WESTERN WATER
Integrated Water Management Strategy

For more information call 1300 650 422 or visit us at WesternWater.com.au
“This strategy outlines a new era in water planning and management in Victoria. By adopting an integrated water management approach we are helping to safeguard our water resources for the future. This strategy provides a platform to collaborate with regional partners and implement integrated water management opportunities that contribute value to the community.”

Neil Brennan, Managing Director
Introduction

Integrated Water Management Strategy

At Western Water we provide safe and secure drinking water, recycled water and sewerage services to more than 61,190 properties in one of the fastest growing regions in Australia.

We are recognised as pioneers in the provision of recycled water and are one of the highest providers of recycled water in Australia*. We also continue to develop initiatives which actively advance integrated water management solutions in the region including the innovative stormwater harvesting and reuse pilot in Toolern.

The environment in which the water industry operates is rapidly changing and we face a number of challenges as a consequence.

Managing population growth and increased demand for our services, coupled with the uncertainties of climate change, are key drivers in planning for future needs. We are committed to meeting these challenges through innovative approaches that allow us to develop sustainable solutions while also giving our customers value for money.

Our focus remains on the communities we service. We believe that applying a new level of thinking to better manage water resources across our region provides a unique opportunity for supporting happy, healthy and thriving communities. The development of our Integrated Water Management Strategy represents this new phase in our business and will ultimately set out a programme of opportunities allowing us to play a greater role in the enhancement of our communities.

* As demonstrated in the 2013 National Water Commission Report

Our existing integrated water management projects

**Toolern - integrating stormwater harvesting in new suburbs**
The new development of Toolern is showcasing alternative water supply solutions while also targeting a 50% reduction in drinking water consumption. To achieve this, every home is being supplied with Class A recycled water while we also trial a unique stormwater harvesting project that will boost local drinking water supplies for our community and improve water security to agricultural customers.

**Water quality offsets pilot at Gisborne**
Working with our key stakeholders, we have utilised Smart Water Funding to develop a water quality offsets framework for the Victorian water industry. The Gisborne based pilot study tested the application of environmental offsets by exploring opportunities to provide recycled water for environmental flows.
Our Integrated Water Management (IWM) Strategy takes an evidence-based approach to utilising all water resources available to us - recycled water, rainwater, stormwater, wastewater and groundwater - in ways that support the sustainability of our communities.

The strategy also ensures we build on the strengths of our current supply system which has been designed to provide interconnectivity and flexibility by utilising multiple sources of water.

Through the strategy we have sought to identify the optimal mix of measures to further develop effective integrated water services with the aim of generating a balance in water demand and fit-for-purpose water supply.

This strategy forms a platform for us to collaborate with regional partners and stakeholders to implement integrated water opportunities and provide beneficial outcomes to the community and the broader region.

At the core of our Integrated Water Management Strategy is the delivery of the following key outcomes:

- optimisation of local water supplies
- maximised beneficial use of recycled water
- enhanced waterway health
- economic prosperity
- liveability.

These outcomes will be delivered whilst maintaining affordability and public health and through ongoing engagement with customers and the community.

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**Meeting the water demands of our region consistent with ‘Plan Melbourne’ (Megalitres)**

This graph and the table adjacent illustrate the volumes of potential water supply compared with anticipated demands. It shows that excess stormwater generated from urban hard surfaces along with recycled water produced at our local recycled water plants is two to three times greater than the identified urban demands.

<table>
<thead>
<tr>
<th>Urban water demand</th>
<th>Alternative water sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>New growth drinking water: 24,911</td>
<td>Recycled water: 29,185</td>
</tr>
<tr>
<td>Existing drinking water: 13,528</td>
<td>Urban stormwater excess: 53,290</td>
</tr>
<tr>
<td>New growth residential non-drinking water: 16,607</td>
<td></td>
</tr>
</tbody>
</table>
Our Integrated Water Management Strategy builds upon existing work including our:
- Water Supply/Demand Strategy
- Drought Response Plan
- Water Resources Annual Operating Plan

The Strategy aligns our priorities with the government’s strategic direction and meets the requirements outlined in our Statement of Obligations.

Crucially, the strategy provides the basis to bring regional stakeholder groups together. In consultation with the community, these groups will develop the opportunities within this strategy and progress measures aimed at improving the management of our urban water supplies. The stakeholder groups and community will jointly build a shared case for investment based on up-to-date growth forecasts and local intelligence for each town.

Ultimately an integrated water management approach is not just about a strategy document but a new way of thinking and doing business. This is an ongoing journey and we are committed to its success. By working together, utilising the latest technology and through innovative thinking we will continue to make smarter decisions which optimise our water resources and achieve the best possible community outcomes.

### Meeting the water demands of our region consistent with ‘Plan Melbourne’ (Megalitres)

<table>
<thead>
<tr>
<th>Region</th>
<th>Recycled water produced</th>
<th>Urban stormwater excess</th>
<th>Urban demand</th>
<th>Local drinking water supply annual cap</th>
<th>Melbourne drinking water supply annual cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunbury &amp; Diggers Rest</td>
<td>8,978</td>
<td>15,542</td>
<td>13,470</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gisborne</td>
<td>1,434</td>
<td>3,732</td>
<td>2,592</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riddells Creek &amp; Macedon</td>
<td>292</td>
<td>3,696</td>
<td>1,184</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romsey &amp; Lancefield</td>
<td>516</td>
<td>3,235</td>
<td>1,081</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woodend</td>
<td>811</td>
<td>1,788</td>
<td>1,409</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melton</td>
<td>14,550</td>
<td>24,242</td>
<td>29,164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacchus Marsh</td>
<td>2,605</td>
<td>1,055</td>
<td>6,147</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Stages of development

**Stage 1:** Stakeholder and community engagement. Aspirational outcomes development.

**Stage 2:** Opportunities identified and prioritised for detailed analysis.

**Stage 3:** Technical analysis and strategy development for consultation.

**Stage 4:** Establish regional stakeholder groups to build a shared case for investment.

**Stage 5:** Develop detailed business cases and seek approval to implement opportunities that deliver community value.
Outcomes

Benefits of integrated water management

Our approach aims to deliver a range of outcomes that benefit the community across the region.
How we will measure our success

The implementation of our strategy will be measured against the following outcomes:

**Optimise local water supplies**
By optimising local water supplies we can improve the resilience and reliability of supply, particularly in the face of climate change and population growth. Using local supplies also reduces the cost and energy requirements associated with importing, transferring and storing water.

- **Aspirations:**
  - 100% local water supply.
  - 50% drinking water reduction in new growth areas through alternative supply.

- **Targets:**
  - 43,000 ML or 68% local water supplied over 2013-2018.
  - 21,000 ML or 29% local water supplied over 2018-2023.

**Beneficial reuse of recycled water**
Maximising the beneficial use of recycled water from our seven recycled water plants reduces both the overall and peak demand on the drinking water supply system and improves waterway health outcomes.

- **Aspirations:**
  - 100% beneficial use of all recycled water.

- **Targets:**
  - EPA Victoria compliance in all years.
  - Reduce discharge impacts of recycled water in waterways by 2018.

**Waterway health**
By focusing on cost-effective measures to improve waterway health, reduce excess stormwater, manage recycled water discharges and enable the return of environmental flows to the waterways, we can realise a number of benefits related to amenity, health and wellbeing and enhanced biodiversity outcomes.

- **Aspirations & targets:** To align with the outcomes of the Government Water Policy.

**Liveability**
The liveability of our region is intrinsically linked with water and the services water provides. Water supports the identity of our towns, creates a sense of place and sustains our environment. Water provides for local food supplies, supports the creation of attractive green space and increases tree coverage reducing the heat island impacts of urban landscapes.

- **Aspirations & Targets:** To align with the outcomes of the Government Water Policy.

**Economic prosperity**
By understanding the economic value of integrated water management opportunities and collaborating with stakeholders to deliver innovative solutions, economic prosperity can be improved across the region while helping us to lower our customer’s water bills. Agribusinesses can be attracted to the region through the supply of fit-for-purpose alternative water supplies. Quality green spaces and healthy waterways increase property values, encourages investment and act as a catalyst for wider regeneration.

- **Aspirations & Targets:** To align with the outcomes of the Government Water Policy.
Integrated Water Management
Opportunities in the Macedon Ranges Shire Council and Hume City Council service areas

Working together with our stakeholders and the community
Western Water
Whole-of-water-cycle Strategy

**MEDIUM TERM**

**Sunbury urban growth**

Sunbury has been earmarked for significant urban growth. This presents an opportunity to implement viable integrated water management solutions in collaboration with key stakeholders which will improve waterway health and enhance amenity.

**Residential non-drinking water**

Dual pipe in urban growth areas

Dual pipe alternate water in urban areas could save 2,800 ML/year of drinking water and reduce the amount of nitrogen in the Maribyrnong catchment.

**Residential drinking water**

Stormwater to substitute drinking water

A regional stormwater harvesting scheme could provide 2,000 ML/year of new water to the Sunbury region through indirect drinking water substitution. This opportunity will require further investigations in partnership with stakeholders, the community and regulators.

**Residential drinking water**

Dual pipe in urban growth areas

An opportunity exists to investigate the feasibility of utilising aquifer storage and recovery to maximise the reuse of urban stormwater excess and unused bulk allocation from Garden Hut Reservoir. This opportunity could supply an additional 100 ML of drinking water per year from this local water catchment.

**Sunbury, Riddells Creek, Romsey & Woodend**

**Agriculture**

Recycled water for agriculture and open space

The Sunbury, Riddells Creek, Romsey and Woodend recycled water plants have the capacity to further supply local agribusinesses and public open space with a reliable source of irrigation water. This option will support resilient economic development, green wedge plans and remove nitrogen from the Maribyrnong and Campaspe River catchments. The upgrade of the Sunbury Recycled Water Plant will ensure reliable quality and availability of recycled water for agriculture in the Sunbury region.

**Residential drinking water**

Stormwater to substitute drinking water

The Sunbury, Riddells Creek, Romsey and Woodend recycled water plants have the capacity to further supply local agribusinesses and public open space with a reliable source of irrigation water. This option will support resilient economic development, green wedge plans and remove nitrogen from the Maribyrnong and Campaspe River catchments. The upgrade of the Sunbury Recycled Water Plant will ensure reliable quality and availability of recycled water for agriculture in the Sunbury region.

**Gisborne & Woodend**

**Environmental flows**

Stormwater and recycled water for environmental flows

Opportunities exist to utilise alternative water to supplement environmental flows and improve the health of Jacksons Creek and the Campaspe River. At Gisborne alone, an estimated 2,000 ML of fit-for-purpose water could be directed to environmental flows, while in the Woodend region 365 ML per year of drinking water could be substituted by providing additional environmental flows in the Campaspe River.

**Residential drinking water**

Stormwater to substitute drinking water

A regional stormwater harvesting scheme could provide 2,000 ML/year of new water to the Sunbury region through indirect drinking water substitution. This opportunity will require further investigations in partnership with stakeholders, the community and regulators.

**Residential non-drinking water**

Dual pipe in urban growth areas

Dual pipe alternate water in urban areas could save 2,800 ML/year of drinking water and reduce the amount of nitrogen in the Maribyrnong catchment.

**LONG TERM**

**Gisborne & Woodend**

Residential drinking water

Optimising surface water

An opportunity exists to investigate the feasibility of utilising aquifer storage and recovery to maximise the reuse of urban stormwater excess and unused bulk allocation from Garden Hut Reservoir. This opportunity could supply an additional 100 ML of drinking water per year from this local water catchment.

**Sunbury, Riddells Creek, Romsey & Woodend**

Residential drinking water

Stormwater to substitute drinking water

The Sunbury, Riddells Creek, Romsey and Woodend recycled water plants have the capacity to further supply local agribusinesses and public open space with a reliable source of irrigation water. This option will support resilient economic development, green wedge plans and remove nitrogen from the Maribyrnong and Campaspe River catchments. The upgrade of the Sunbury Recycled Water Plant will ensure reliable quality and availability of recycled water for agriculture in the Sunbury region.
Integrated Water Management
Opportunities in the Moorabool Shire and City of Melton Council service areas
Working together with our stakeholders and the community
Melton urban growth

Significant urban growth is forecast for the Melton area. This presents an opportunity to take an integrated water management approach, in collaboration with key stakeholders, to service the new growth areas which will improve waterway health and increase amenity value.

Residential non-drinking water

An opportunity to extend the dual pipe recycled water service into this growing area exists which could ultimately enable the interconnection of recycled water from Melton into the metropolitan retailer’s recycled water networks. This initiative has the potential to substitute 3,800 ML per year of drinking water and reduces the need to discharge recycled water into the Werribee River.

Residential drinking water

We are committed to working with stakeholders and our regulators to investigate the feasibility of drinking water substitution with urban stormwater excess through a trade with raw water allocations from Merrimu and Pykes reservoir. This opportunity could provide 2,800 ML/year of additional water supply.

Bacchus Marsh & Melton

Agriculture - Recycled water for agriculture

Agricultural productivity has the opportunity to thrive from the application of recycled water in the Bacchus Marsh and Melton regions. Establishing an alternative water grid to supply peri-urban agriculture in growth areas, green wedge areas and the Bacchus Marsh Irrigation District supports economic development and resilience through the region. These initiatives can improve water quality outcomes of the Werribee River and potentially contribute towards local urban and environmental water demands via excess supplies from Pykes Reservoir. The feasibility of managed aquifer storage and recovery will be assessed to support the initiative.

Melton

Environmental flows

Alternative water for environmental flows

Stormwater and recycled water from the new growth areas of Melton could provide fit-for-purpose environmental flows in the Werribee River along with irrigation demands in the Werribee Irrigation District.
We welcome your feedback on our Integrated Water Management Strategy

Contact us
Website:
WesternWater.com.au
Email:
mail@westernwater.com.au
Telephone:
1300 650 425
Mobile telephones and interstate callers:
03 9218 5400
Facsimile:
03 9218 5444
Mailing address:
Western Water, PO Box 2371,
Sunbury DC, Victoria 3429

Visit us at
Address:
36 Macedon Street, Sunbury
Hours:
8.15am to 5pm