

# G'DAY USA

## RECYCLING AND STORMWATER – SEIZE THE DAY - POLICY

### ENSURING SA'S WATER FUTURE

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Government of South Australia  
Department for Water

WATER IS GOOD

# South Australia

The driest state in the driest inhabited continent on earth.



South Australia  
Adelaide  
(population 1.2 million people) is  
the capital of South  
Australia.  
More than a third  
of our state is  
desert.



## **Our average rainfall**

**Adelaide's average annual rainfall  
(calculated as a 30-year average) is 550mm –  
that's 21.6 inches.**

**Las Vegas, Nevada – 4.1 inches (104mm)**

**Los Angeles, California – 15 inches (380mm)**

**Denver, Colorado – 18.17 inches (461.5mm)**

**Washington DC – 39.35 inches (999.49mm)**

**Houston, Texas – 53 inches (1371 mm)**



## Our water supply...

Historically, South Australia has relied on three rain-dependent sources of water – the River Murray, Mount Lofty Ranges and groundwater.



**Reliance on these sources...**

**When there is lower than average rainfall,  
we rely much more on the River Murray.**



## **Pre 2006-07 situation**

- Use in 2002 = approx 220 GL (178,000 acre ft, 58bn gallons)

## **Major drought in SE Australia began in 2006-07**

- Climate-reliant sources failed over two years
- 2006 - Drought Taskforce established – contingency planning
- 2008 - Commissioner for Water Security established – strategic policy response



**WATER  
FOR  
GOOD**

**WATER  
FOR  
GOOD**

A plan to ensure our water future to 2050



GOVERNMENT  
of South Australia

**WATER  
FOR  
GOOD**

Summary of findings



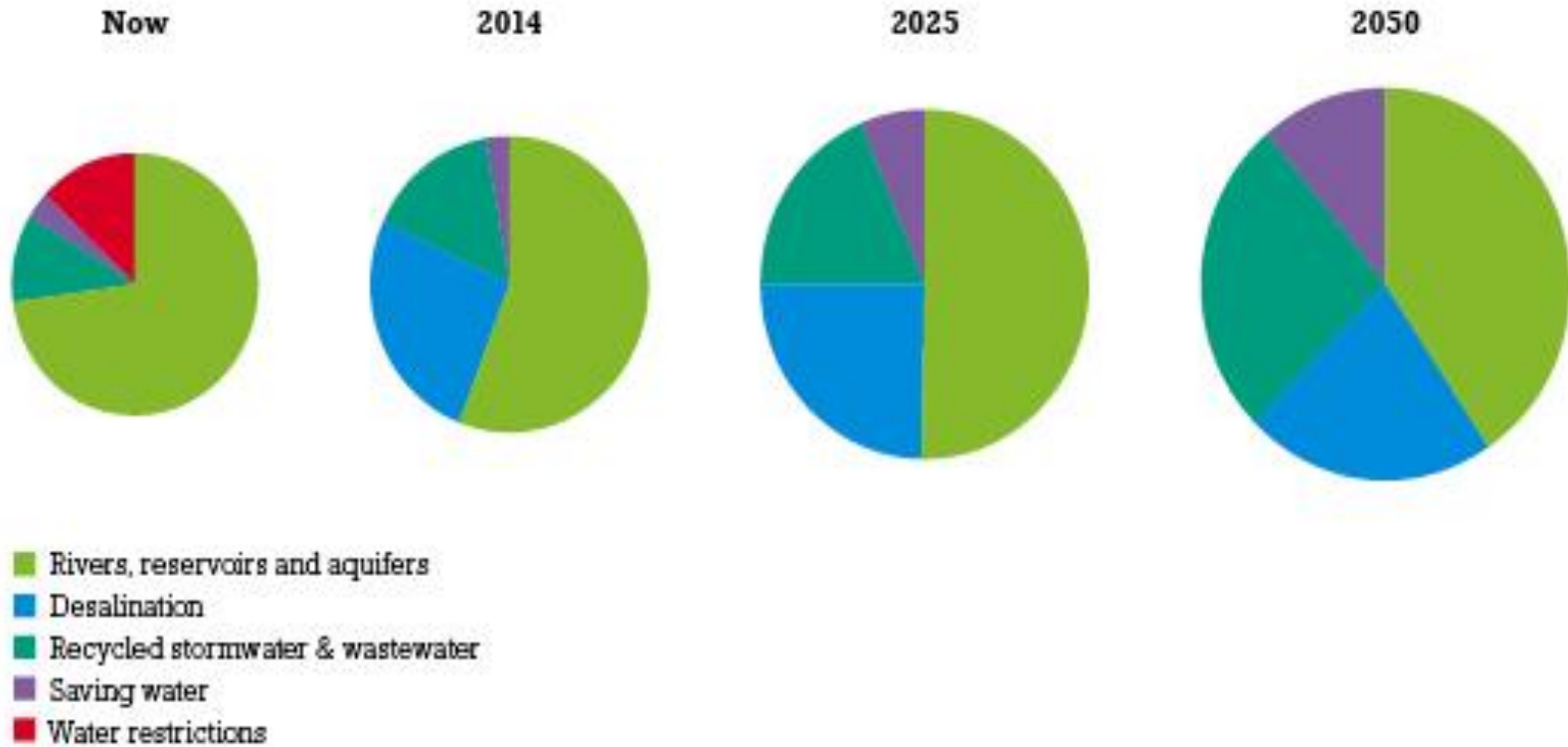
**Water for Good  
ensures South  
Australia's water  
future to 2050.**



- “Water for Good” is a comprehensive plan to ensure Adelaide’s and South Australia’s water security to 2050
- Released in June 2009, the plan incorporates:
  - Future supply demand scenarios
  - Education and community awareness
  - Demand reduction and management
  - Diversity of supply
  - Adaptability in planning
  - Legislative, regulatory, and pricing reform
  - Innovation and increasing opportunities for competition



# Greater Adelaide's water supply from all sources by 2050



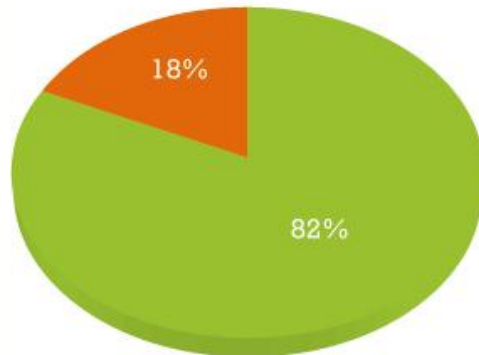
Source: Water for Good 2009



# Drinking water mix by end 2012

**Now**

Mix to supply 200 GL of drinking water in a dry year

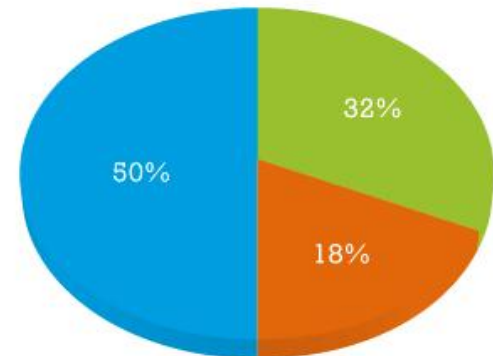


**Now**

- River Murray
- Reservoirs
- Desalination

**End of 2012**

Mix to supply 200 GL of drinking water in a dry year



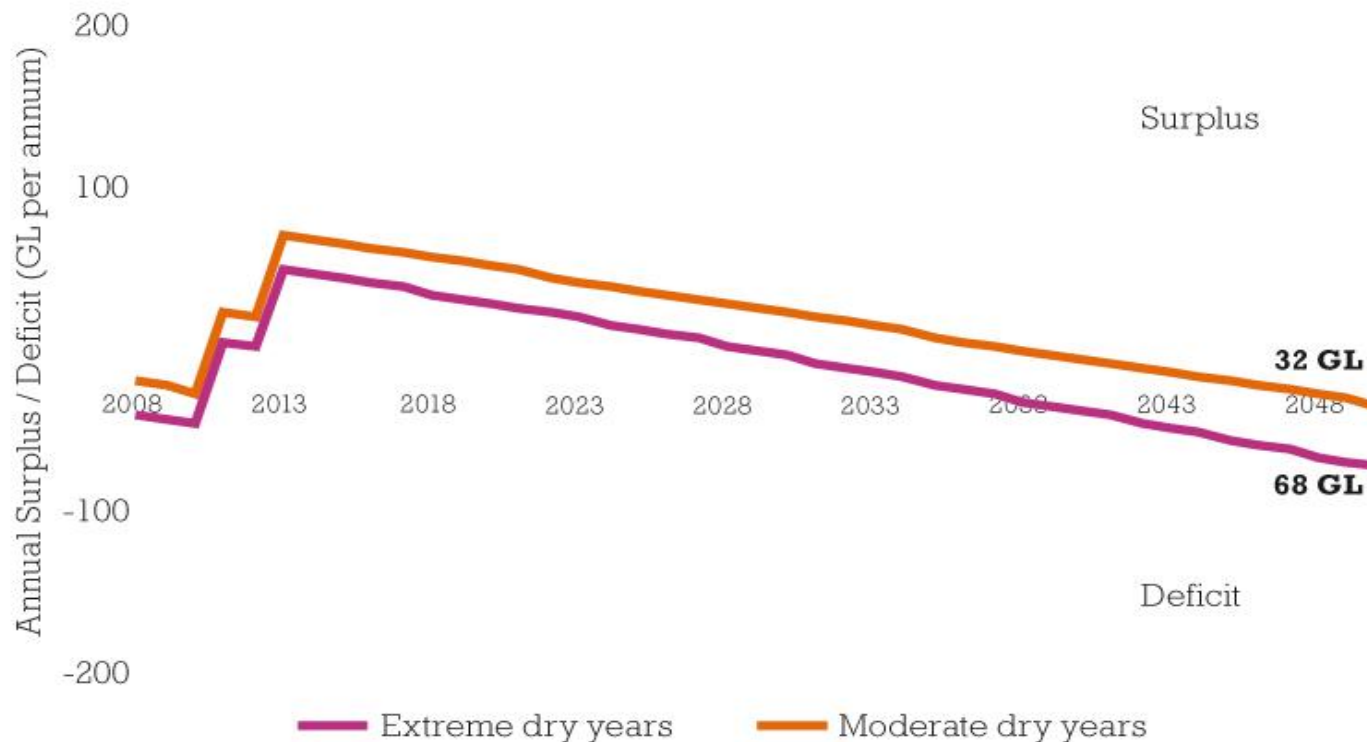
**2012**

- River Murray
- Reservoirs
- Desalination

Source: Water for Good 2009



# Water availability in any given year incorporating 100 GL and no further action



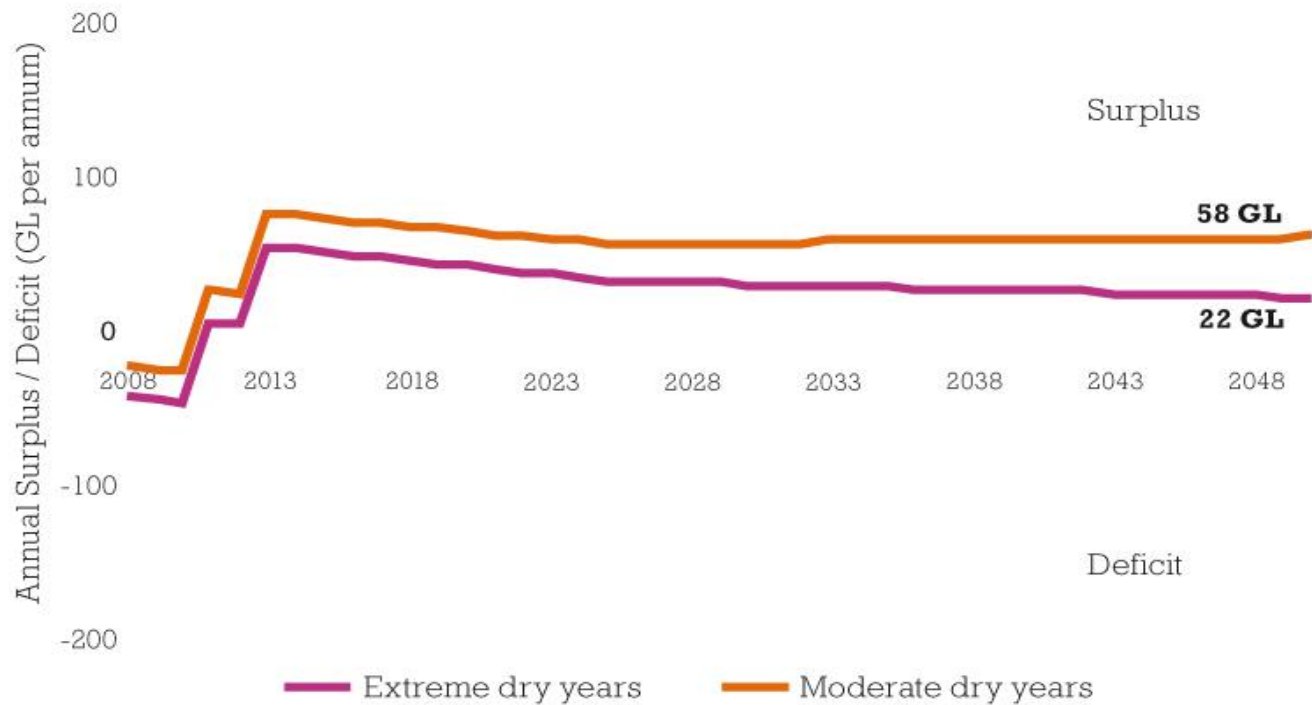
# Supply & Demand Actions

## Supply

- Expand Adelaide Desalination Plant to 100 GL/a. (81,000 acre ft)
- Increase stormwater harvesting & recycling to:
  - 20 GL by 2013 (16,000 acre ft)
  - 35 GL by 2025 (28,400 acre ft)
  - 60 GL by 2050 (48,600 acre ft)
- Increase wastewater recycling to 75 GL (61,000 acre ft) by 2050.
- Protection of existing surface and groundwater resources.



# Water availability in any given year with measures outlined in Water for Good



# Stormwater Harvesting

- National leaders in stormwater recycling.
- Highest level of rainwater tank ownership.



# Stormwater Harvesting

- Stormwater harvest capability in Adelaide
  - Operational schemes – more than 6 GL/a (5,000 acre ft)
  - Will more than triple stormwater harvesting by 2013 to over 20 GL/a (16,000 acre ft)
  - Predicted ultimate yield – 60 GL/a. (48,600 acre ft)
- Informed by Urban Stormwater Harvesting Options Study.
- Governance review – Stormwater Management Authority



# New Stormwater Projects

- In collaboration with Local Government the State has been successful in securing funding for nine stormwater projects
- \$150m+ investment



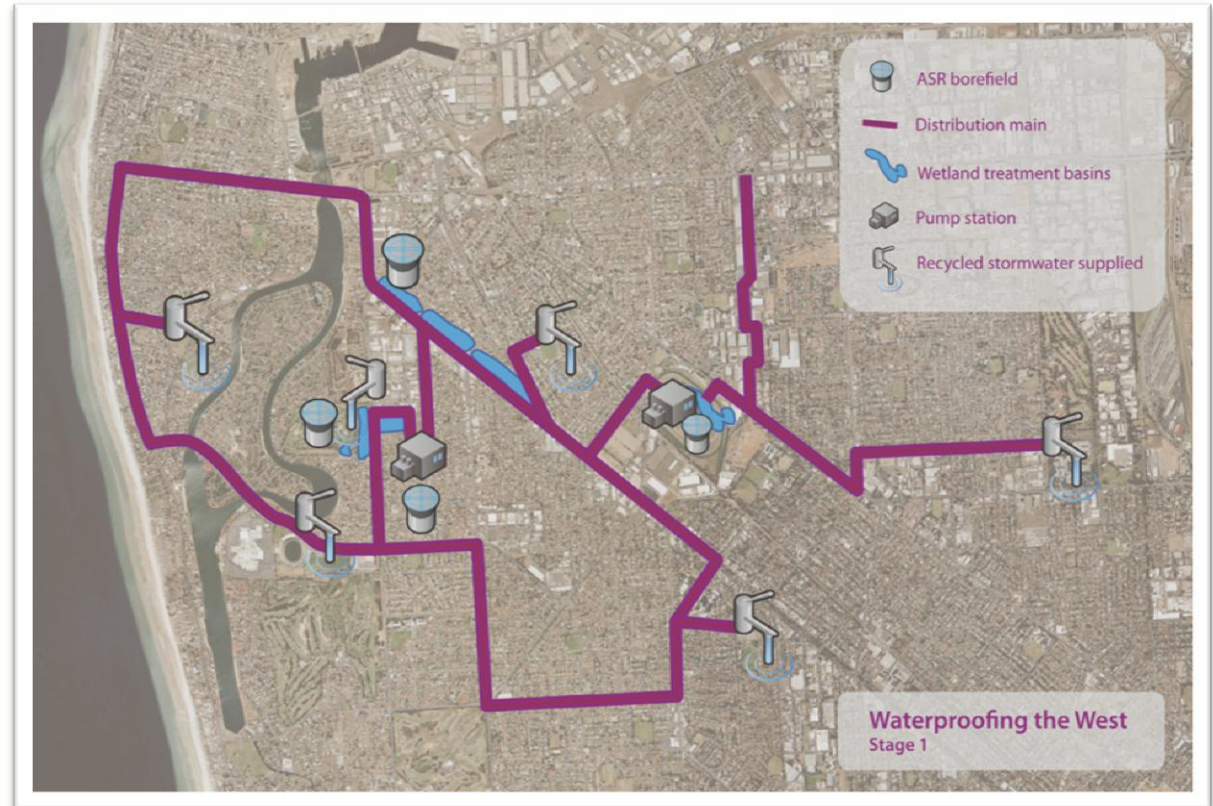
# Adelaide Botanic Gardens

- Projects range in scale
- For example, a wetland and ASR scheme with community education components at the Adelaide Botanic Gardens



# Waterproofing the West

- To complex, multi-site, multi-objective projects such as Waterproofing the West



# Wastewater Recycling

- National leaders in wastewater recycling.
- Further expansion possible in ‘food bowl’ areas and new developments.
- Capacity to recycle
  - 45% of urban wastewater by 2013
  - 50 GL/a by 2025 (40,500 acre ft)
  - 75 GL/a by 2050 (61,000 acre ft)
- Issues – low demand in winter; storage; high salinity.



# 2010 Annual Statement 2010 - Wastewater

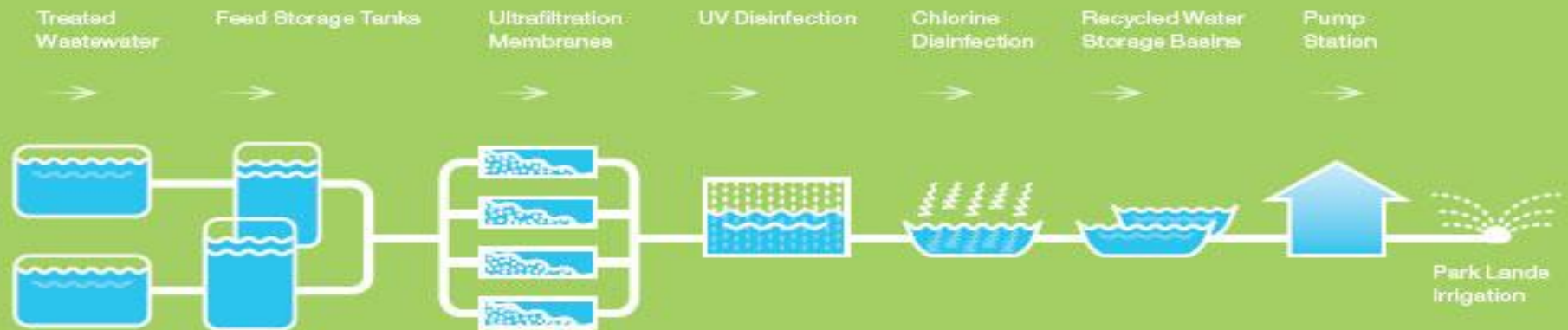
- Progress on key wastewater projects, such as the \$76.25 million Glenelg to Adelaide Park Lands Recycled Water Project to water Adelaide's park lands, which was completed ahead of schedule.



# Wastewater Recycling

- Glenelg to Parklands project completed late 2009.
- Southern Urban Reuse Project is under construction due to be completed early 2011.

## The water recycling process for GAP



# Water Sensitive Urban Design

Water-sensitive urban design to be mandated for new developments from 2013.

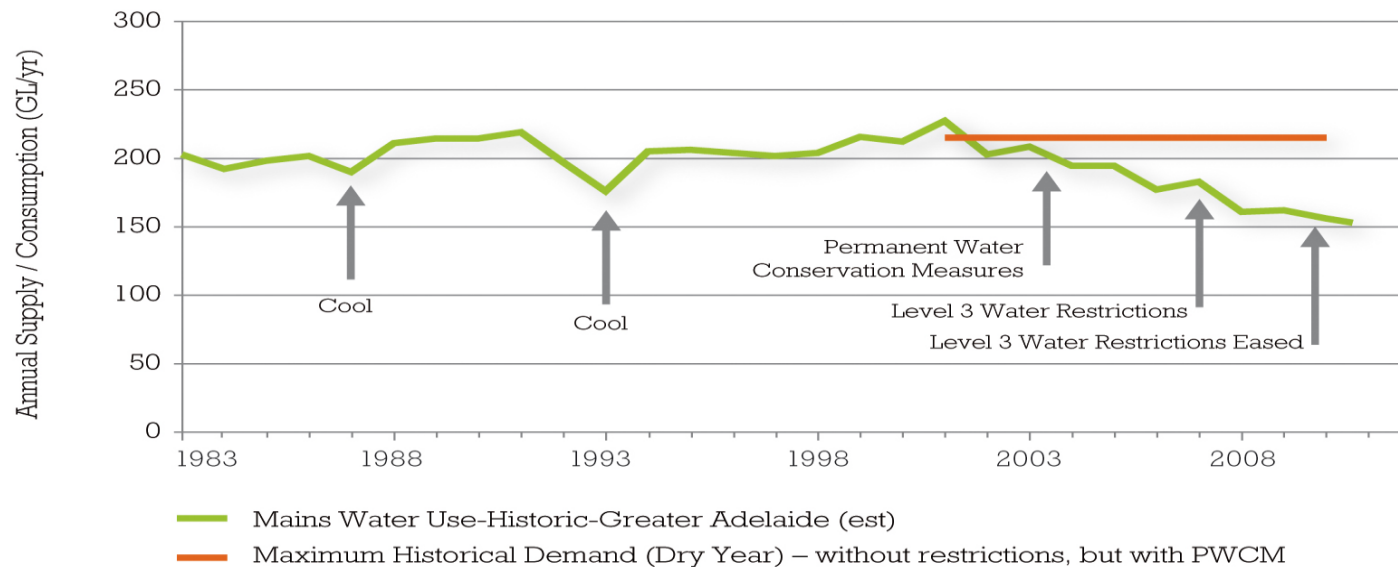
## Actions

- Demand reduction
- Rainwater tanks
- Rain gardens
- Green roofs
- Infiltration systems
- Pervious pavements
- Urban water harvesting and reuse
- Gross pollutant traps
- Bioretention swales and basins
- Swales
- Buffer strips
- Sedimentation basins
- Constructed wetlands
- Wastewater management



# Water consumption changes for Greater Adelaide

## Mains water consumption for Greater Adelaide



Source: Water for Good Annual Statement 2010



[www.waterforgood.sa.gov.au](http://www.waterforgood.sa.gov.au)

