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# *Our Water Our Future* The Next Stage of the Government's Water Plan



## Boosting water supplies for Victoria's cities and towns

Victoria has just experienced the worst year of drought and lowest stream flows in our State's history.

In 2004 we put in place a long-term plan for water – *Our Water Our Future*. As a result we have implemented the most successful water saving campaign in Australia.

Industry and business are being made to save water and recycling has increased from two per cent of Melbourne's wastewater in 1999 to 14 per cent today.

Victorians have responded magnificently. Farmers have become more water efficient. Businesses and households have jointly reduced their water use by 22 per cent in Melbourne and by similar amounts in regional centres.

However saving water isn't enough. We need to increase our water supplies.

As part of our plan, we've been working on a long-term solution. \$4.9 billion will be spent in major water infrastructure projects to provide the biggest boost to Victoria's water supplies in 25 years.

We will build Australia's largest desalination plant and modernise irrigation systems in Victoria's Food Bowl in northern Victoria to capture lost water for farms, stressed rivers and urban households and businesses.

This will increase the total supply for Melbourne by 240 billion litres annually by 2011 – half of our current annual water use.

We are also providing more water for regional centres including Geelong, Westernport, South Gippsland and Hamilton.

These new projects are an important next step in our efforts to secure Victoria's water supplies, but we can't lose sight of the ongoing need to save water at home, on the farm and in industry.

Climate change and drought are big challenges. Having a secure water supply will enable Victoria's economy and population to continue to grow.



**Steve Bracks**  
Premier




**John Thwaites**

Deputy Premier  
Minister for Water,  
Environment and Climate Change



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## Volumes of water

Volumes of water are measured in litres. Different volumes of water are referred to in this document.

One litre	1 litre	<b>1 litre</b>	<b>1 L</b>
One thousand litres	1,000 litres	<b>1 kilolitre</b>	<b>1 KL</b>
One million litres	1,000,000 litres	<b>1 megalitre</b>	<b>1 ML</b>
One billion litres	1,000,000,000 litres	<b>1 gigalitre</b>	<b>1 GL</b>

Water availability and security are key strengths for the Victorian economy. This plan provides water security for Victoria's growing population and economy in the face of drought and the challenge of climate change. It will do this by:

- ↘ Diversifying and boosting water supplies in Melbourne, including through desalination
- ↘ Networking the State's water resources in a Victorian Water Grid
- ↘ Enabling a rapid and flexible response to changing future water needs.

These actions will enable us to steadily move back to unrestricted water supplies in our cities and towns.

The plan involves:

1. A new desalination plant for Melbourne
2. Modernising Victoria's Food Bowl irrigation system to capture lost water for farms, the environment and Melbourne
3. Expansion of Victoria's Water Grid
4. Upgrading Melbourne's Eastern Treatment Plant to provide over 100 GL of recycled water in 2012 and assessing a range of alternative uses of this water
5. Supporting new and existing water conservation programs for homes and industry.

# 1.

## A new desalination plant for Melbourne

Desalination creates new water that does not rely on rainfall. This plan provides for the construction of a major desalination plant to service Melbourne, Geelong and towns in the Westernport and South Gippsland region late in 2011.

The plant will be located in the Wonthaggi region which offers access to pure open ocean water from Bass Strait and its freely circulating waters to rapidly disperse the plant's salty outflow. It will add up to 150 GL annually to Melbourne's water system – around one third of Melbourne's water needs.

The water will be transferred via an 85 kilometre pipe to Melbourne's water supply system near Cardinia Reservoir.

The plant will use reverse osmosis filtration to remove salt and other impurities from sea water, producing pure drinking water.

Work to develop the plant will begin immediately following an extensive feasibility study which has investigated a number of sites.

The greenhouse gas emissions associated with the power requirements of the plant will be offset through the purchase of renewable energy, which means the plant will be carbon neutral.

Decisions on delivery arrangements for the desalination plant, including the role of the private sector, will be made later in 2007 following a procurement and market testing process. Final decisions on construction and operation arrangements will be made by mid 2008, enabling the plant to produce 150 GL by late 2011.

# 2.

## Modernising Victoria's Food Bowl

Victoria's Goulburn Murray region is Australia's most important irrigation region. The Goulburn Valley accounts for well over one quarter of Victoria's agricultural output.

This project presents a once-off, historic opportunity to ensure the future prosperity of the region through significant new investment in modernising ageing infrastructure to create a genuinely world class irrigation system – a once-in-a-hundred years reform.

Modernising Victoria's Food Bowl region will take up to eight years to complete and will involve a total investment of up to \$2 billion. This is a nationally significant project which provides the opportunity for both the State and Commonwealth Governments to invest and work together.

Currently around 30% – up to 900 GL – of water in the Goulburn and Murray irrigation systems is lost annually through system inefficiencies. These losses translate to around one quarter of Lake Eildon's capacity.

Under this plan, a major irrigation modernisation project in Victoria's Food Bowl region will generate new water by reducing system losses.

It is estimated that approximately half of the total losses across the system can be captured as water savings through modernisation – up to 450 GL per annum.

The State Government will commence the first stage of the project to secure savings of up to 225 GL annually with investment of up to \$1 billion, with new State funding of \$600 million as well as further contributions from water authorities associated with this project.

This investment will build on existing small irrigation modernisation programs in the Shepparton and Goulburn irrigation districts already underway.

Water savings, up to 225 GL annually, will be shared equally with the irrigators, the environment and Melbourne.

The first available savings from the project will be made available from 2010 for Melbourne via a new pipe – the Sugarloaf Interconnector – linking Melbourne to the Goulburn River.

As part of this significant investment, the Government will also finalise the feasibility study currently underway for the Murray-Goulburn Interconnector, which will link the Murray Valley irrigation areas to the Goulburn Valley. This would increase the reliability of irrigation water supplies by linking these two large systems and enabling water trade between them.

The impacts of the Food Bowl project will be positive and far reaching, delivering the biggest water upgrade in the systems' history. Given the size and complexity of the project, the Government will work closely in partnership with the community to finalise key elements of the project, including:

- ↳ Governance arrangements that involve local government and community input into key issues, such as the work program and sharing of water savings
- ↳ Safeguards for northern Victoria concerning water savings destined for Melbourne
- ↳ How the water savings destined for irrigation and the environment will be delivered and managed.

The Government will immediately establish a Steering Committee comprising local councils, interested groups, the Food Bowl Alliance and the broader community to guide the further development of the project.

In addition, the Government will consider setting up a purpose-built body to oversee the delivery of the project to modernise the Goulburn and Murray irrigation systems. This body will work with local communities and all levels of government to manage and complete the project.

## 3.

### Expansion of Victoria's Water Grid

Victoria has a collection of water storage dams and pipes based on rainfall patterns of the past hundred years or more. These systems are unlikely to be sufficient in an era of extreme weather events and climate change.

The Victorian Government and water authorities will expand Victoria's Water Grid - a network of rivers, channels and pipes linking Victoria's major water systems. Key new elements of the Grid will be built to enable water to be moved from where it is to where it is needed most. Major Grid initiatives already underway include:

- ↘ The Goldfields Superpipe connecting Bendigo and Ballarat to the Goulburn River
- ↘ The Wimmera-Mallee pipeline system.

New Victorian Water Grid projects outlined in this plan will see the construction of over 250 kilometres of new pipe. Projects include:

- ↘ The new Hamilton-Grampians Interconnector
- ↘ The new Melbourne-Geelong Interconnector
- ↘ The new Sugarloaf Interconnector connecting Melbourne to the Goulburn River
- ↘ The new desalination plant link to Melbourne.

Another link being investigated is a Murray-Goulburn Interconnector to bypass the Barmah Choke on the Murray River.

Geelong will now be able to rely on the Melbourne system (including desalination and the Sugarloaf Interconnector) for its future growth. Westernport and South Gippsland will also have future reliability improved by links to Melbourne's system once desalination commences.

## 4.

### Increasing recycling

Recycled water provides a secure, rainfall independent supply of water that is fit for a wide range of uses. It must be made available as part of a strategy to diversify supplies, and a strategy to improve environmental health.

Around half of Melbourne's wastewater is treated at the Eastern Treatment Plant (ETP). Recycled water from this plant is able to be delivered to sites nearby for a range of potential uses. The Government is committed to upgrading the ETP to tertiary standard, a level where a wide variety of reuse is possible. The upgrade of the ETP will be completed during 2012. It will produce over 100 GL of high-grade recycled water.

We are already recycling 14% of the city's wastewater through agricultural, residential, parks and gardens and industry recycling schemes. These uses of recycled water will be progressively expanded.

This plan commits to broadening the options under consideration for use of this recycled water. While substitution for Latrobe Valley river water in power system cooling remains an option, other possible uses of recycled water will be investigated. The Government will also work with the power generators to examine ways of reducing water demand.

A further option being considered is substituting recycled water for high seasonal flows in the lower Yarra River to allow more fresh water to be retained in Melbourne's storages. The Government will also investigate alternative industrial uses for recycled water near the ETP, including the West Gippsland region.

## 5.

### Supporting new and existing water conservation programs

All Victorians need to be involved in water conservation if we want water security. Our recent water conservation efforts have kept our water storages at a higher level than they otherwise would have been.

We will continue to develop our approach to water conservation and household and industrial use of water, building on the excellent effort of Victorians to conserve water.

### How Victoria's communities, businesses and environment will benefit

Careful management of Victoria's water supplies will provide communities, businesses, farms and the environment with water security for growth in case of ongoing drought and the extremes that may come with climate change. We will steadily move back to unrestricted water supplies in our cities and towns, while continuing water use efficiency.

The combined impact of new water supply projects will increase Melbourne's water supply by 240 GL by 2011 – half Melbourne's annual demand.

The Food Bowl Modernisation Project will assist Victoria's agriculture and irrigation industries to expand their strong contribution to Victoria's economy and exports.

The environment will benefit from one third of the savings made from the Food Bowl Modernisation Project, improving river health and wetlands throughout the Goulburn and Murray regions and into South Australia.

Our households and industries will be assured of reliable, safe and affordable water supplies with good reserves for future growth. With secure water supplies, our economy and population will continue to grow.