

Western Treatment Plant

→ Future Land Use

A rich history

The Western Treatment Plant in Werribee is one of the world's largest sewage treatment plants, covering over 10,800 hectares. It has played an important role in protecting public health for more than 100 years.

The plant serves about 1.6 million people in the central, northern and western suburbs, and treats about 54 per cent of Melbourne's sewage. On average, it processes about 500 million litres of sewage a day before discharging treated effluent into Port Phillip Bay under EPA Victoria licence.

Three methods of sewage treatment are used to produce effluent that consistently meets EPA Victoria licence requirements. The treatment methods are lagoon, land and grass filtration.

Treatment processes at the plant are continually being improved, with traditional grass filtration methods to be discontinued in the future.

The result will mean that raw sewage will no longer be applied directly to the land, significantly reducing greenhouse gas emissions.

Environmental upgrade

A \$124 million upgrade of the Western Treatment Plant began in the late 1990s, following the landmark four-year Port Phillip Bay Environmental Study. The study, commissioned by Melbourne Water and managed by CSIRO, found that Port Phillip Bay was healthy by world standards, but recommended a reduction of nitrogen flowing into it.

The environmental upgrade is part of Melbourne Water's commitment to protect the long-term health of Port Phillip Bay, by enhancing the modern lagoon system with the latest technology.



This will remove a significant amount of nitrogen in effluent treated at the plant, and therefore reduce nitrogen flowing into the bay.

A key outcome of the upgrade is an abundant supply of high quality recycled water that can be used for agricultural, horticultural and many other applications. The upgrade is also opening opportunities for biosolids recycling, renewable energy generation, and new agricultural land uses at the site.

The upgrade was awarded the Institution of Engineers (Victoria) Excellence Award for Environment and Sustainability in 2001. The awards are aimed at promoting best practice in science and engineering in Australia.

Working with the community

Melbourne Water works with a Community Liaison Committee and EPA Victoria to ensure that the Western Treatment Plant will have a positive impact on the environment.

Melbourne Water, in consultation with the committee, has updated and amended the plant's initial Environment Improvement Plan, published in September 2000.

The plan demonstrates how the Western Treatment Plant upgrade will protect and enhance the local environment, and how Melbourne Water will meet future EPA Victoria requirements and community expectations.

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A vision for the future

During August 2002, the Victorian Government announced Werribee Plains – A Vision for Sustainable Growth. The Vision proposes to transform the western plains of Melbourne into an internationally renowned ‘green region’.

Central to this Vision is the potential for the Western Treatment Plant to produce large volumes of high quality recycled water to replace drinking water in areas such as agribusiness and third-pipe systems.

Water recycling

Melbourne Water aims to achieve the Victorian Government’s target of 20 per cent water recycling by 2010. By then, it is estimated that 30,000 million litres of recycled water a year will be used to irrigate paddocks at the Western Treatment Plant.

Many offsite recycling schemes using recycled water from the Western Treatment Plant are also being investigated to achieve this target, including the creation of a new agricultural precinct in the Balliang District.

Recycled water from the Western Treatment Plant is currently being used in the Werribee Tourist Precinct by the National Equestrian Centre and the Werribee Park Golf Club.

Biosolids

One of the results of the upgrade to the Western Treatment Plant will be an improvement in the quality of biosolids produced.

Melbourne Water has a target to recycle all biosolids (a byproduct of the treatment process) from our treatment plants by 2010, and is exploring beneficial use opportunities with private sector partners.



Meeting the greenhouse challenge

As part of the environmental upgrade to reduce nitrogen levels in the modern lagoon system, energy requirements at the Western Treatment Plant are increasing. Melbourne Water is meeting these energy needs from our own renewable sources by capturing increasing quantities of biogas, such as methane, collected from the covered lagoons.

We have constructed power-generating facilities under a partnership with AGL Ltd to produce electricity from this biogas.

We are planning to expand power generation facilities, and by 2005/06 the plant is expected to produce around 80 per cent of its energy needs. At the same time, we are reducing greenhouse gas emissions and odour.

Treatment processes at the plant are also being modified. We will stop applying raw sewage to land, and discontinue traditional grass filtration processes. This will result in significant reductions in our annual greenhouse gas emissions.

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Conservation management

Changing sewage treatment practices as part of the upgrade of the Western Treatment Plant has implications for waterbirds, shorebirds, nationally threatened species and listed migratory species.

Melbourne Water's conservation management program includes extensive stakeholder consultation, wildlife studies and habitat maintenance activities. The program takes its direction from the Ramsar and Conservation Management Plan – Western Treatment Plant, The Spit Nature Conservation Reserve and Adjacent Habitats. It is the basis for monitoring and managing the ecology and environmental values of the area.

The Western Treatment Plant is listed under Ramsar Convention as a site of international significance. The plant also has a major presence in the regional context of greater Melbourne, the western region and the local districts of Werribee and Little River.



Future land use

Melbourne Water has developed guiding principles for assessing any proposals for future land use at the Western Treatment Plant.

The principles cover every aspect of conservation, environment and land management including statutory requirements such as the Environmental Protection Biodiversity and Conservation Act (EPBC Act). Any potential impacts on the Western Treatment Plant's EPA Victoria operating licence, as well as its Environment Improvement Plan and conservation management program are also given the highest priority when assessing land use proposals.

Further information

For further information on the Western Treatment Plant, please call Frank Sammut on 9235 2687 or visit www.melbournewater.com.au

Melbourne Water is owned by the Victorian Government. We manage Melbourne's water supply catchments, remove and treat most of Melbourne's sewage, and manage waterways and major drainage systems.