

Adelaide Desalination Project

Our state-of-the-art desalination plant will have the capacity to supply up to 100 billion litres of water a year – about half of Adelaide’s current water needs.



Australian Government



Government of
South Australia



SA Water

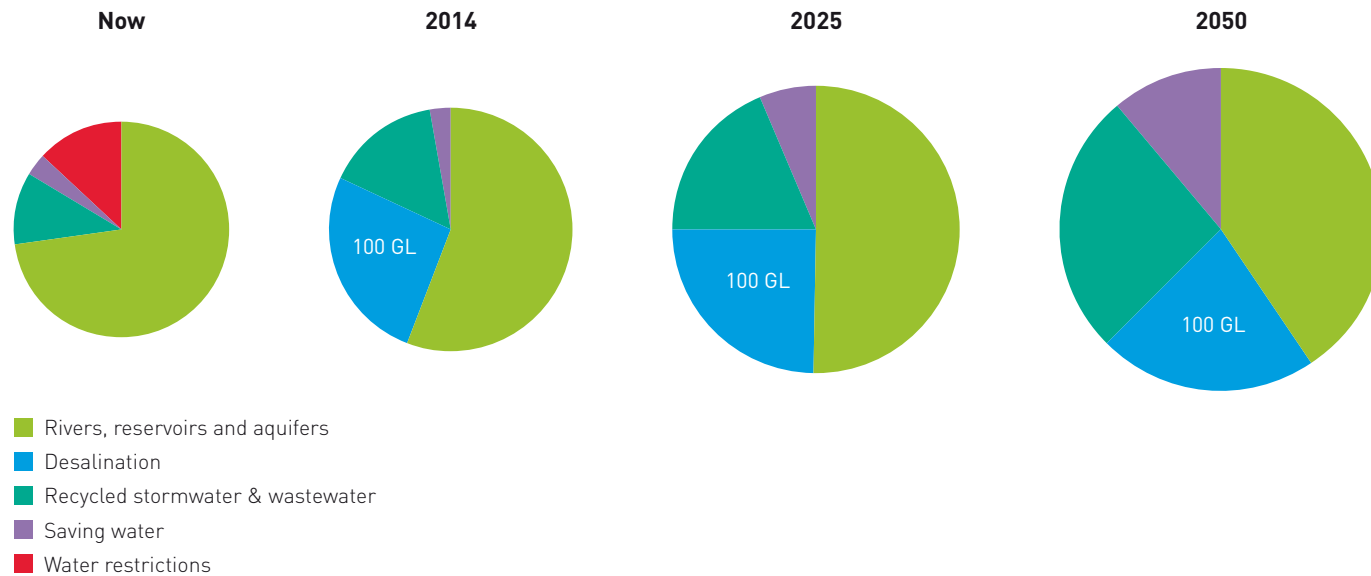
AdelaideAqua

D&C Consortium



Why does Adelaide need more water?

These pie charts from South Australia's *Water for Good* plan show the role desalination will play in diversifying Adelaide's water sources into the future.



Everyone knows we live in a particularly dry State.

In recent years we have faced the added pressures of a prolonged and harsh drought and we expect these conditions to become more frequent due to climate change.

To meet these challenges and ensure our State can continue to grow and prosper, we need a diverse supply of water.

This is also important to allow us to reduce our reliance on the River Murray and other rain-dependent water sources, including rivers, reservoirs, aquifers and stormwater.

Adelaide's desalination plant at Port Stanvac is one part of the South Australian Government's *Water for Good* plan to ensure sustainable water supplies for our future.

Securing water for our State



Panoramic view of the Port Stanvac site.

Desalination does not rely on rainfall. That's why the desalination plant is so important to help secure our water future.

The Adelaide Desalination Project will begin producing water in 2011.

Work will then continue to grow the capacity of the plant to 100 billion litres per year by the end of 2012. Once complete the plant will provide a flexible water supply that can adapt to changing climatic conditions and demand.

Employment and economic growth

AdelaideAqua, a multi-national consortium of companies comprising McConnell Dowell Constructors, Abigroup

Contractors, ACCIONA Agua and TRILITY, has been contracted to design, build, operate and maintain the plant for 20 years.

The project is contributing to South Australia's economy and providing employment opportunities for many South Australians:

- At its peak work force, the project employed 1 400 people.
- It is estimated the project will increase SA's Gross State Product by more than \$2.8 billion to 2017.



The jack up barge assisted with marine works.

Adelaide Desalination Project – progress

- ETSA substation completed.
- Transfer pumping station and pipeline completed.
- The first of the two reverse osmosis buildings (50 GL) due for completion end 2011.
- Second reverse osmosis building (100 GL) underway.
- Tunnel boring for the intake and outfall tunnels completed.
- Jack up barge located off shore during 2010 to assist with marine works.
- Marine works continue to connect structures for the intake and dispersal of seawater.
- Shared-use pathway built along pipeline corridor to improve amenity for the local community.
- Construction of the new Interpretive Centre underway.
- Project site landscaping underway.

Other key facts:

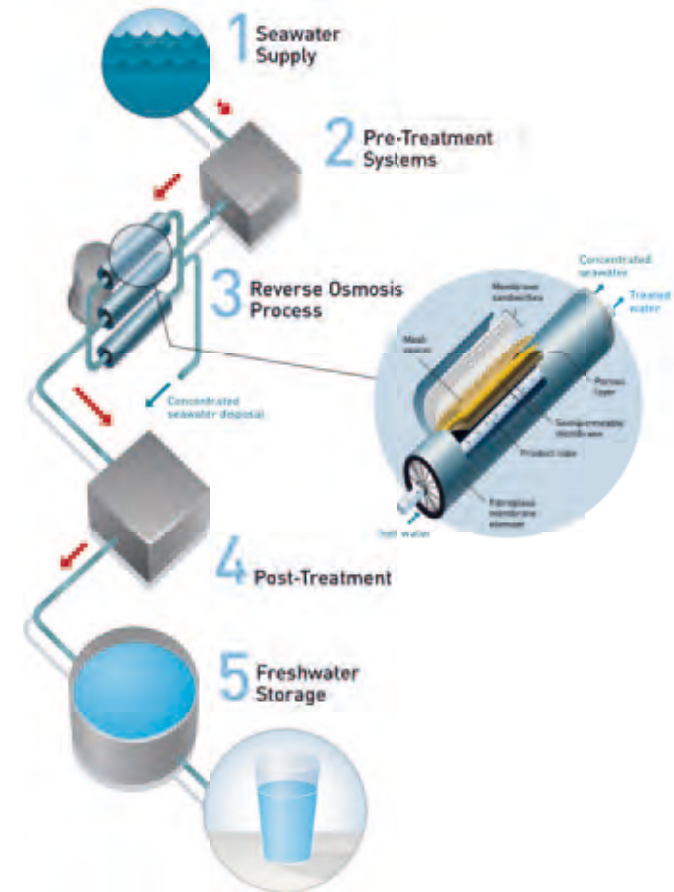
- Lonsdale construction site covers an area of approximately 32 hectares (320 000 square metres).
- 650 000 cubic metres of material excavated.
- A total of 20 kilometres of underground pipe installed.
- 1780 tonnes of steel used on the project.
- 26 000 square metres of concrete used on the project.



How will the plant provide drinking water?

Reverse Osmosis building.

Reverse Osmosis



Desalination is used throughout the world to turn seawater into fresh drinking water.

The desalination process will start at the seawater intake about 1.4 kilometres from the shaft. The intake structures have been designed to draw water in at a low speed, minimising the risk of small marine creatures becoming trapped. Screening processes will then remove finer particles and the seawater will be filtered.

The water will then enter the reverse osmosis processing plant where it will be pushed at high pressure through extremely fine membranes to remove salt and other impurities and produce drinking water.

The desalinated water will then be pumped through the pipeline to Happy Valley where it will be combined with treated water from the water treatment plant before entering the existing water supply network. The Adelaide Desalination Plant has been designed for flexible operation to meet fluctuating demand and at full capacity will produce up to 300 million litres each day.



Transfer Pump Station.



Adelaide Desalination Plant concept only.

Improving water supply networks.

To further improve the delivery of desalinated, reservoir and River Murray water across metropolitan Adelaide, SA Water's North South Interconnection System Project will be implemented in 2011/12. This project consists of a range of works to 'connect up' our northern and southern water supply networks.

These works will allow SA Water to move water across one connected system, improving water reliability for Adelaide and ensuring we will be better able to deal with drought, growth within the city's population and any failures within the water supply network in the future.



Protecting the environment



Protecting the environment is a major part of the project planning.

While the desalination process provides fresh drinking water, it also creates a seawater concentrate. This will be dispersed offshore through an outfall pipeline and diffusers that mix it back into the seawater with a projection that ensures minimal environmental impact regardless of tidal conditions.

Environmental Protection

The South Australian Environmental Protection Authority (EPA) has issued an operating licence to AdelaideAqua which stipulates the required salinity levels off coastal waters

near Port Stanvac. AdelaideAqua have undertaken salinity monitoring of the marine environment since July 2010 and will continue to do this when the plant is operational in 2011. Monitoring data will be reviewed by the EPA, SA Water and independent specialists as approved by the EPA.

Energy

AGL has been contracted to supply the electricity to power the Adelaide Desalination Plant using 100% renewable energy from Green Power accredited sources located within South Australia.

Keep up to date on the project progress
by visiting sawater.com.au

If you have any queries please:

Email desalination@sawater.com.au

Phone **1800 812 362**

For more information about the *Water for Good*
plan for South Australia please visit
waterforgood.sa.gov.au

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