentralised augmentation decisions: examine using the provisions of the Environment Protection Act 2018 to establish clear, enforceable obligations on land and infrastructure (such as roads) managers, so that externalities from investment decisions are internalised (Stormwater MAC Recommendation 7) [I]. • Clarify institutional and governance arrangements for stormwater (e.g. 60 hectare review). Clarify local governments' roles and responsibilities: DELWP investigate opportunities to clarify councils' stormwater management functions in legislation (such as in the Local Government Act 1989 or the Water Act 1989). (Stormwater MAC Recommendation 8) [D]. • Link water management with urban planning: that DELWP consider changing the VPPs to include linkages with IWM plans (when developed), to ensure that new developments within these plans are designed to deliver centralised and decentralised IWM-servicing solutions (Stormwater MAC Recommendation 9). 	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-3 years	I

4.4 Recommendation 4. Reform governance so that planning is more adaptive.

Current adaptive management frameworks short-term and long-term actions to provide water security.

Existing adaptation plan actions were developed as part of the 2017 Urban water strategies and Melbourne Water System Strategy. Our research and stakeholder engagement revealed that there is room for improvement to deliver more efficient solutions with greater transparency. The implementation of inefficient solutions can ultimately result in higher costs to customers.

Our recommendations are based on improving the process to drive economically efficient decision-making, and to take into account customer preferences.

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
4.1	<p>The current governance arrangement for adaptive planning as defined in the Urban Water Strategies and Melbourne Water System Strategy provides an adaptive framework to guide decisions on water security.</p> <p>The framework consists of the water outlook, drought management plan and drought preparedness actions. In the short-term, these three plans provide a list of actions to ensure that water security is maintained.</p> <p>The current adaptive framework action plan does not provide clarity on how the sequencing of actions are determined. It is unclear if the actions are defined according to an economic framework or whether they consider customer preferences.</p> <p>On this basis, our recommendation is to develop an economic framework to assess the short-term actions in response to changing short-term water supply conditions. This framework should include economic costs and benefits of supply options, including whole-of-water cycle costs and positive and negative externalities, as well as customer willingness to pay for preferred supply options and or demand-side interventions.</p> <p>For example, IPART requires Sydney Water and Hunter Water to establish an economic level of water conservation (ELWC) framework to assess short-term water supply options. This could be used a basis for developing a framework in Victoria.</p> <p>This enables water corporations to assess the sequencing of response actions based on economic merit and customer preference.</p> <p>The outputs of the assessment can then be published. The short-term actions should be factored into the long-term economic investment evaluation framework as outlined in Recommendation 3. Reform governance so that planning and delivery support effective consideration of interaction of centralised and decentralised options.</p>	<p>Clarity of role and purpose</p> <p>Accountability and performance</p>	0-3 years	D
4.2	<p>The <i>Water Act 1989</i> gives the Minister for Water the power to delegate, “by instrument, to any person or class of persons certain powers, discretions, functions, authorities or duty of the Minister under the Act or any subordinate instrument made under the Act (s.306)”.</p>	Clarity role and purpose	0-2 year	D

#	Recommended actions	Best governance	Timing	Direct (D) Indirect (I)
	<p>We recommend that the Minister should delegate short-term and long-term decisions on water security, including desalination water orders, operation of the North-South pipeline, the water grid/market and triggers to the water corporations responsible for augmentation planning, for centralised and decentralised sources.</p> <p>These water corporations are ultimately responsible for purchasing water supply and are therefore best placed to manage risks and make informed choices.</p> <p>The decisions of the water corporations should be guided by the framework proposed in Recommendation 4.1. As part of delegation, we recommend that decisions by water corporations around desalination water orders, operation of the North-South pipeline, the water grid market and triggers are made public. We also recommend that any interim and final directions from the Minister are made public.</p> <p>Doing this can help Victorians understand the basis for water orders, water trades through the grid and other matters that are material to augmentation and efficient use of all water resources.</p>	Responsibility, authority and autonomy		

5. References

- [1] Productivity Commission, "National Water Reform," ed. Melbourne, 2017.
- [2] Infrastructure Australia, "Reforming Urban Water," in *A national pathway for change*, ed. Sydney, 2017.
- [3] Infrastructure Victoria, "Victoria's 30-year infrastructure strategy.," ed. Melbourne: Infrastructure Victoria, 2016.
- [4] Bureau of Meteorology, "National performance report 2017-18: urban water utilities," ed. Canberra, 2018.
- [5] National Water Commission, "Urban water in Australia: Future directions," ed. Canberra, 2011.
- [6] WSAA, "Urban water planning framework and guidelines," ed. Melbourne, 2014.
- [7] D. o. E. Commonwealth of Australia, "Review of the national urban water planning principles - final report.," ed. Canberra, 2015.
- [8] L. Department of Environment, Water and Planning,, "Water for Victoria," ed. Melbourne: The State of Victoria Department of Environment, Land, Water and Planning, 2016.
- [9] The State of Victoria Department of Environment Land Water and Planning, "Improving Stormwater Management Advisory Committee," ed. Melbourne, 2018.
- [10] L. The State of Victoria Department of Environment, Water and Planning,, "Enhancing the grid: Victoria's Water Grid Partnership in 2018," ed. Melbourne, 2018.
- [11] "Integrated Water Management Framework for Victoria," ed, 2017.
- [12] The State of Victoria, "Governing the Victorian water industry," ed. Melbourne, 2017.
- [13] Melbourne Water Corporation, "Melbourne Water System Strategy," ed. Melbourne, 2017.
- [14] D. C. North, *Institutions, Institutional Change and Economic Performance* (Political Economy of Institutions and Decisions). Cambridge: Cambridge University Press, 1990.
- [15] E. Ostrom, "Background on the Institutional Analysis and Development Framework," *The Policy Studies Journal*, vol. Vol. 39, No. 1 pp. 7-27, 2011.
- [16] Productivity Commission, "Australia's Urban Water Sector," in *Volume 1*, ed. Melbourne, 2011.
- [17] OECD, *Water Governance in Cities*. 2016.
- [18] R. Ben-David, "Submission to the Productivity Commission's inquiry into Australia's Urban Water Sector," ed, 2011.
- [19] Productivity Commission, "Towards Urban Water Reform: A Discussion Paper," in *Productivity Commission Research Paper*, ed. Melbourne, March., 2008.
- [20] Commonwealth of Australia and the Governments, "Intergovernmental Agreement on a National Water Initiative," ed, 2004.
- [21] Department of Environment Land Water and Planning, "Central Region Sustainable Water Strategy Review," ed. Melbourne, 2018.
- [22] Yarra Valley Water, "Urban Water Strategy," ed. Melbourne, 2017.
- [23] Department of Environment Land Water and Planning, "Victoria in the Future 2016," ed. Melbourne, 2016.
- [24] IPA and WSAA (Infrastructure Partnerships Australia and Water Services Association of Australia), "Doing the important, as well as the urgent: reforming the urban water sector.," ed. Melbourne, 2015.
- [25] Minister for Water, "Letter of expectations," ed, 2017.
- [26] Minister for Water, "Statement of Obligations (General)," ed. Melbourne., 2015.
- [27] Productivity Commission, "Report on Government Services 2018," ed. Melbourne, 2018.
- [28] T. McCallum, "Conceptualising Urban Water Regulation – The Melbourne System," in *Report: Project A3.2. Better Regulatory Frameworks For Water Sensitive Cities*, ed. Melbourne, 2014.
- [29] Essential Services Commission, "Melbourne Water Price Review: Final Decision," ed. Melbourne., 2016.
- [30] Essential Services Commission of South Australia, "SA Water Regulatory Determination 2020: Guidance Paper 3," ed: Adelaide, 2018.
- [31] Melbourne Water Corporation, "2019/20 Desalinated Water Order Advice," in *Summary of Technical Analysis*, ed. Melbourne, 2019.
- [32] EPA Victoria, "Guidelines for environmental management. Use of reclaimed water," ed.

- [33] Joint Working Group, "Urban Water Strategy. Economic evaluation framework (working draft)," City West Water *et al.*, Eds., ed. Melbourne, 2019.
- [34] K. Fielding, F. Karnadewi, F. Newton, and E. Mitchell, "A National Survey of Australians' Water Literacy and Water-related Attitudes," ed. Melbourne: Cooperative Research Centre for Water Sensitive Cities., 2015.

Appendix 1 Community survey headline results.

To support our Infrastructure Victoria assessment, we surveyed a representative sample of almost 1,000 Victorian households asking them (1) about their expectations for being consulted in water supply augmentation decisions and (2) their preferences for use of recycled water, including willingness to use recycled water as a potable supply. This Appendix summarises our consultation's headline results.

Our work builds on consultation done by Victorian Water corporations to prepare their last Urban Water Strategies. In that consultation, one thing people said was that they wanted more regular, consistent engagement on water availability and plans to secure longer-term water supplies [22]. Customers also said that they expected drinking water to continue coming from the mains supply.

The current engagement extends this line of discussion with customers. In this survey we asked customers about their willingness to use recycled water as a potable supply, delivered through mains supply. We developed the survey with Infrastructure Victoria. The survey is available [here](#).

The survey included two short videos where survey respondents were provided with information about (1) Victoria's water supply and challenges for the future (population and climate change) and (2) climate-independent water supplies (desalination and indirect potable reuse (IPR)). The survey also includes questions to test for respondents' understanding of the material presented.

We implemented the survey using our preferred internet panel provider. The survey took respondents around 9 minutes to complete. We recruited 700 respondents from Melbourne and Geelong. The remainder come from the rest of Victoria.

We re-weighted the survey data so that the responses were representative of the Victorian population based on age, gender, postcode, household income and household structure (living alone, family, single parent, couple with no children, et cetera). We removed respondents who sped through the survey or didn't attend to the survey for some other reason.

A1.1 Headline findings

Many of our headline findings are consistent with findings from customer consultation for the Urban Water Strategies [22]:

- **Victorian households told us they are somewhat concerned** about water security in Victoria, and mainly about rural shortages (. Figure 14).
- **About 60% of households** said that their water bills are currently too high (Figure 15). This is consistent with the finding from the Urban Water Strategy consultation, that customers showed little preparedness to pay more to secure future water supplies [22]
- **Many households said they had a good understanding of Victorian water supply and security issues** (Figure 16). However, many have a low level of objectively-assessed water literacy (Figure 17). Around 60% of

respondents thought or were not sure whether their drinking water included recycled water. These findings are consistent with recent Australian water literacy assessments for Victoria and Melbourne [34].

- **There is generally low awareness of potable reuse in Australia, and that most Victorian households are already receiving indirect potable reuse water** (for example, households receiving water from Sugarloaf are receiving water from Yarra Valley Water treatment plants located upriver from the Yering Gorge pumping station) (Figure 18).
- **When Victorian households are posed with trade-offs**, households support using indirect potable reuse for drinking and non-drinking uses. Specifically, they support using indirect potable reuse when it reduces or does not materially increase their water bills, and the investments help secure their household water supplies (Figure 19).
- **Around 60% of Victorian households want to be more engaged with long-term augmentation planning** through urban water strategies, price submissions and ongoing deliberative processes (Figure 20). These results are consistent with findings from the Urban Water Strategy consultations, that found that citizen-customers generally want to be more engaged in water management decisions [22].

Figure 14: How concerned are you about water shortages in the next five years?

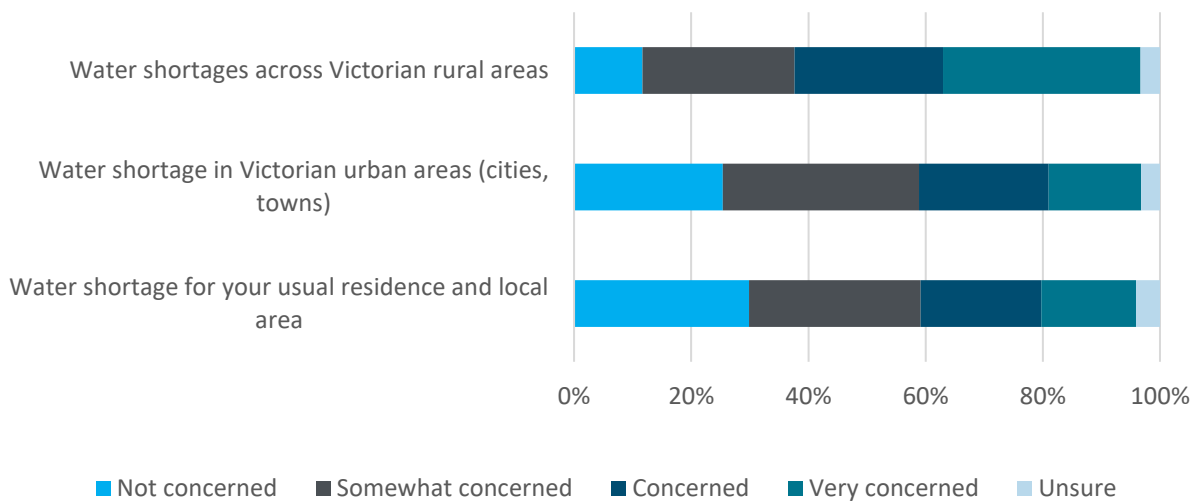


Figure 15: How would you describe the price of water?

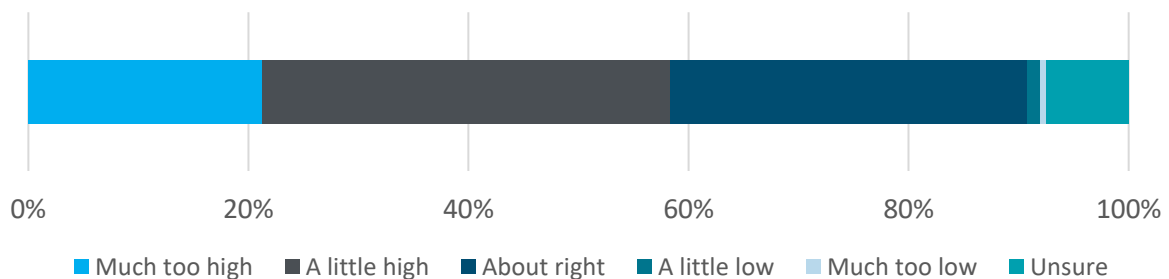


Figure 16: Which best describes your understanding of Victoria's water security before watching the video?

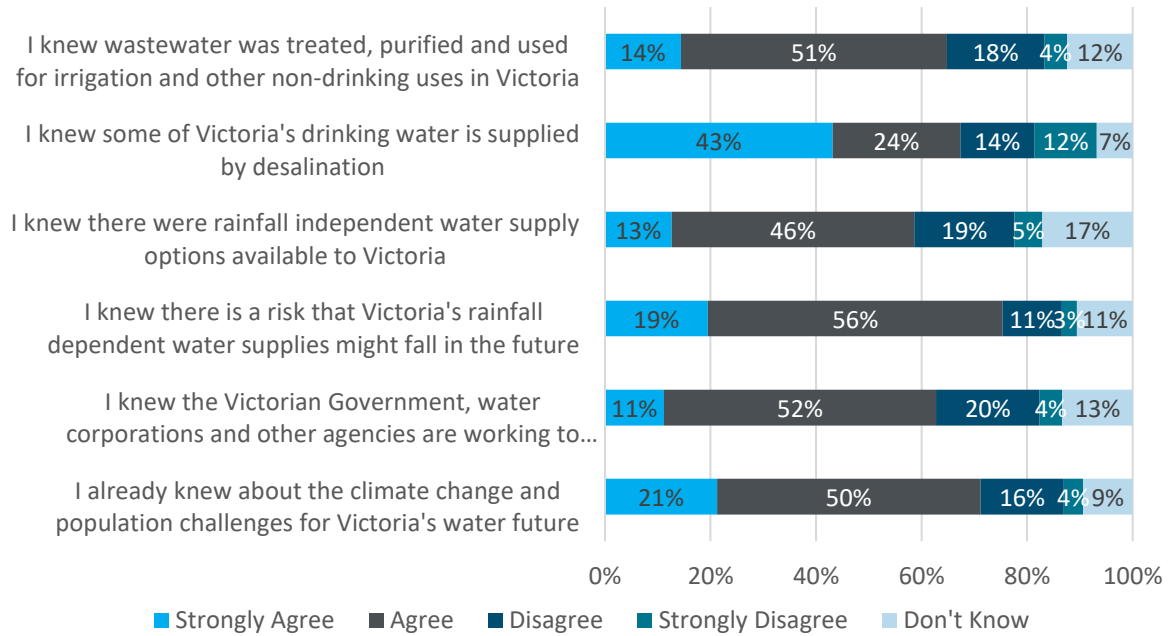


Figure 17: Do you agree, disagree or aren't sure about the following statements?

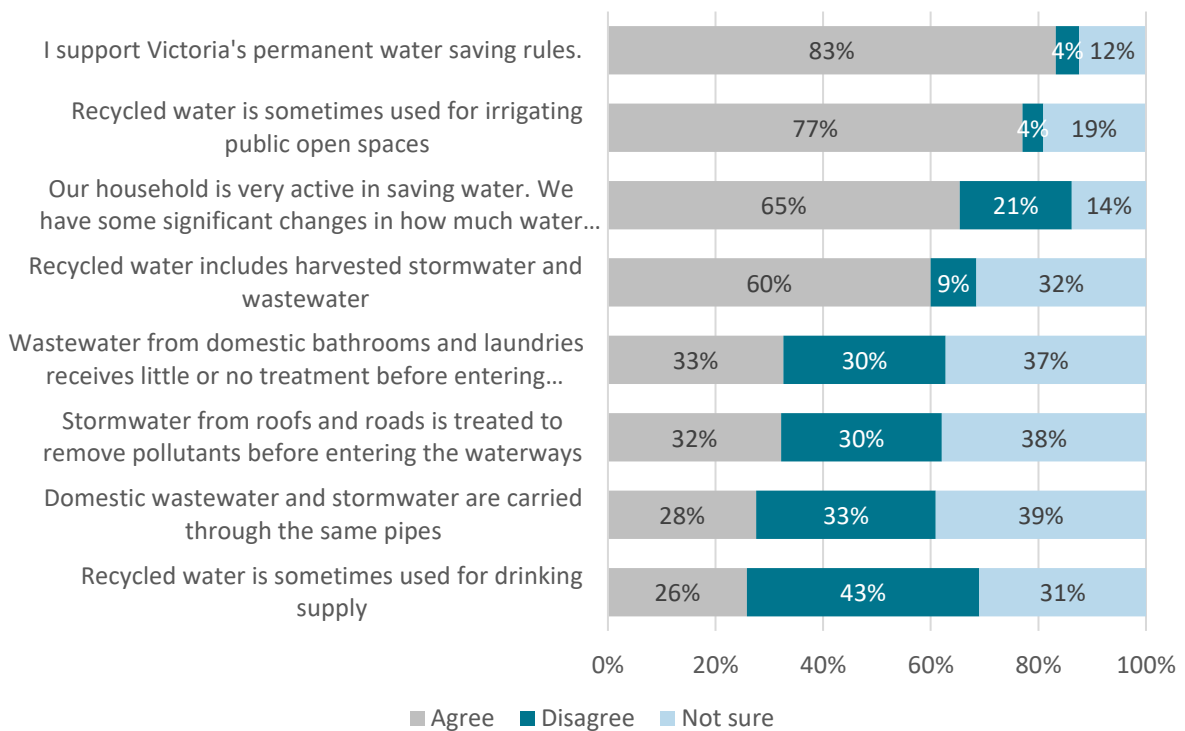


Figure 18: Which best describes your understanding of purified reuse water before watching the video?

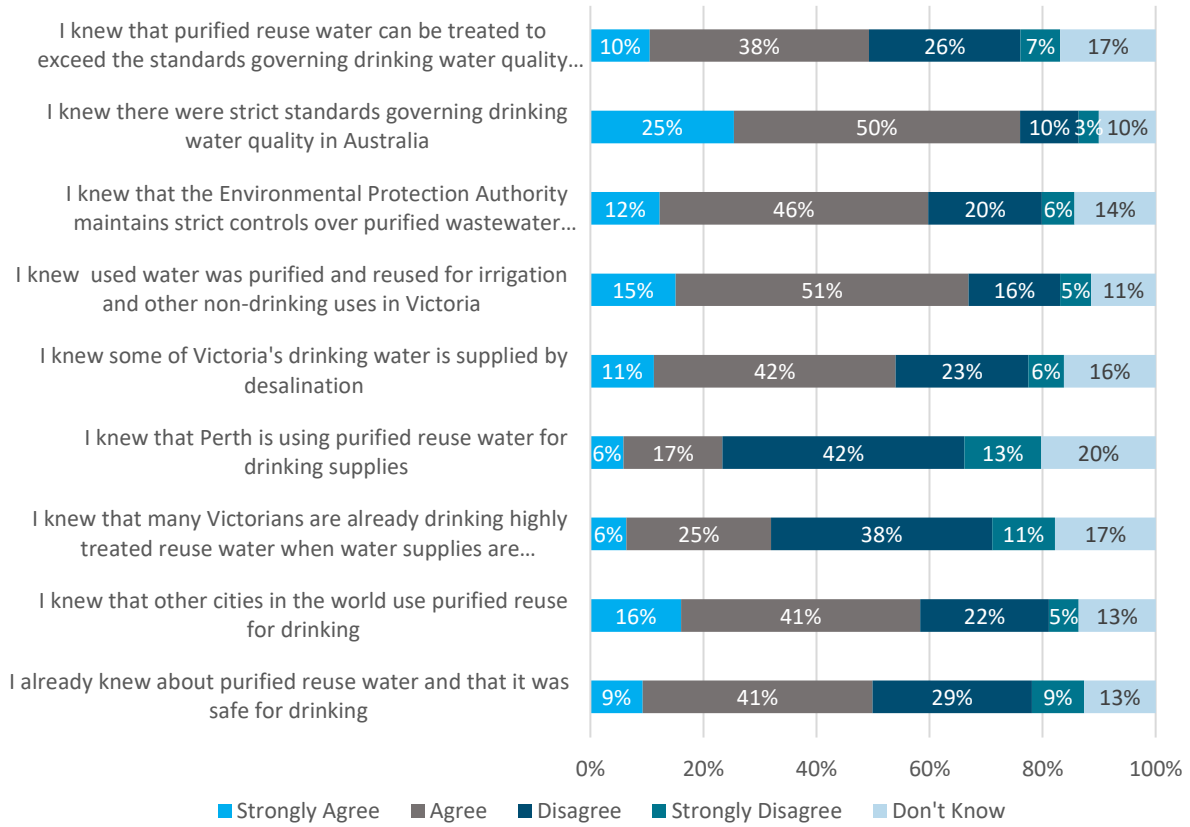


Figure 19: Would you be willing to pay \$X more a year if purified reuse water supply for drinking and non-drinking uses could help drought proof your household's water supply? (negative numbers in graph are \$ saving to household).

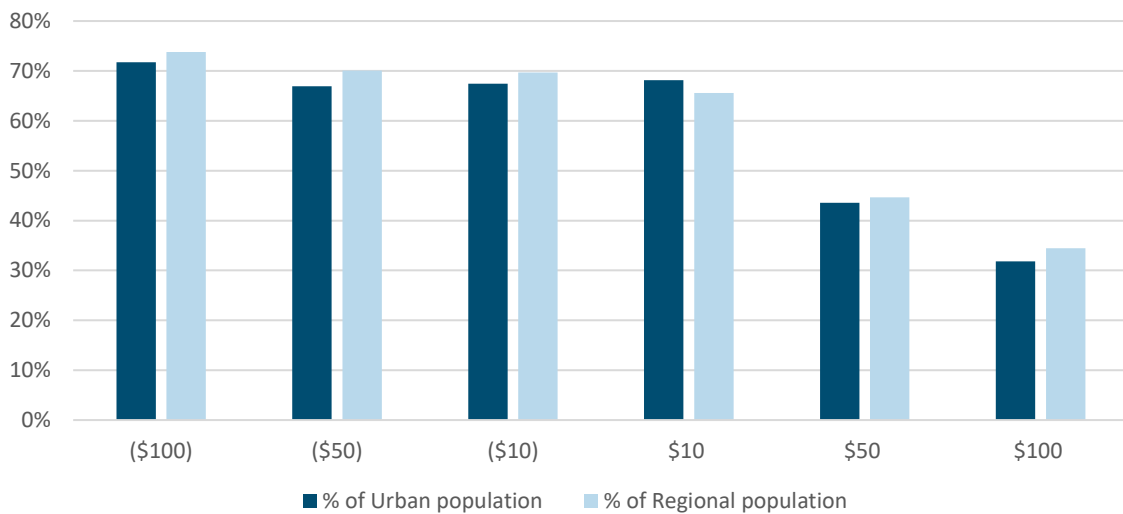


Figure 20: Which best describes how you would like to be engaged about future water supply options in Victoria?

- I am happy to leave it up to the Victorian water sector to make decisions about future water supply
- I vote. This is enough input on future water sector decisions for me.
- I would like the development of Victoria's future water supply options to be based on what the Victorian community tells water suppliers they want as part of their customer engagement. (Note: Victoria's new water pricing framework rewards utilities that
- I would like the Victorian community to be involved in these decisions through ongoing deliberative processes, like Victoria's regional Integrated Water Management Forums

