

Barwon Water

Water for Our Future

Panel 2

REMIT: With less rain and a hotter climate, it's time to think differently about how we use water and where it comes from.

How can we create a new water future that balances all our needs?

OUR VISION

Our water future is...

A secure future where our rivers flow, our foods grow and our impact is low.

Resilient, innovative and sustainable, with abundant water from a range of sources and where we actively protect and improve water for the environment.

Ethical, healthy and responsible, with affordable and equitable access for everyone.

A shared responsibility, by valuing and conserving water and respecting the diverse needs of our community, cultures, and the environment.

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OPTION THEME 1. Better design and planning

'Yes' bucket - theme 1	
Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
1. Improved plumbing standards and house efficiency star ratings	<p>Legislation and regulatory standards are implemented prior to development to ensure this strategy meets environmental and building standards. Initial and on-going audit(s) implemented to ensure developers do not overcharge.</p> <p>A target should be set to endeavour to meet zero net emissions achieved by effective offsets.</p>
2. Northern and Western Geelong Growth Area IWM Plan	<p>That project costs passed onto new home owners does not adversely affect the affordability of homes. E.g. New home owners grants.</p> <p>Ensure zero net emission offsets are effective.</p> <p>Consider this option for all new developments in the region.</p>

OPTION THEME 2. Improve efficiency

'No' bucket - theme 2	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
4. Optimise operation of Anglesea Borefield within existing entitlement constraints	Environmental impacts, and it is contradictory to vision statement.
6. Reduce losses along Wurdee Boluc Inlet Channel	Due to high costs and little yield. Long timeframe before seeing any yields.
7. Wurdee Buloc Reservoir - shade balls	Due to a much more negative environmental impact than first thought.

'Yes' bucket - theme 2

Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
3. Reallocate Ballan Channel bulk entitlement to Bostock Channel	No conditions.
5. Optimise operation of Melbourne Geelong Pipeline within existing entitlement constraints	No conditions.
8. Water efficient showerhead program	No conditions.
9. Waterwise gardens	No conditions, program to continue or extend.
10. Smart networks (digital metering) across Geelong system	Unconditional
11. WaterAssist Program	To be linked with other educational programs.
12. Farm leakage detection program	Review extension beyond the 2000 farmers to take advantage of any future technology or cost improvements.

OPTION THEME 3. Behaviour change

'No' bucket - theme 3	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
15. Tourist Education Program	Concerns that it will not lead to behavior change. If tourists go home and make changes BW doesn't benefit from it. In terms of tourist education program, very expensive, little certainty on yield.
18. Reduced fixed service charge but higher volume charge	Discrepancy between bill impact to household and renter, didn't support our vision due to big impact on renters. Provides no employment benefit.
19. Scarcity Pricing Tariff	Potential to compound disadvantage to low socio economic areas in an already difficult period, does not align with vision. Preference to review/maintain water restrictions.

'Yes' bucket - theme 3

Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
13. Work with schools to help educate young people	Educate on water cycle (how it affects the environment, not just us), climate reality and efficient water use.
14. Gamification/ competitive water use using smart meters and apps	Inclusion is important for this idea to work well. Great, as long as there is an easy way of teaching older people, and less tech savvy people how to join in.
53. General water literacy	Educate on water cycle (how it affects the environment, not just us), climate reality and efficient water use.
16. Subsidies for rainwater tanks	Should have a highly structured system that benefits homeowners and renters.
17. Water efficiency grant program for major water users	No conditions required.
20. Social allocation of water	Develop a fair set of rules and conditions that deals with transient populations, vacancies during holidays etc and for disadvantaged or people with special needs. Needs to be monitored and checked by BW (i.e. how many people in a household at a time).
21. Review the restriction curves	No conditions required.
22. Tighter permanent water saving rules	No conditions required.

OPTION THEME 4. Desalination

'No' bucket - theme 4

Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
54. Modular Desalination Plants	Very low yield compared to other desalination options High levelised cost, almost 4 times the other desal options per ML More regulatory/approval difficulty due to multiple sites Could reconsider if technology changes - check at 5 yearly review

'Yes' bucket - theme 4

Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
23. Regional desalination plant for Geelong	Must prioritise control, autonomy and accessibility for Barwon Water.
24. New State desalination plant, shared between Geelong and Melbourne	Not required if option 23 implemented. Significant pricing differential required for a shared plant to be agreed over a regional Geelong plant. Must prioritise control, autonomy and accessibility for Barwon Water.
25. Access desalinated water from additional 50GL upgrade of Victorian Desalination Plant	If a regional desal plant is unattainable (either exclusively local or shared) then this option is to be considered. Must prioritise control, autonomy and accessibility for Barwon Water.

OPTION THEME 5. Recycled water

'No' bucket - theme 5	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
30. Recycled water for river environmental flows	Very expensive and Black Rock is distant to the river feed in points. Better and more effective ways to increase environmental flows eg using water savings through recycled and reclaimed water use for farms, industry etc Adverse environmental impacts through developing unnecessary infrastructure to pipe the water.

'Yes' bucket - theme 5

Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
26. Direct Potable Reuse from Black Rock Water Reclamation Plant to storages basins	Extensive public education campaign will be required to change attitudes. Legislative change required.
27. Indirect potable re-use from Black Rock Water Reclamation Plant via Anglesea Aquifer Storage & Recovery to Wurdee Boluc	Extensive public education campaign will be required to change attitudes. Legislative change required.
28. Northern Water Reclamation Plant Dual-Pipe to Existing Suburbs	No conditions.
29. Recycled water for agricultural use	With regard to scalability this option should from the initial implementation process consider the ability to extend to other areas. (pilot)
55. Small decentralised new suburb dual-pipe	Use this option only if financially viable (presently high CAPEX, levelized cost and low yield).
31. Dual pipe recycled water to major future urban growth areas	Ensure efficient layout of services to ensure provision of street trees in nature strips.
32. Sewer mining for public open space or industry	Sewer mining only to be implemented if zero net emissions can be part of the initial agreement for each reclamation plant.

OPTION THEME 6 & 8. Grey Water & Roof Water

'Yes' bucket - theme 6 & 8	
Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
33. Household on-site treatment for garden and toilet use	Guidelines to ensure public safety (i.e. potable vs non-potable uses at different taps) and with educational program to ensure full understanding of households. Rolled out through initial pilot program with careful selection of households to participate to ensure best applications and yield.
36. Residential rainwater tanks to garden and toilet	Make compulsory in new builds and have incentives for retro fitting to existing residences. Encourage prolonged behaviour change.
37. Roof water harvesting scheme for suburb	Must be a compulsory condition on houses built to ensure yield and ability to monitor long term success of program.

OPTION THEME 7. Groundwater

'No' bucket - theme 7	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
34. Access to Upper Eastern View Formation Groundwater	This option does not align with vision (rivers flowing and impact is low). Does not align with criteria environmental impacts, sustainability and social. Community survey wants the environment protected.
35. Newllingbrook groundwater bores	This option does not align with vision (rivers flowing and impact is low). Does not align with criteria environmental impacts, sustainability and social. Community survey wants the environment protected.

OPTION THEME 9. Stormwater

'No' bucket - theme 9

Option number & name -	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria ?
40. Corio Bay dam	Not enough information and detail on the overall project. No current legislation to support this option. The economic impact is unknown. Uncertainty of yield and cost.

'Yes' bucket - theme 9

Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
38. Recover stormwater for industrial estate	No conditions.
39. Divert stormwater to recreational facilities or Public Open Spaces	No conditions.
41. Stormwater to Wurdee Boluc Reservoir	As the financial cost to the water user is quite high, developers and new home builders must absorb the majority of the cost. If the man-made wetlands become significant flora and fauna areas in the future a new environmental study should be undertaken.

OPTION THEME 10. Rivers

'No' bucket - theme 10	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
42. West Gellibrand Reservoir to West Barwon Reservoir via Olangolah tunnel	Leave in no bucket based on negative social and environmental impacts together with high costs and minimal detailed environmental impact information available at this time. In making this decision we did consider the potential high yield but have left it as no due to the aforementioned reasons.
43. Colac Pipeline to Wurdee Boluc Channel via Barwon-Colac Transfer Main	Similar to option 42, while acknowledging the reduced cost there is also significantly lower yield and the social impacts and regulatory constraints push this option definitively into the no bucket.
44. Barwon River weir and pump station at Winchelsea	Reliant on rainfall,, high levelised cost, low certainty of significant yield, significant regulatory policy constraints.
45. Small dam behind Barwon Weirs	Reliant on rainfall, long time frame before any yield (10 to 20 years), high levelised cost, low certainty of significant yield, significant regulatory policy constraints.
46. Lardner creek dam	Reliant on rainfall, long time frame before any yield (10 to 20 years), high levelised cost, low certainty of significant yield, significant regulatory policy constraints.
47. Coastal river diversion	Reliant on rainfall, long time frame before any yield (5 to 10 years), high levelised cost, low certainty of significant yield, significant regulatory policy constraints.
48. West Gellibrand Enlargement & diversion	Leave in no bucket based on negative social and environmental impacts together with high costs and minimal detailed environmental impact information available at this time.

OPTION THEME 11. Buy from willing sellers

'No' bucket - theme 11	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria ?
49. Purchase water from Northern Victoria, trade by substitution with Central Highlands Water	This option is very dependent on rainfall. Lot of pressure on the current Murray-Goulburn system. Climate change is not going to relieve this pressure. Despite low levelised cost compared to other options, it's not on balance of the other requirements of the vision and criteria. Buying water in both options whereby 49 causes more stress on farmers and 50 is unutilised desal water with little impact on the environment. Dependent on rainfall with NO certainty of yield.

'Yes' bucket - theme 11	
Option number & name	What are the conditions under which this option could be left in for consideration in the Urban Water Strategy (UWS)?
50. Purchase unutilised water from existing allocations from the Victorian Desalination Plant	In times of need, we see this option as viable. In accordance with the rejection of no.30, any desalinated water is not to go back into the rivers.

OPTION THEME 12. Other

'No' bucket - theme 12	
Option number & name	What are your reasons/rationale for why it should be removed for consideration in the final Urban Water Strategy (UWS)? E.g. How does it not meet the vision and criteria?
51. Tow Icebergs from Antarctica to Corio Bay	<p>Cost far too high, for example approx. \$150, 000 per day for 2 ships and will take approximately x 2 months to tow an iceberg to Geelong</p> <p>The ownership of icebergs is not determine, therefore we cannot use it</p> <p>Environmental impact is significant</p> <p>It can be counterproductive interfering with the environment without potentially knowing the long term repercussions.</p>
52. Cloud Seeding	<p>No information on yield or costs, but seems expensive, most times a plane is used to reach the required clouds</p> <p>At present, Australia's dry continent our clouds don't have enough moisture for this to be viable, however climate change could alter this in future</p> <p>The chemical used for cloud seeding, such as Silver iodide, has potential health effects to humans and animals, can cause contamination of soil and waterways</p>

Minority reports

A note on minority reports

Written by at least 3 people

Two or less want to say something = separate submission to Barwon Water

We have to complete now by 12:30pm

Not to exceed one page in length – follows the format in our report

Topic OR option number & name	Comment
Research	Research is a core input into effective decision making and planning, especially if the time period concerned is as long as 50 years. It is essential that each priority area for future urban water planning is supported by on-going research. In some areas Barwon Water will be able to partner with other stakeholders in water research. In other areas, research will be core to Barwon Water's program and funding for this research will be essential. Broad based research support by Barwon Water, including international collaboration where appropriate, will enhance Barwon Water's standing and ability to be prepared as new technologies and discoveries emerge.

Topic OR option number & name	Comment
Options re Wurdee Buloc Channel	<p>Obvious that this needs attention - Should have been maintained - a very old infrastructure (1929) In NO bucket due to cost - but consider starting to upgrade - 1/3 in next few years - over time improve. Goes through private property - is water being illegally taken ? Who is watching Is there risk of contamination from agriculture? Not working in its current form. Need to enclose in a pipe - could run right along next to it. Engineers to consider pipe/ cover/ drain made of cement/ clay - less seepage and evaporation Do it in stages over time - would limit costs ? Population growth west of Geelong makes this worth investigating further 56 km = a lot of loss of water above and below ground Cost estimate seems over stated ?</p>