

A selection of water supply options that could be implemented in the next 2 to 4 years, should the State Government have the will to do so. A far less costly solution to Greater Melbourne's water security needs:

Option	Discussion	Quantity of water available from this option in timeframe (gigalitres) (GL)	Percentage cost to establish this option compared to seawater desalination from Wonthaggi	Percentage ongoing cost of water as compared to seawater desalination from Wonthaggi	Percentage carbon emissions as compared to seawater desalination from Wonthaggi
Dual flush cisterns	Prof. John Langford states that '18 gigalitres could be saved by replacing the remaining single flush toilets in Melbourne'. If the government paid for their manufacture and employed plumbers or retrained the unemployed, 15 GL could be sourced in the timeframe.	15	50 %	0 %	0 %
Rainwater tanks, half subsidized by Govt.	Not everyone wants a rainwater tank, but assuming that up to a quarter of people with suitable roofs still do, then this option would likely be taken up by them. Marsden Jacobs give a figure of over 1 gigalitre per 1% of suitable roofs.	25	100 % in subsidy (+100% by owner)	60 %	10 %
Flood diversion weir on Aberfeldy River and tunnel to Thomson Dam	Floods on this river cause destruction to down stream irrigation and other infrastructure, and potentially lead to algal blooms in the Gippsland Lakes. Although they may only happen infrequently, large quantity of water can be stored by capturing a portion of these flood events when they occur, thus mitigating the destruction they cause. Quantities available are averages expected over time under climate change impacted river flows.	20	25 %	10 %	0 %
Storm-water capture, treatment and use	Although this option is potentially very advantageous, with up to 200 gigalitres said to be feasible, the difficulty is storing the water in the period before treatment. Disconnected local reservoirs, old quarries, aquifers, existing and purpose built stormwater holding facilities, etc. could all be used. As an example a 1 GL quarry could cycle through up to 5 GL of water over a year. Assume 5 GL of old reservoirs/quarries gives 20 GL, 2 x 5 GL aquifer storage schemes cycles through 20 GL, 10 GL of existing or new stormwater holding.	50	50 %	20 %	10 %
Recycling to potable (Purified Recycled Water)	A business case with the government right now is for the completion of their promised upgrade of the Eastern Treatment Plant to Class A water. A further level of treatment would produce water safer than the water in our dams now. This could be naturally filtered into Melbourne's reservoirs, and/or underground aquifers behind the Eastern Treatment Plant, and then be incorporated into the Melbourne reticulated water supply. This option avoids the need for installation of a third pipe for recycled water use.	110	50 % if not including existing promise to upgrade ETP (100% if considering full cost)	45 %	50 %
Totals for 220 GL from these options as compared to 150 GL from a Wonthaggi seawater desalination plant		220	78 %	51 %	42 %
Totals for supplying the same volume from these options as from a Wonthaggi seawater desalination plant		150	53 %	35 %	28 %

BETWEEN 1/4 AND 1/3 THE CARBON EMISSIONS OF SEAWATER DESALINATION

NEARLY 1/3 THE ONGOING COST OF WATER COMPARED TO DESAL

CLOSE TO 1/2 THE INITIAL INVESTMENT COST

