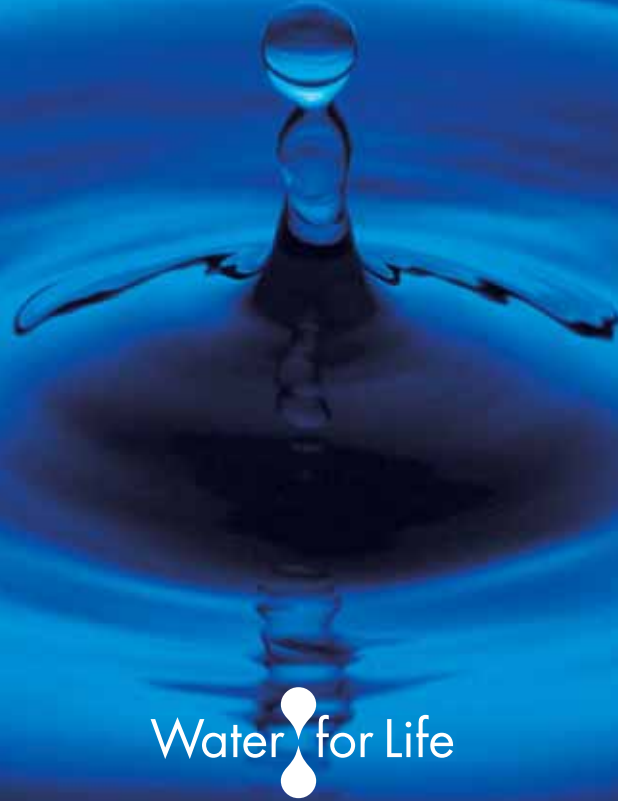


2006 Metropolitan Water Plan

EXECUTIVE SUMMARY



Water for Life
A water plan from the
NSW GOVERNMENT



Sydney's supply system

The network of 11 dams supplying Sydney, Illawarra, the Blue Mountains and the Southern Highlands has a large storage capacity compared to the number of people it supplies. In fact, as at 27 April 2006, well into the second worst drought on record, we still had 43.9% of storage available.

This is testament to Government investments in works at our dams, the capacity of the system to deal with periods of low rainfall and the willingness of the community to do its share through saving water and observing restrictions.

While in the past Sydney has relied solely on water from dams, we are now able to diversify our water supplies. Increasingly, water sourced from rainfall collected in dams will be supplemented by recycled water for industry, agriculture, the environment and for dual reticulation to new homes.

Other sources which will substitute for drinking water include greywater for our gardens, stormwater for our parks and sporting fields and, in a severe or extreme drought, groundwater and desalinated seawater.

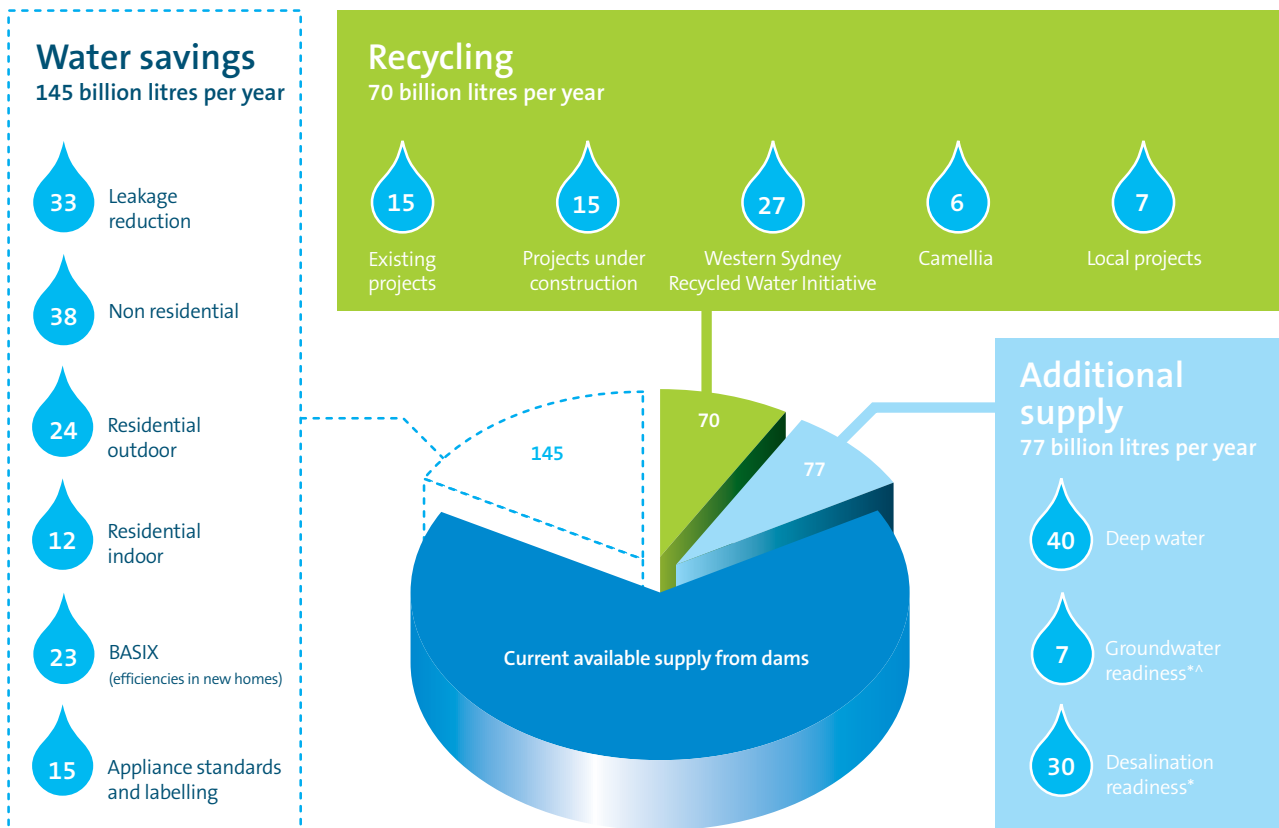
Sydney's water demand

Sydney'siders have certainly responded very positively to the challenge of saving water. Demand for water has dropped significantly over the past 20 years from 506 to 403 litres per person a day.

This reduction is due in large part to more water efficient appliances (eg. dual flush toilets), water savings programs and a growing recognition in the community of the scarcity of water.

Although there are now 950,000 extra people living in Sydney, we are using around the same amount of water as we were 25 years ago.

Meeting Sydney's water needs in 2015



The above mix of supply and demand measures are more than sufficient to meet Sydney's growth needs to 2015 and to secure drought needs to 2015 and beyond.

*By investing in being ready to access groundwater and desalinated seawater in severe and extreme drought - even if such drought does not occur - more water can now be drawn from the dams without affecting the security of supply; for this reason the calculated water availability figure has increased even without accessing these sources.

[^] In a severe drought, new bore fields would be constructed to enable access to around 30 billion litres of groundwater a year for about three years for drought needs.

Balancing demand and supply

Last year, the Government commissioned independent experts, Professor Stuart White of the University of Technology, Sydney and Mr David Campbell of the economics consultancy ACIL Tasman, to undertake a major analysis of the factors influencing Sydney's water supplies and its demand, both in the long term and in drought periods.

Their findings and recommendations were the basis of the Government's *Progress Report* in February 2006 and underpin this *2006 Metropolitan Water Plan*.

The consultants concluded that actions to increase recycling, reduce demand and increase supply will together meet Sydney's water needs to at least 2015, including a safety margin should it be needed.

Drought and climate change

Periodic droughts are a feature of Sydney's long term climate and have helped to shape the current water supply system. Over the past 120 years, Sydney has experienced three severe droughts - in the 1890s, the 1940s and currently.

Climate change adds another dimension to uncertainty about rainfall patterns. It is not yet known what climate change may mean for Sydney's water system but it could mean longer and more intense droughts.

The Government is undertaking a number of major studies to improve our understanding of the potential impacts of climate change and how this may affect water availability and demand.

How individuals in Sydney can help save water

- Obtain a free Do-It-Yourself Water Saving Kit, with fittings for your taps and showerheads*
- Organise with Sydney Water for a qualified plumber to install water saving devices and check for minor leaks for just \$22*
- Receive a \$150 rebate when you purchase a new, water efficient 4-star or 5A rated washing machine*
- Receive a rebate of up to \$650 if you install a rainwater tank in an existing home*
- Visit www.sydneywater.com.au for more information.

*Conditions apply

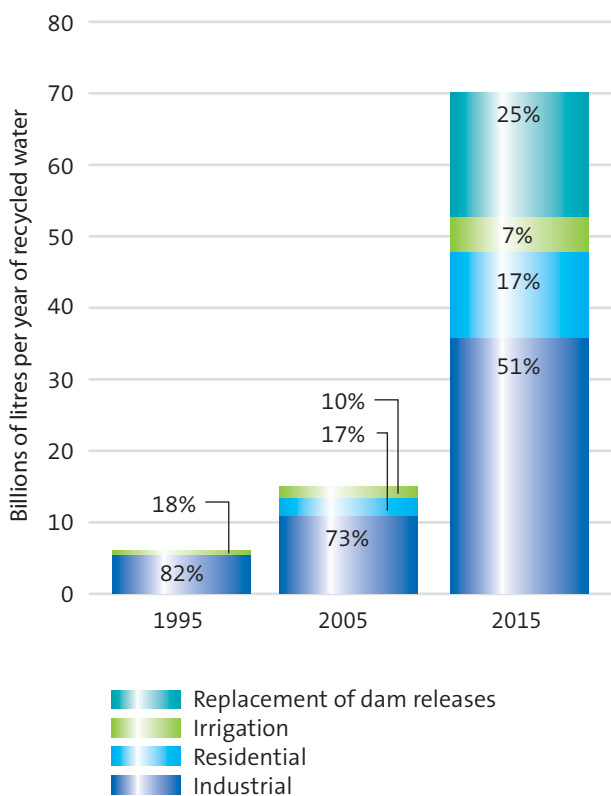
Increasing recycling

Recycled water can deliver multiple benefits and has an important role to play in the *2006 Metropolitan Water Plan*.

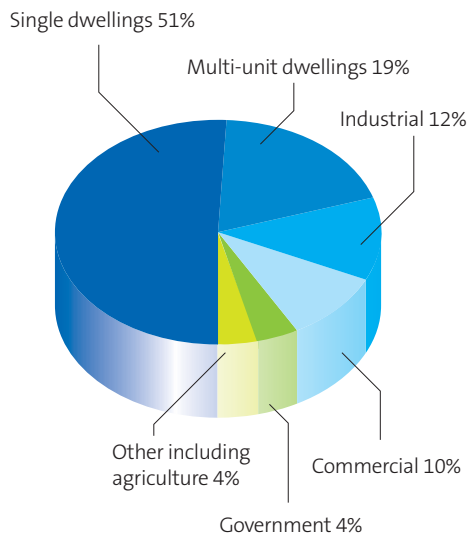
Wastewater can be safely recycled and used in industry, agriculture and in new homes for garden watering, toilet flushing and other non-drinking uses. Recycling can reduce the demand for drinking water, deliver benefits to river health by decreasing the level of nutrients discharged by sewage treatment plants and diversify the system with a supply source not relying on rainfall.

In the last ten years, the amount of water recycled in Sydney has more than doubled. The recycling measures included in the Plan will increase the current level of recycling more than fourfold from 15 billion litres a year up to 70 billion litres a year in 2015. This will make Sydney one of the largest urban providers of recycled water in Australia.

Recycled water use in Sydney



Drinking water consumption by sector



Reducing demand

Approximately 70% of Sydney's water use occurs in and around the home.

Demand for water has dropped significantly over the past 20 years. Since 1999, Sydneysiders have become more aware of the need to save water and have saved a total of 90 billion litres, even excluding the effect of drought restrictions. However, more can be done to reduce the amount of water we use and improve the way we use it.

Water saving measures range from simple actions such as turning off a tap while brushing your teeth, or installing a water efficient showerhead, to multi-million-dollar changes to industrial processes.

Sydney has the largest program in Australia to reduce water demand. It involves a comprehensive range of water saving initiatives tailored to all major water users, from households to big industry, agriculture and government.

The Government's independent experts, Professor White and Mr Campbell, calculate that by 2015 with the water savings programs now under way Sydneysiders will be saving 145 billion litres a year.

Recycling water in Western Sydney

The major new recycling scheme in Western Sydney, now well under way, will see recycled water used for homes, industry and agriculture. Further, highly treated recycled water will be used to replace water currently released from Warragamba Dam for environmental uses and irrigation.

The scheme will provide up to 27 billion litres of recycled water every year by 2015.

Expressions of Interest will be sought from the private sector in mid-2006 for the North West component of the Initiative.

Recycling for industry

The Government is working with the private sector to provide up to 6 billion litres of recycled water every year to industrial and open space users at Camellia. Also, a new sewer mining policy will be released which will make it easier for businesses to obtain wastewater for recycling.

Recycling stormwater

Projects to tap the valuable stormwater resource and restore waterways now have three new funding sources:

- urban sustainability grants under the Environmental Trust's City and Country Environment Restoration Program
- levies raised by councils, and
- the Government's Catchment Management Authorities, which are also working with councils and community groups to develop catchment-wide stormwater projects.

Government and business actions

- The \$130 million Water Savings Fund provides incentives to councils and businesses to implement effective and innovative water savings investments
- High water using businesses, councils and Government agencies must prepare Water Savings Action Plans to identify water savings
- The Every Drop Counts Business Program has experts working with businesses and councils to work out how to change equipment and practices to best save water and money
- The newly expanded WaterFix Program will install water-efficient fittings in 550,000 homes by 2008
- Sydney Water's \$400 million Leak Reduction Program over four years will check and repair Sydney's 21,000 kilometres of water pipes
- The Building Sustainability Index (BASIX) requires a 40% reduction in water use in new dwellings and, from July 2006, in residential renovations
- Water price reforms have been introduced, so that high water using residential customers now pay more, promoting water conservation
- The Water Efficiency Labelling and Standards Scheme now requires certain water using appliances to display labels at the point-of-sale showing their relative water efficiency.

Increasing supplies

The range of measures in place to increase supplies is already boosting our resilience to drought and climate change.

New pipes and pumps are being built to reach deep water in the Warragamba and Nepean Dams, adding an extra 40 billion litres a year. In April 2006, a 17 tonne plug of concrete was removed from Warragamba Dam, which enables previously inaccessible water at low levels to be pumped into Sydney's water supply system. This means that dam levels that had been at approximately 40% rise to about 45%.

The Shoalhaven Transfers Scheme has provided 25% of Sydney's water supplies during this current drought. In consultation with the Shoalhaven and Southern Highlands

communities, the Government is looking at ways to transfer extra water from the Shoalhaven without raising the Tallowa Dam wall.

In addition, bore fields to tap groundwater reserves will be constructed if dam levels drop to around 40% of the system's capacity. In that situation, groundwater would supply around 30 billion litres of water each year for about three years. In the extremely unlikely event that dam levels drop further to around 30% then work on building a desalination plant would commence. A plant could be quickly constructed as a result of the planning work that has already been undertaken.

Improving catchment and river health

Having healthy rivers and catchments is vital for the supply of high quality drinking water and to support the ecosystems, communities and economies relying on them. A wide range of activities is being implemented to improve the health of the Hawkesbury-Nepean and Shoalhaven rivers and catchments. For example, scientific studies and consultation with the community will help to develop a new regime of environmental water releases from Tallowa Dam to benefit the lower Shoalhaven River.

The Government also has a multi-pronged plan to improve the health of the Hawkesbury-Nepean River, which includes releasing flows from dams, reducing nutrient loads and controlling water extractions.

Creating a dynamic water industry

Meeting the challenge of securing Sydney's water supply in the long-term and in drought requires the innovation, resources and cooperation of both the Government and the private sector.

New South Wales is leading Australia in introducing competition to the metropolitan water industry. The aim is to harness the resources of the private sector and direct the forces of competition to help secure Sydney's water future.

Details of these reforms have been released for consultation with industry and other stakeholders. Following the consultation process, legislation will be introduced to Parliament to establish a framework for an access regime and a framework for the regulation and licensing of new private sector service providers.



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