Australian Bureau of Statistics

ABS House
45 Benjamin Way, Belconnen ACT

29 November 2010

The Water Account Australia 2008-09: Background and Main Findings

statistics for informed

decision making

Background

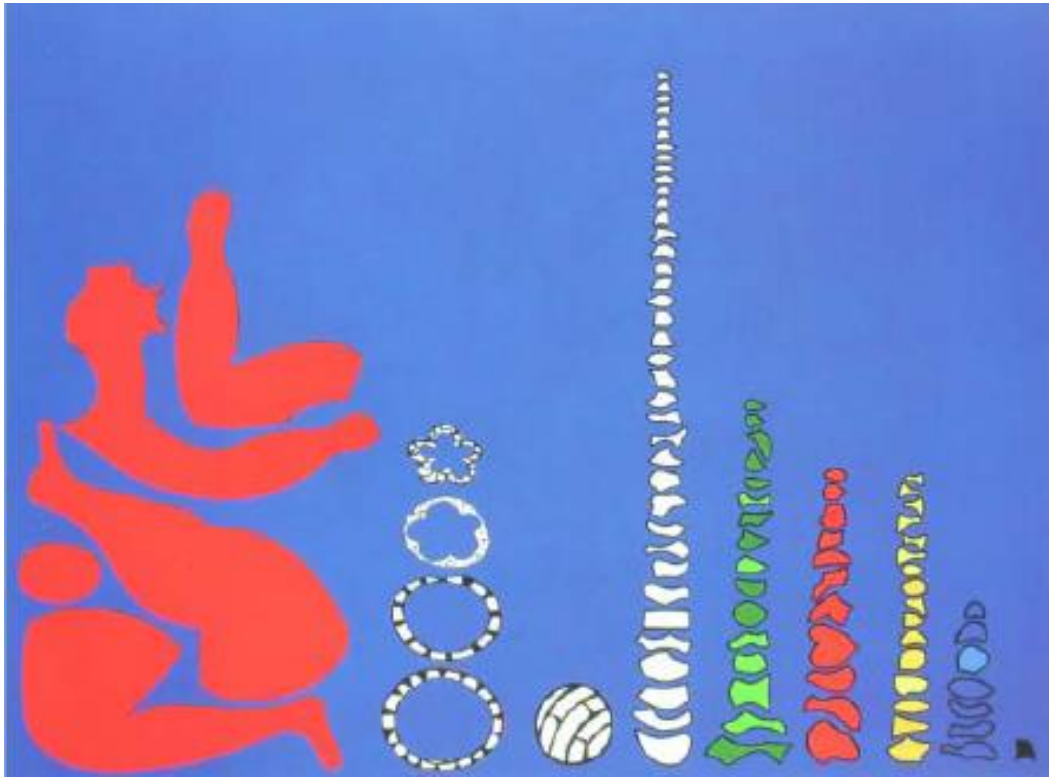
- 4th ABS Water Account Australia
  - Last release 28 November 2006
- Changes since last time
  - Adoption of the SEEA-Water 2007
  - Water Act 2007
- The Water Account Australia is part of a developing program of environmental-economic accounts at the ABS

Information silos

- Data developed to answer one particular question or problem

  Difficult to figure out if all information is included

  Not always easy to see the whole picture, or how it relates to other things



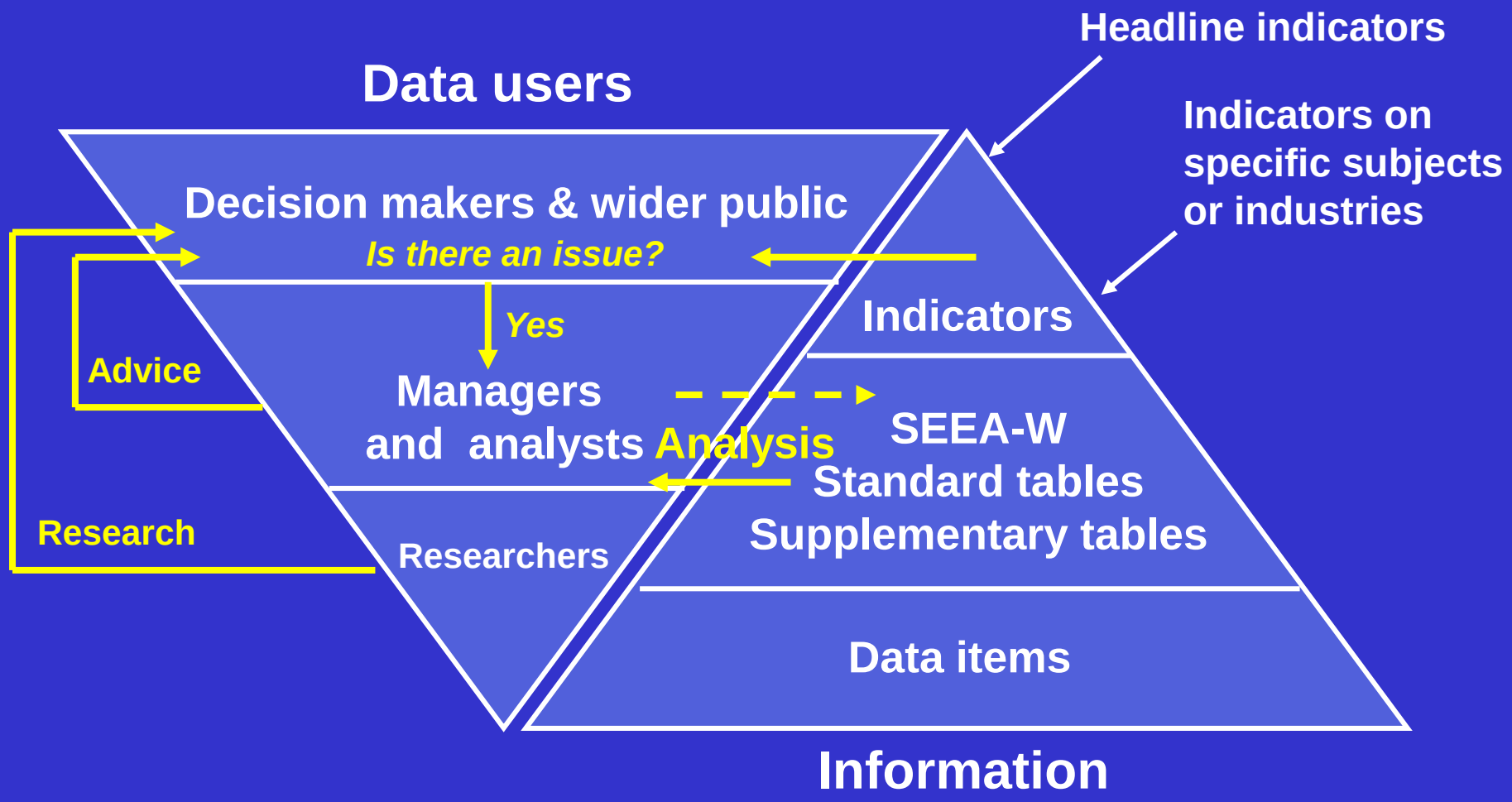
Source: Julie Hass, Statistics Norway

Environmental-Economic Accounting

- Help to make sense of the larger picture
- Help to identify pieces that are missing
- Can make connections to other statistics - especially economic statistics

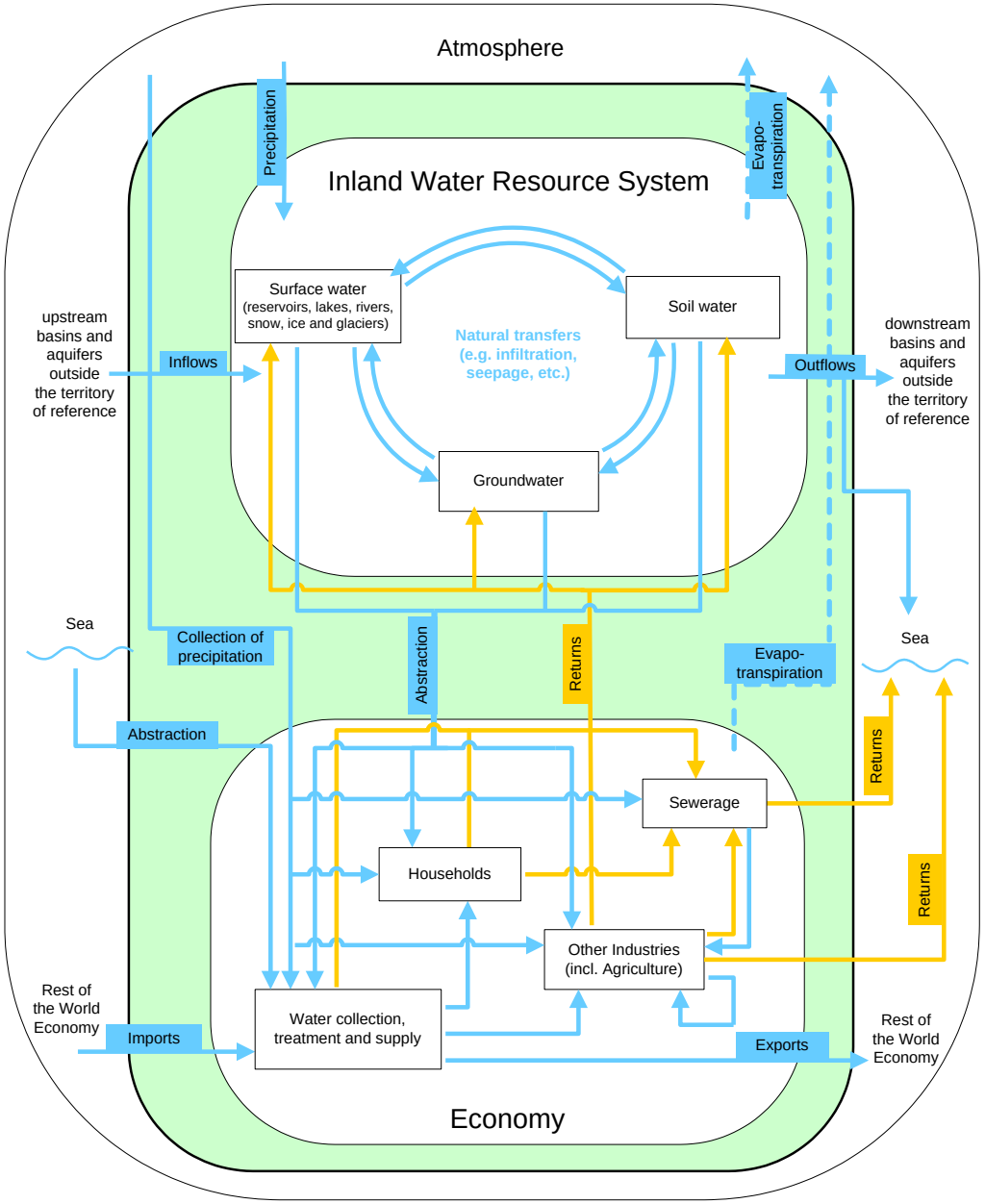
Source: Julie Hass, Statistics Norway

Audiences for information
Indicators and accounts



SEEA-Water

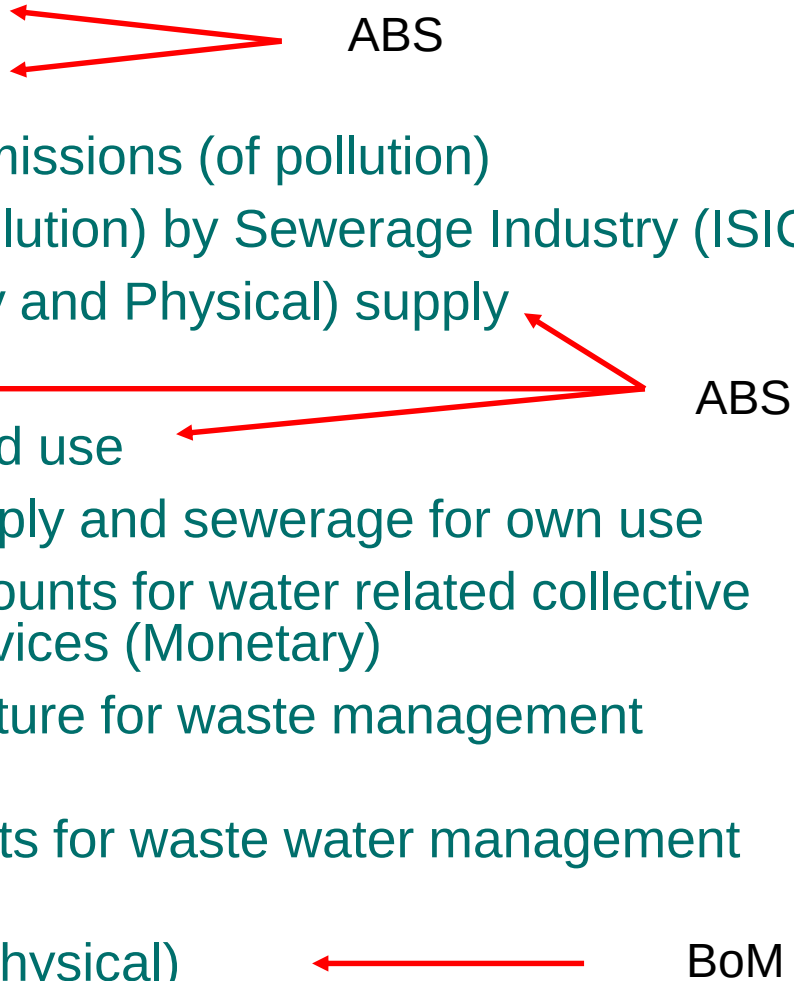
- Economy and environment
- Stocks and flows
- Monetary and physical
- Pollution
- Water quality



12 Standard Tables of SEEA-Water

1. Physical supply
2. Physical use
3. Gross and net emissions (of pollution)
4. Emissions (of pollution) by Sewerage Industry (ISIC 37)
5. Hybrid (Monetary and Physical) supply
6. Hybrid use
7. Hybrid supply and use
8. Hybrid water supply and sewerage for own use
9. Government accounts for water related collective consumption services (Monetary)
10. National expenditure for waste management (Monetary)
11. Financial accounts for waste water management (Monetary)
12. Asset account (Physical)

Plus 12 Supplementary tables



Uses of water accounts

Source of pressure on water resources:

- Macro trends in total water use, emissions, water use by natural source and purpose, etc. ‘Decoupling’ economic growth and water use, pollution
- Industry-level trends: indicators used for environmental-economic profiles
- Technology and driving forces: water intensity/productivity and total (domestic) water requirements to meet final demand
- Modelling. E.g. projections of future water needs, impact of reduced water availability on economic activity or environmental health

Data sources for the Water Account Australia

ABS surveys

- Water Supply Survey
- Agricultural Survey
- Annual Integrated Collection (of Mining, Manufacturing and other industries)
- Electricity Generators Survey of Water Use
- Household surveys (March Labour Force Supp. Survey)

Other

- National performance reports (NWC and water associations)
- Data from Commonwealth and State/territory governments
- Annual reports of companies
- Research

Main findings

Water consumption down 25% since 2004-05, from 18,767 GL to 14,101 GL

- 38% fall in agriculture – 12,191 GL to 7,589 GL
- Large falls in cotton, rice, dairy pasture and sugar

Value of distributed water supplied is up nearly $2 billion (56%), from $3.5 billion to $5.5 billion

- Household paying $927 million extra
- Businesses paying $994 million extra

Average price of water nearly doubled from $0.40/kL to 0.78/kL

- Household pay the highest average price $1.93/kL
- Agriculture pays the lowest average price $0.12/kL

Main findings, *cont*.

Industry valued added per GL is up $41 million/GL or 76% from $54 million/GL to $95million/GL

- Largest increase in IVA mining of $129 million/GL or 133% ($97 m to $226m /GL)
- Agriculture up 77% from $2.2 million/GLto $3.9 million/GL

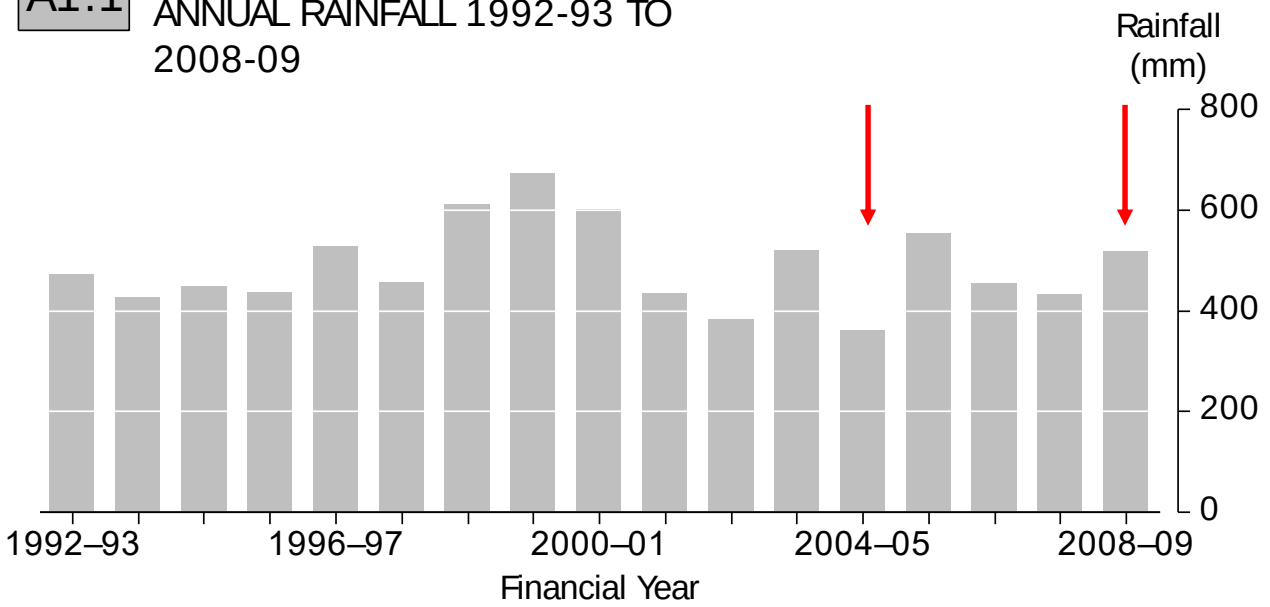
Gross value of irrigated agricultural production up 13% or $1.4 billion from $10.6 to $12 billion

- GVIAP is 29% of the total gross value of agricultural production (almost unchanged since 2004-05 when it was 30%)
- GVIAP peaked in 2006-07 at $12.5 billion and 35% of total gross value of Agriculture production

Climate

A1.1

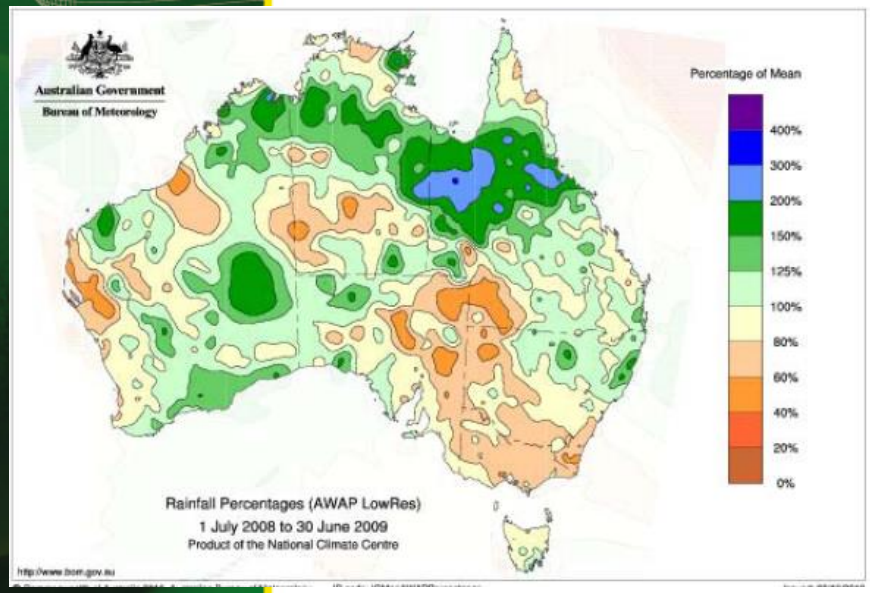
ANNUAL RAINFALL 1992-93 TO 2008-09

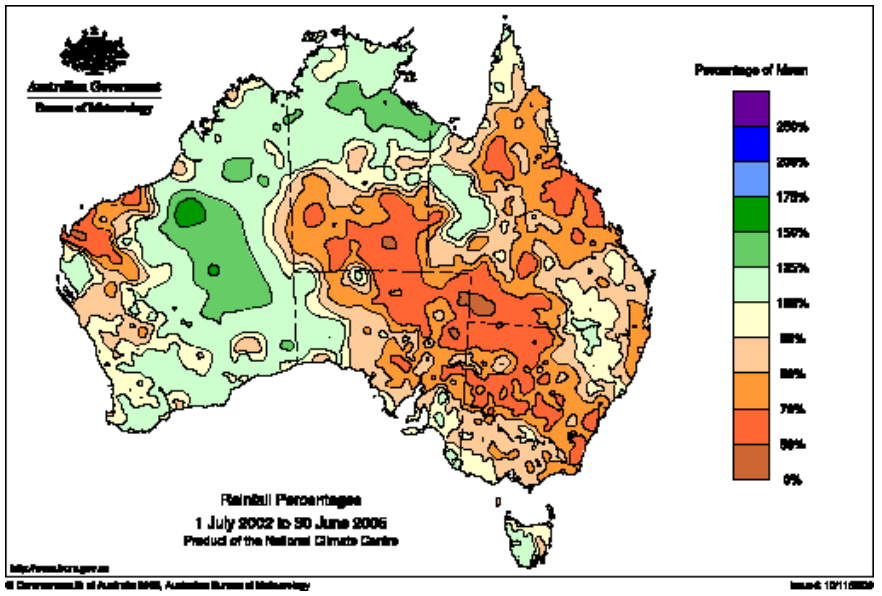


2008-09

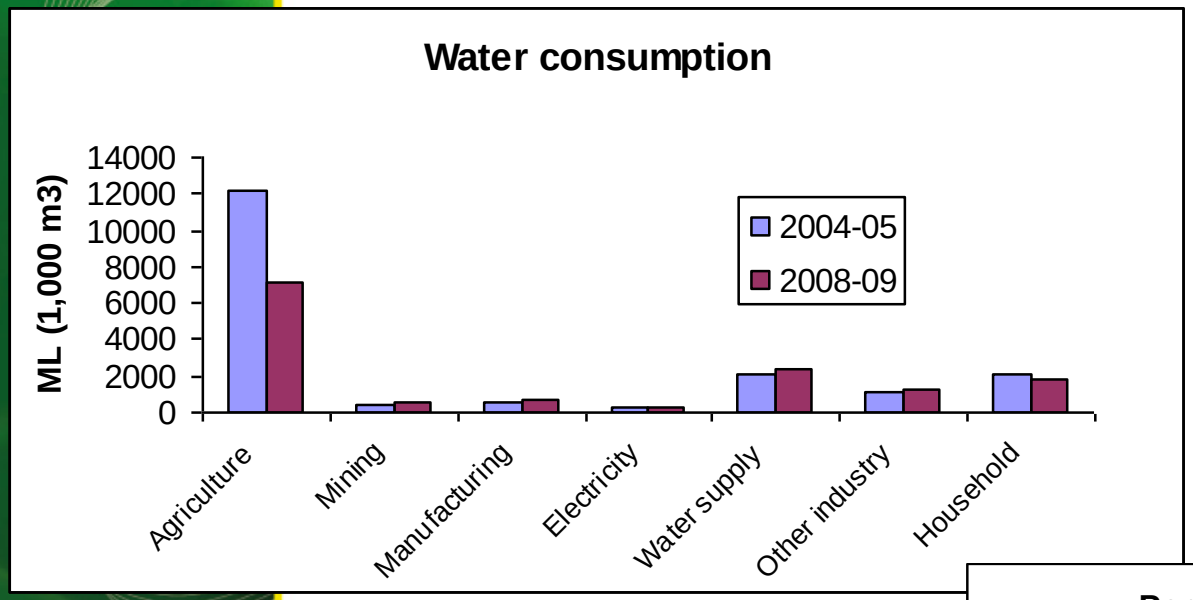
Source: Bureau of Meteorology 2009

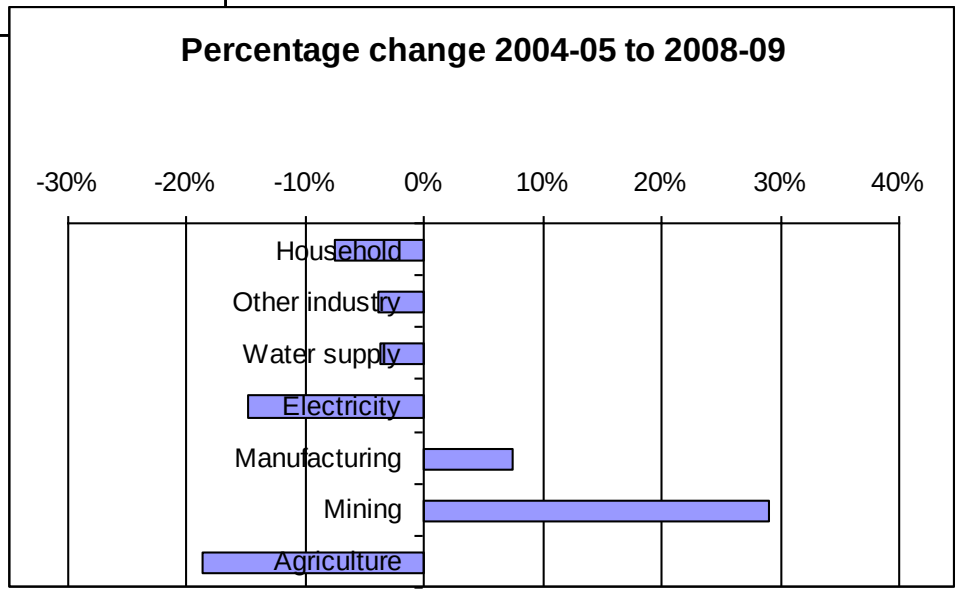
2004-05



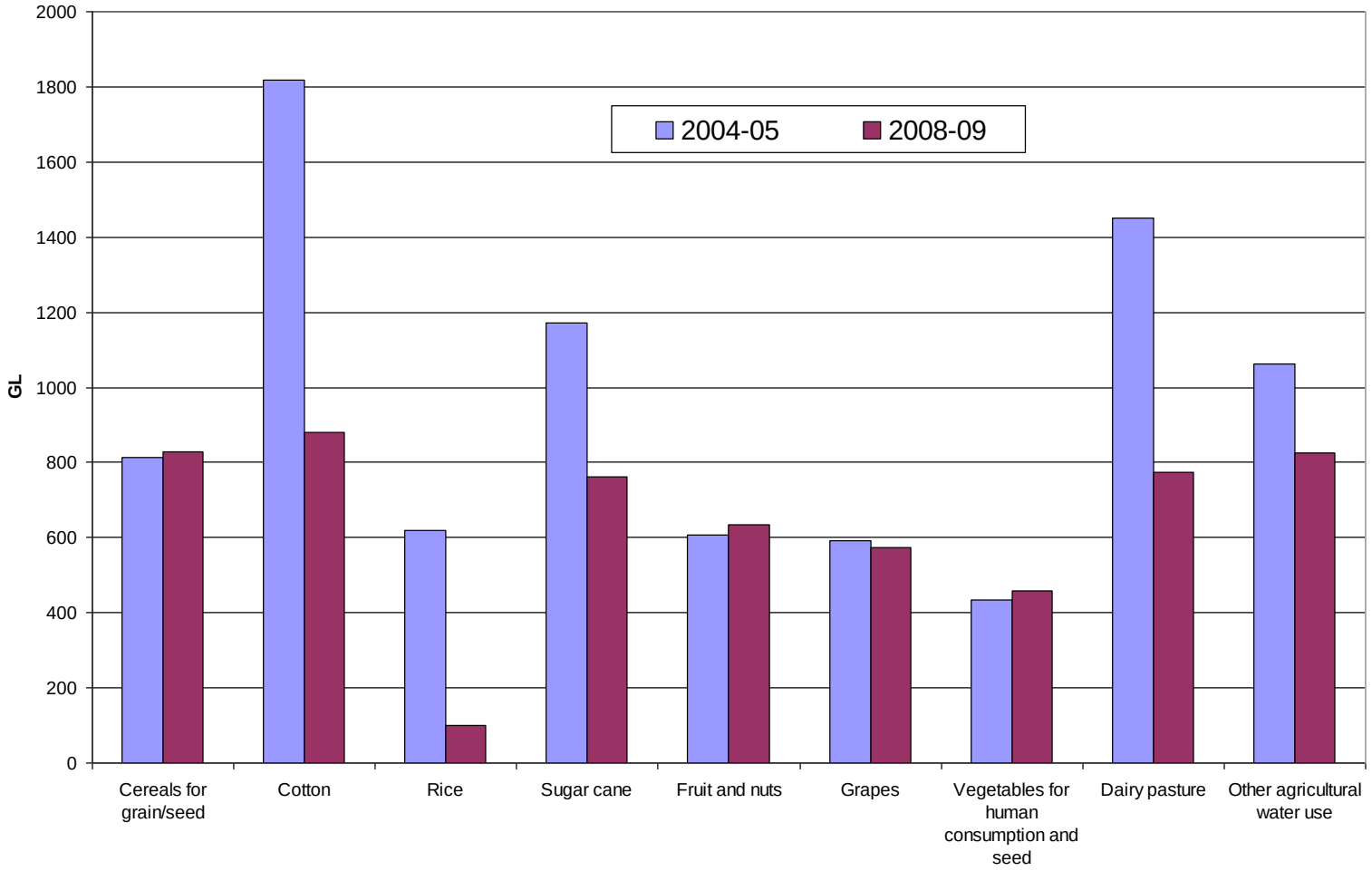


Australian water consumption by industries and households

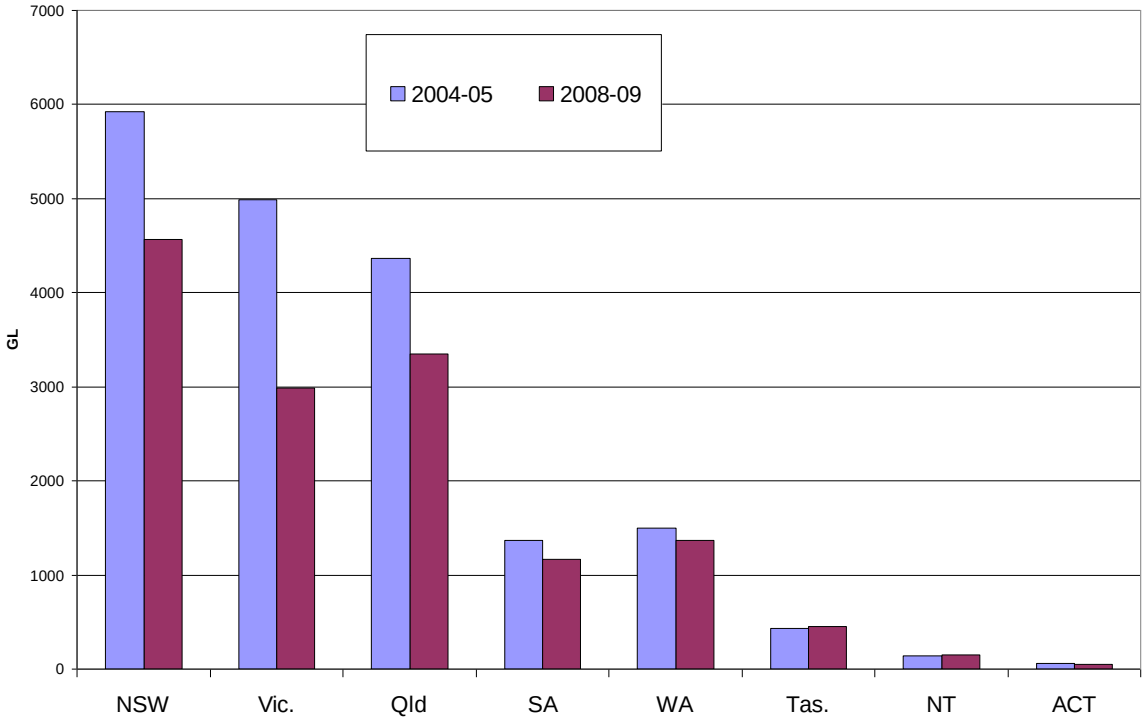




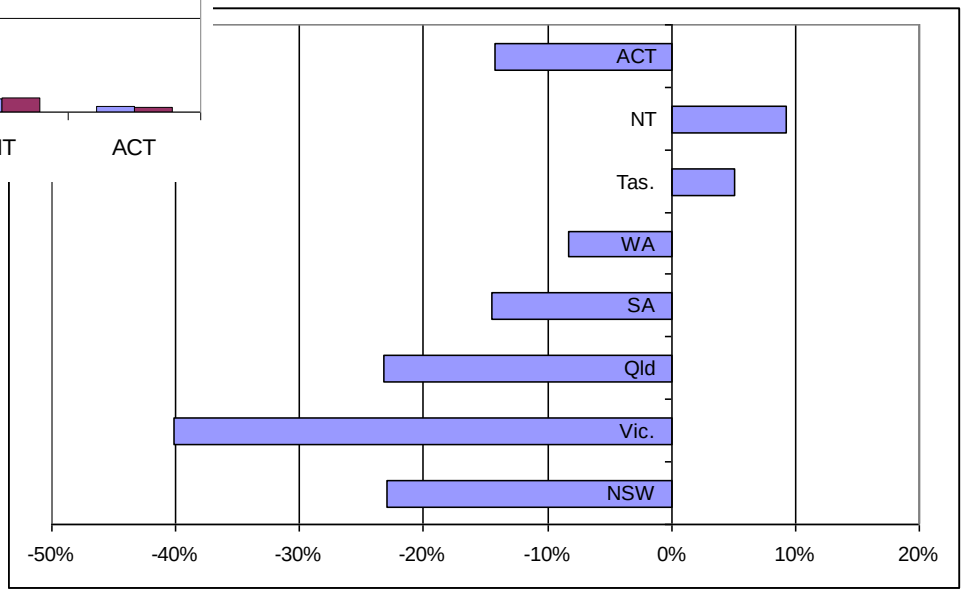
Agricultural activity



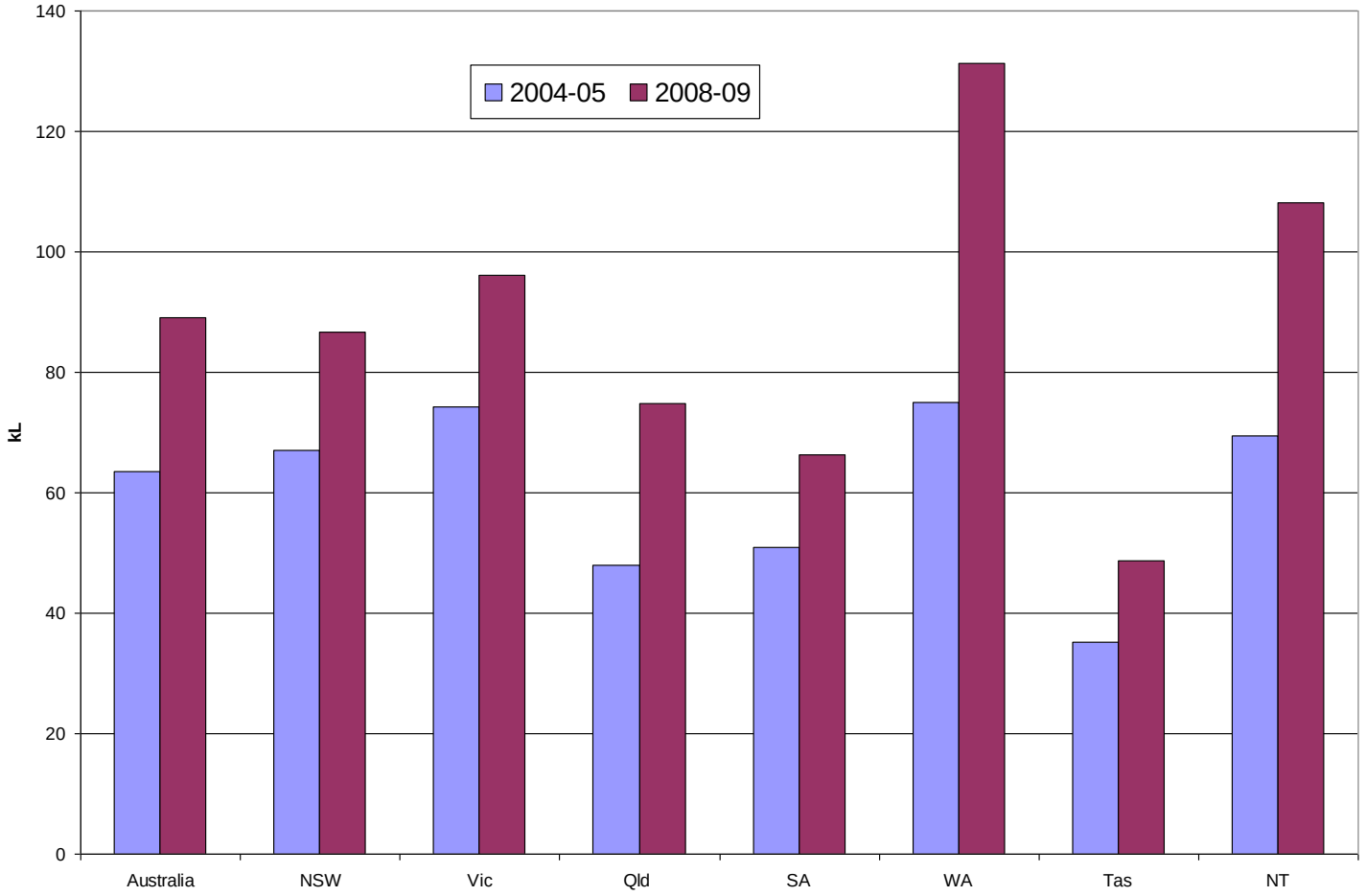
Water consumption by State



Percentage change
2004-05 to 2008-09

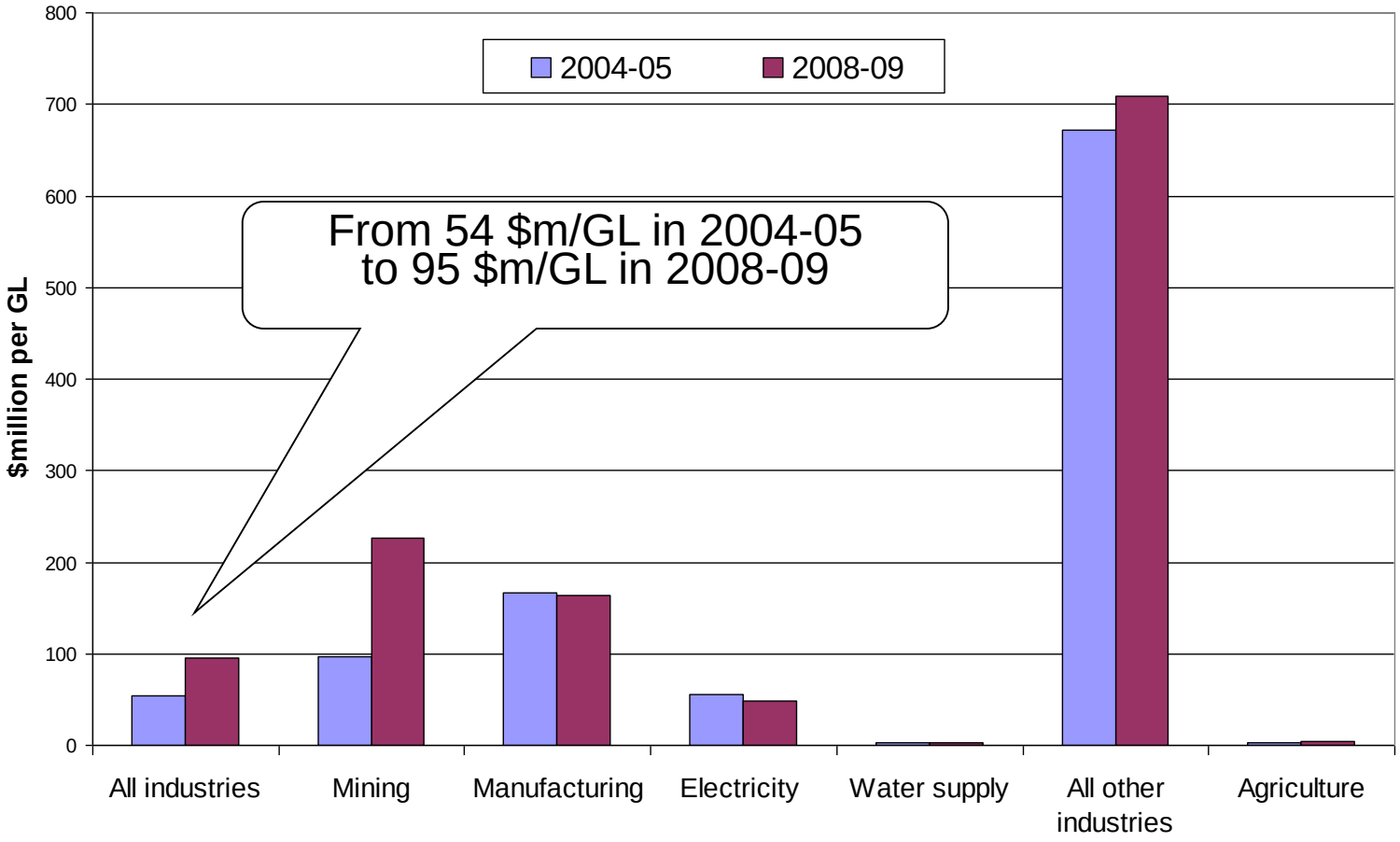


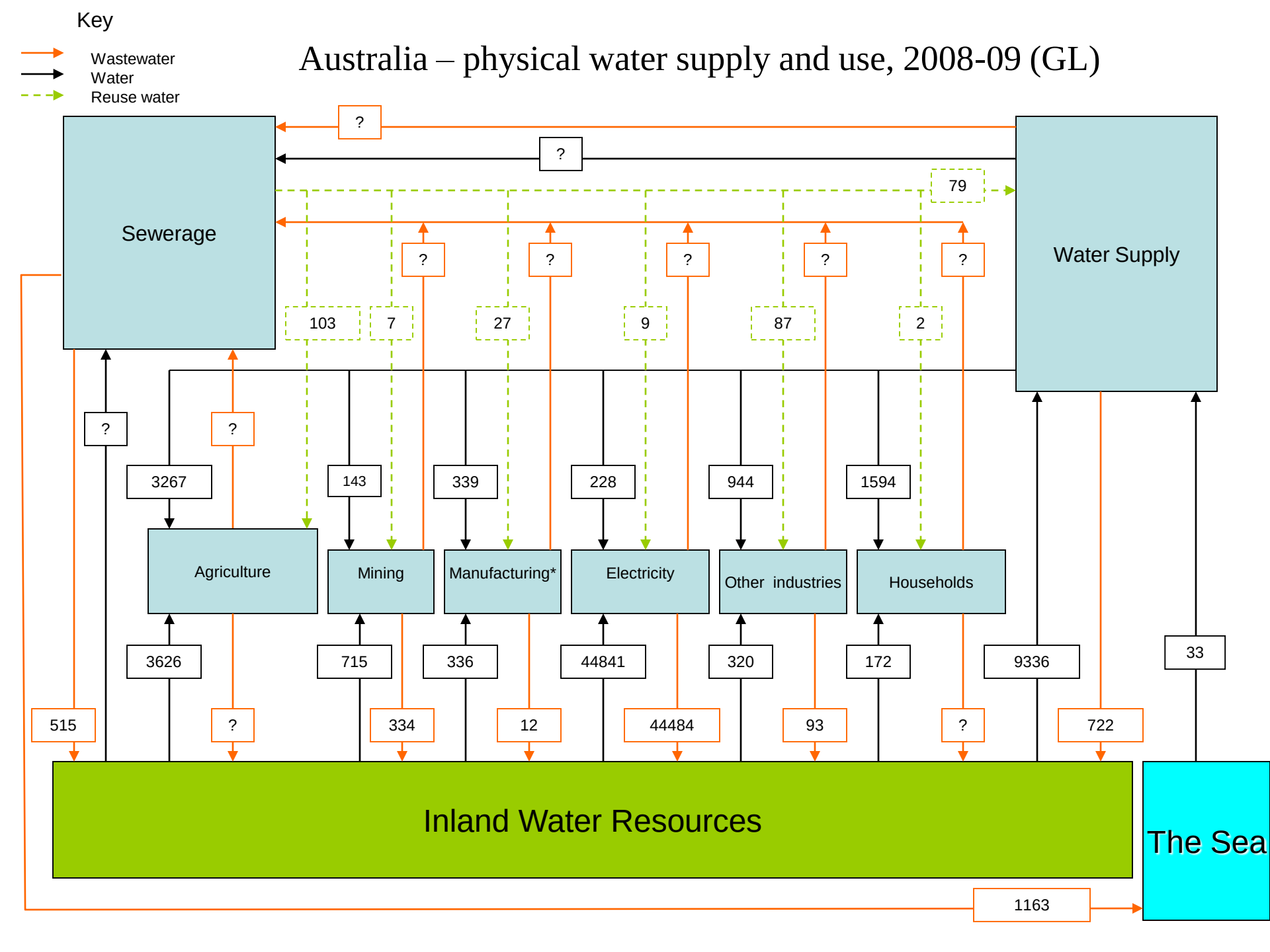
Gross State Product per GL

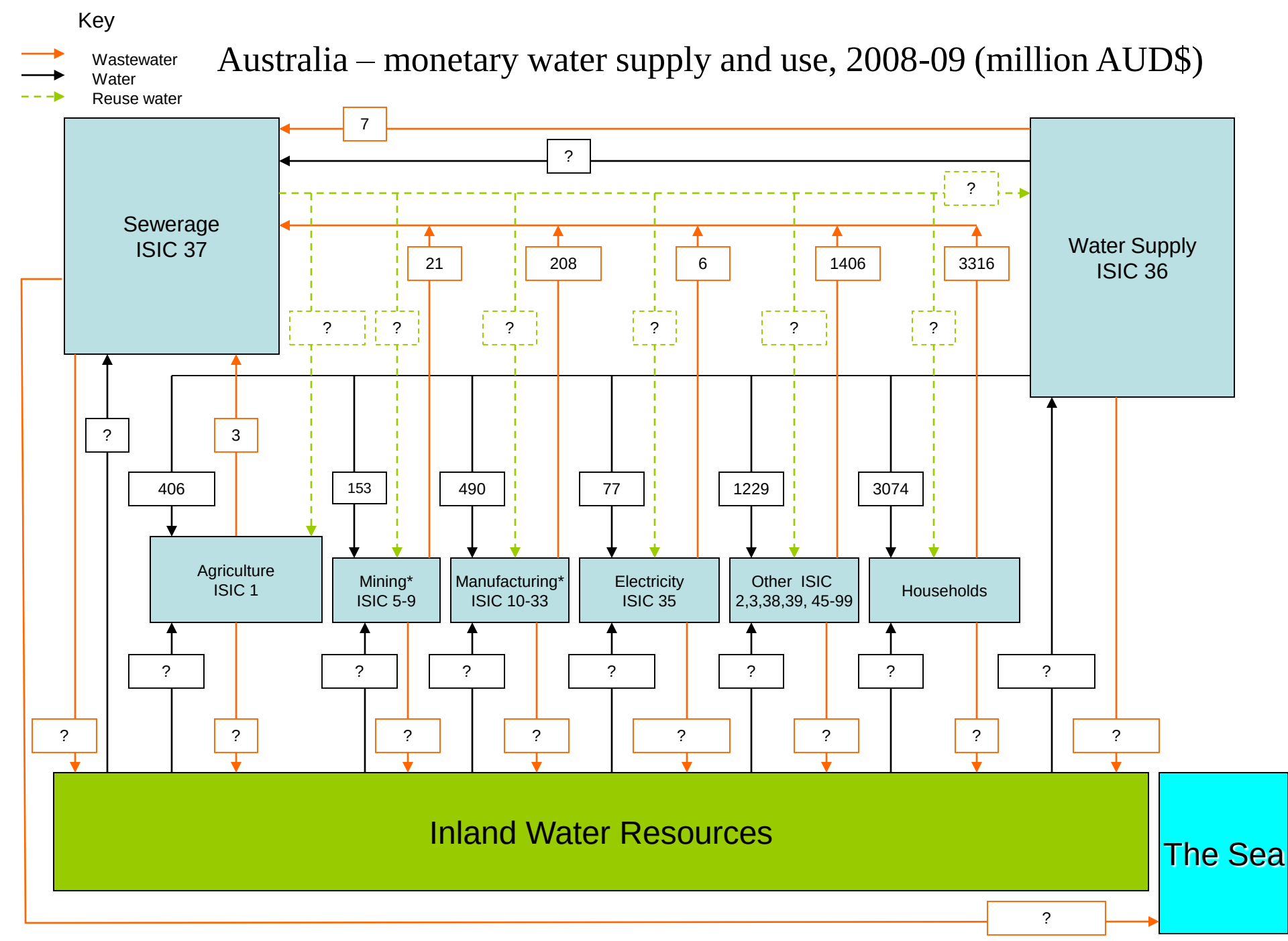


ACT = $384m/GL in 2005-05 and $536m/GL in 2008-09

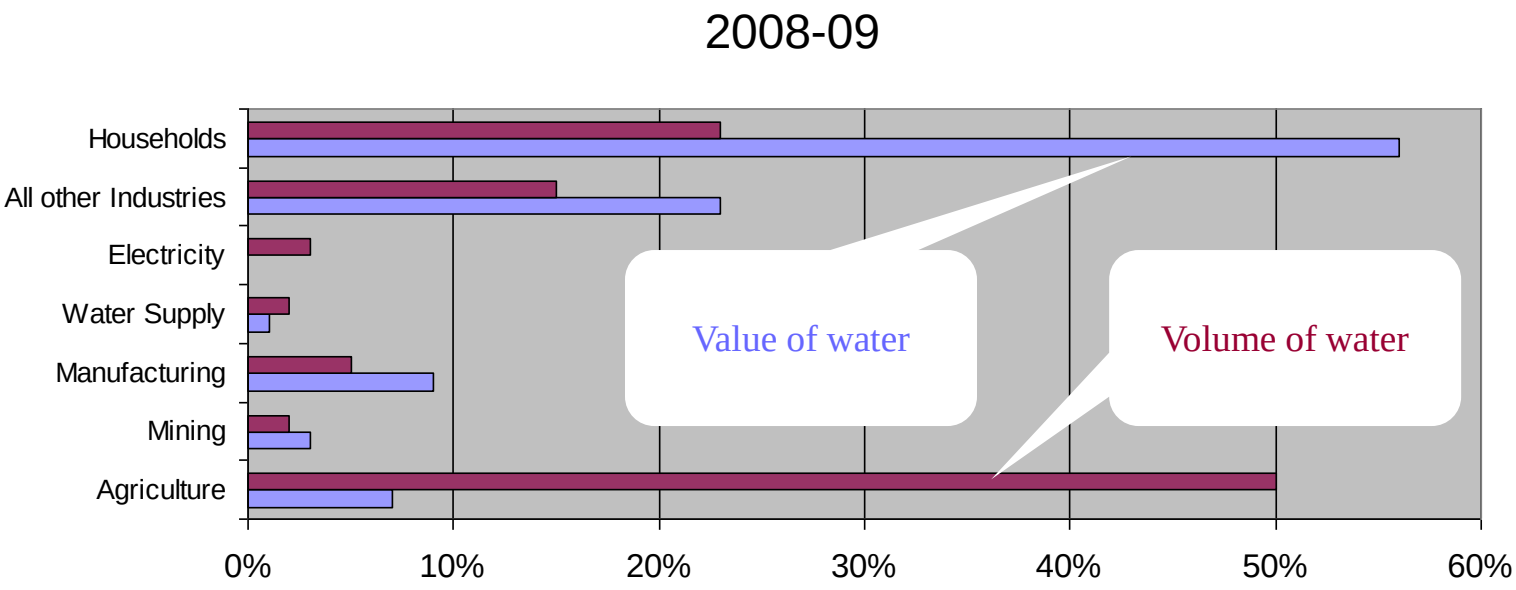
Industry gross value added per GL of water consumption



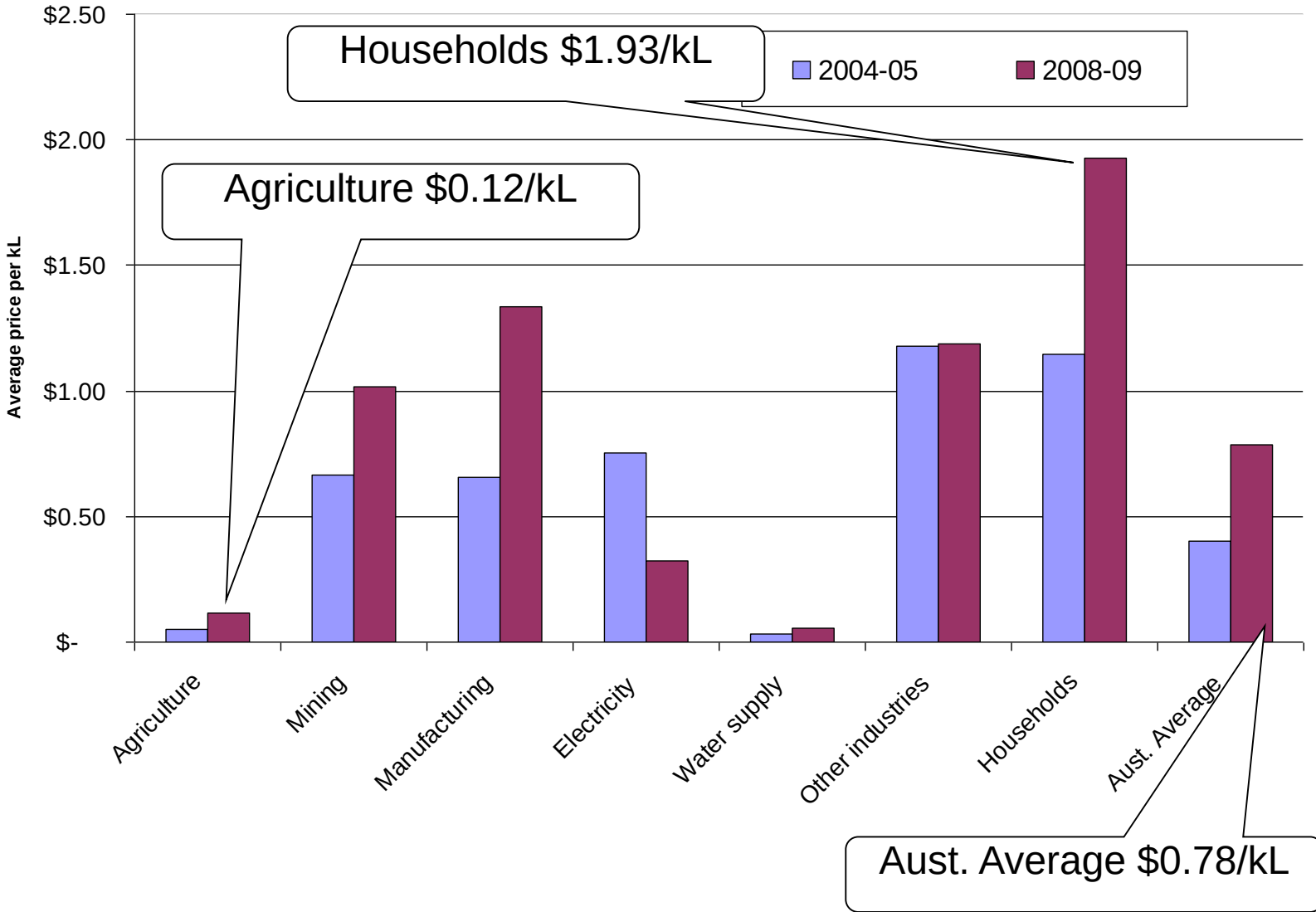

Key
Wastewater
Water
Reuse water
Australia – physical water supply and use, 2008-09 (GL)
Sewerage
Water Supply
Agriculture
Mining
Manufacturing*
Electricity
Other industries
Households
Inland Water Resources
The Sea
?
?
79
?
?
?
?
?
103
7
27
9
87
2
?
?
3267
143
339
228
944
1594
3626
715
336
44841
320
172
9336
33
515
?
334
12
44484
93
?
722
1163


Key
Wastewater
Water
Reuse water
Australia – monetary water supply and use, 2008-09 (million AUD$)
Sewerage ISIC 37
Water Supply ISIC 36
7
?
?
21
208
6
1406
3316
?
?
?
?
?
?
?
3
406
153
490
77
1229
3074
Agriculture ISIC 1
Mining* ISIC 5-9
Manufacturing* ISIC 10-33
Electricity ISIC 35
Other ISIC 2,3,38,39, 45-99
Households
Inland Water Resources
The Sea
*

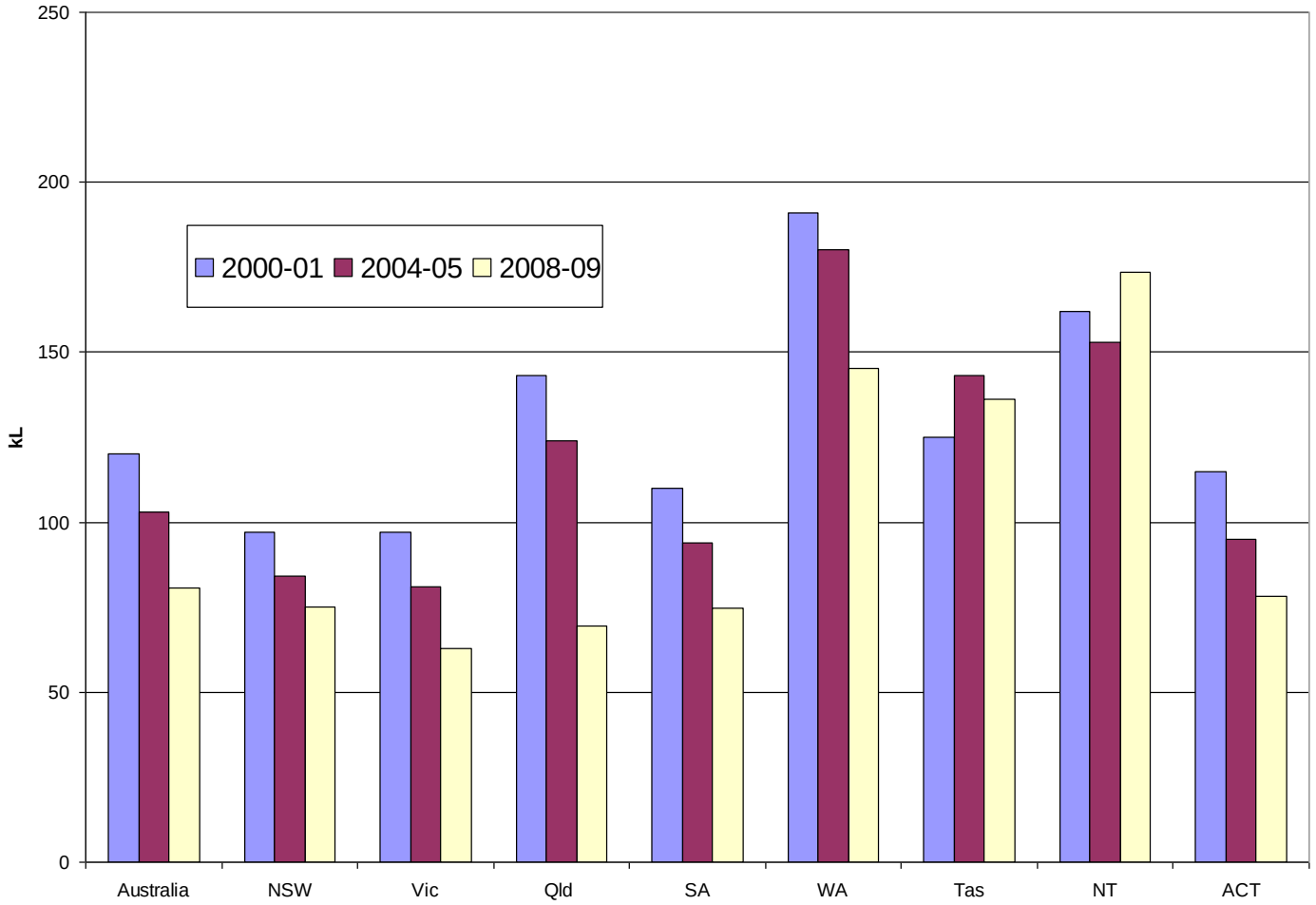
Monetary vs. physical use of distributed water (% of total use)



Australian average water prices for industry and households – $/kL



Per capita household water consumption



Some problems in compilation of the water account

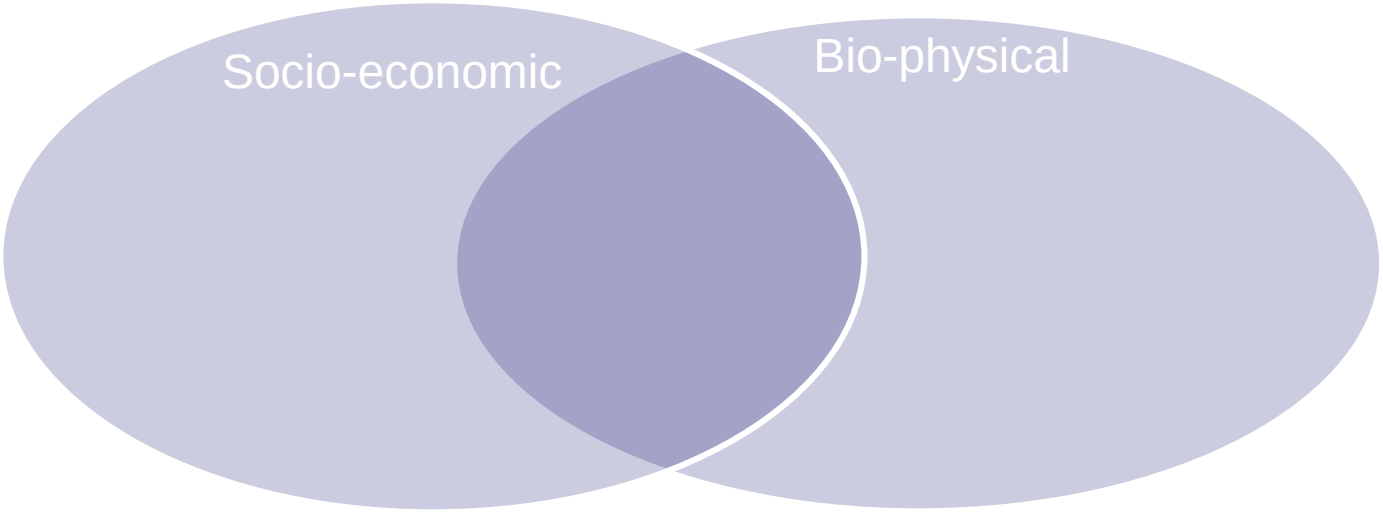
- Classification of units to industry in the case of multiple activities and multiple sites.
- Industry classifications used by water suppliers and others does not follow ANZSIC
- Multiple data collections and poor coordination of data sharing
- Many units supplying water or sewerage services are operated by government and data on this specific aspect of services are difficult to separately identify
- Spatial referencing – economic data is related to enterprises and there is generally poor spatial referencing (usually to post code)
- Estimation of losses in distribution
- Recording of the flows for use of water in hydro-electricity and water for cooling
- Definition and reporting of environment flows

Issues

- Timeliness – data available 17 months after reference period
- Higher quality regional data are needed
- Greater disaggregation of industry data
- Surface and groundwater splits
- Data sources are changing (in general improving but still not stable)
- Understanding what and when we can get from other data providers (and especially BoM and NWC)
- Development and application of water accounting standards at business, state, national and international levels
- Appropriate valuation of water and water infrastructure assets
- Better integration of environmental, social and economic data

An Integrated Environmental-Economic Information System for Australia

researchers



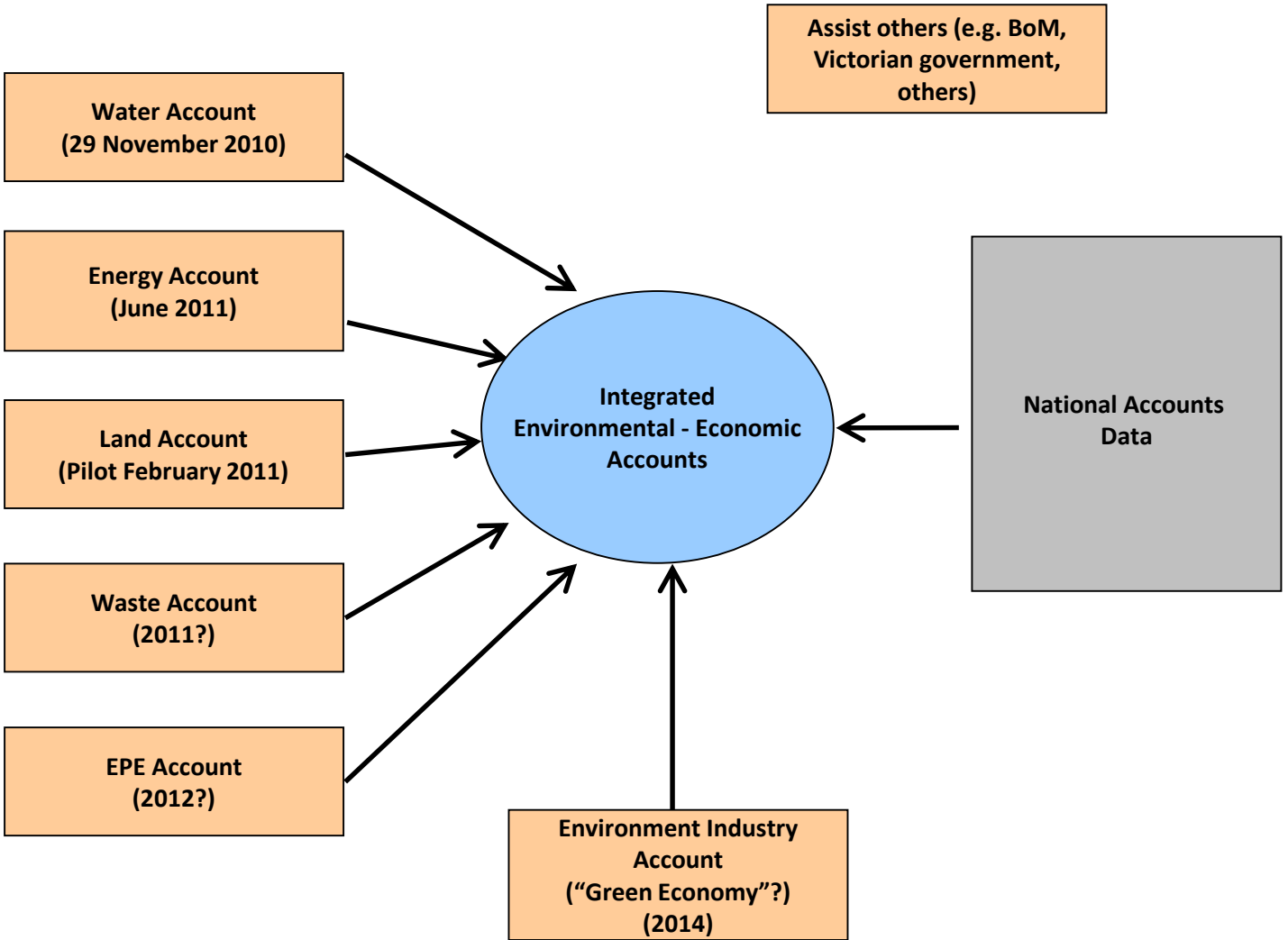
Treasury, ABS, ABARE, PC, PM&C, DRET, state/territory, etc

DEWHA, BoM, DCCEE, Geoscience Australia, MDBA, BRS, CSIRO, state/territory, etc

Some agencies and researchers operate across both spaces

ABS Proposed plan for Integrated Environmental-Economic Account

http://www.abs.gov.au/ausstats/abs@.nsf/mf/4655.0.55.001



Thank you to everyone outside of ABS that has assisted us

Thank you to the ABS team

Thank you for listening

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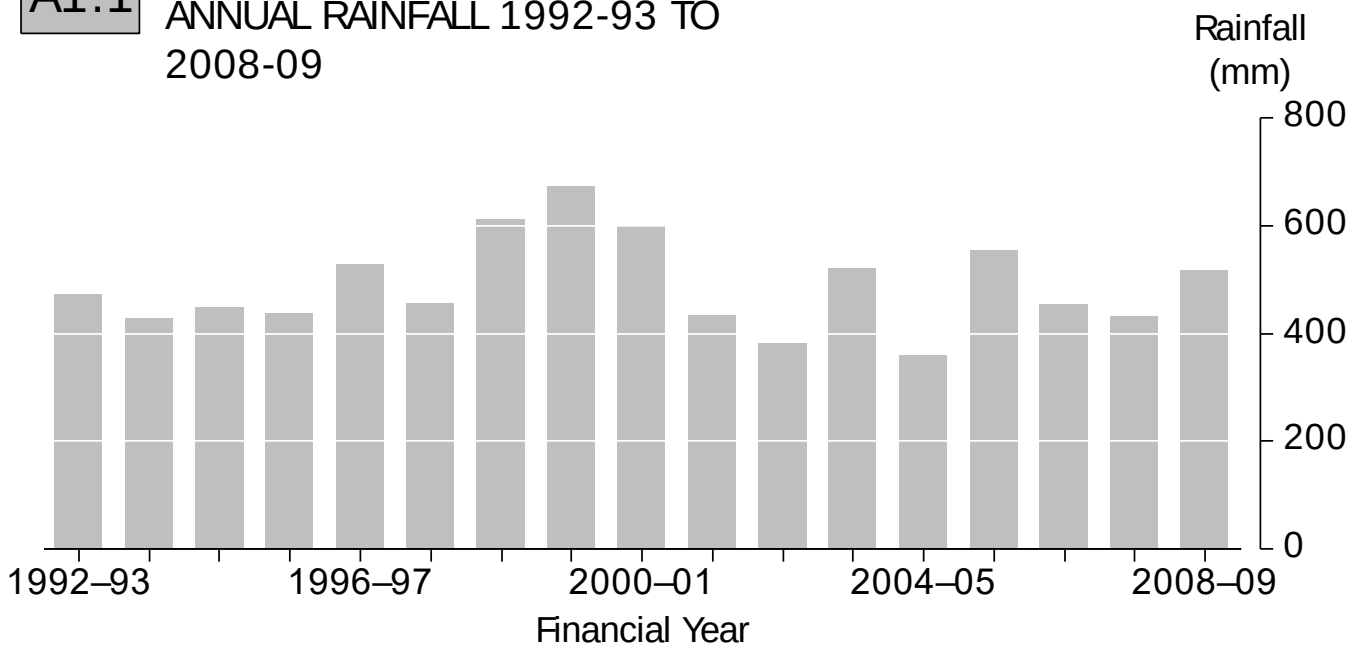
Rainfall in Australia

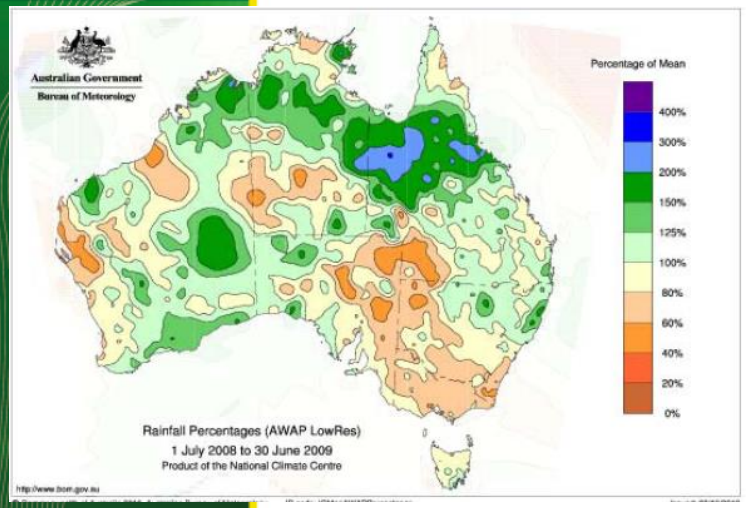
A1.1 ANNUAL RAINFALL 1992-93 TO 2008-09

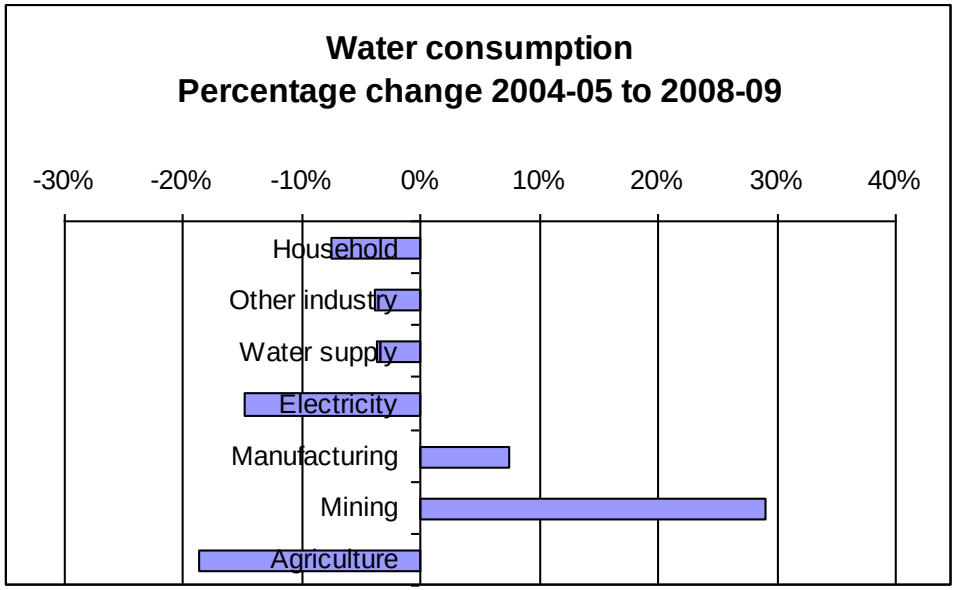


Source: Bureau of Meteorology

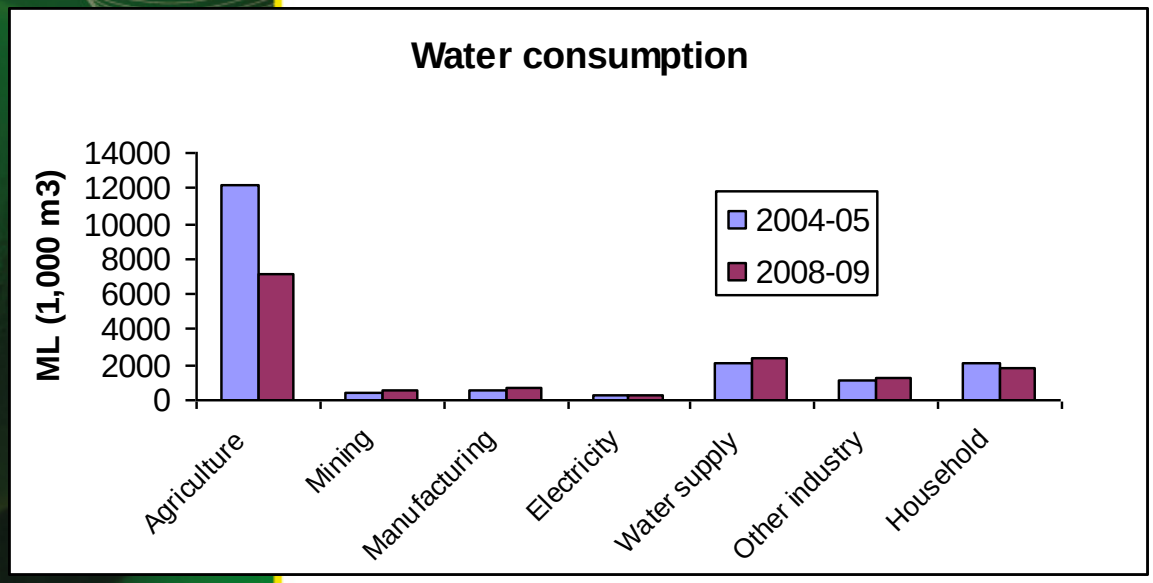
Australian Bureau of Statistics

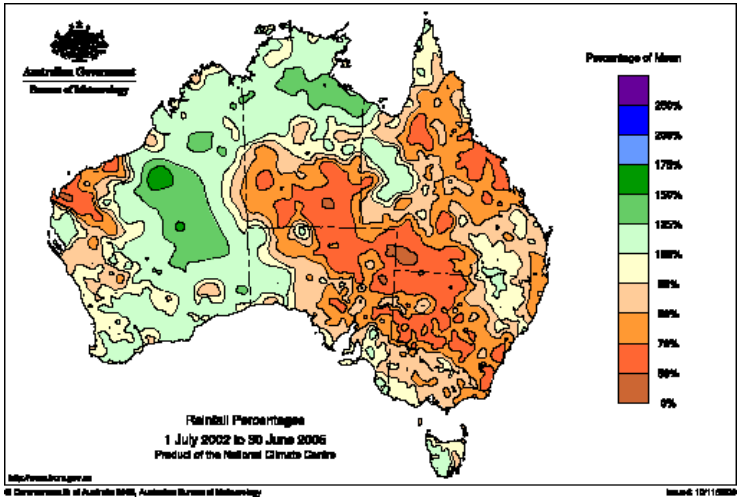
% Annual Rainfall 2008-09





% Annual Rainfall 2004-05





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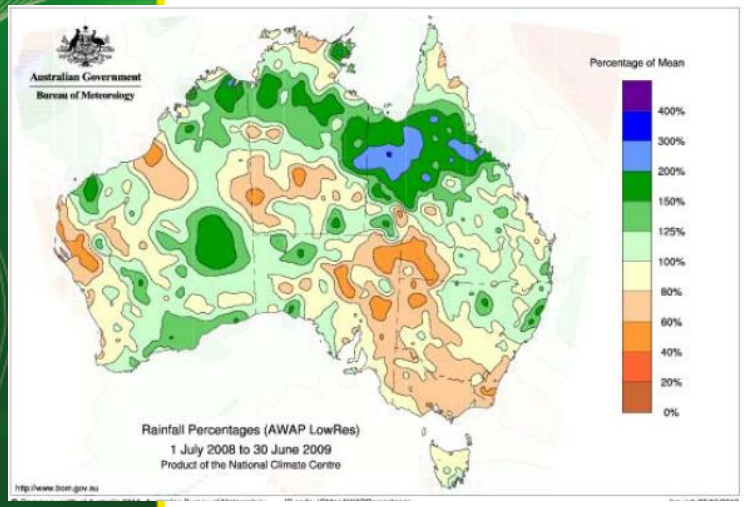

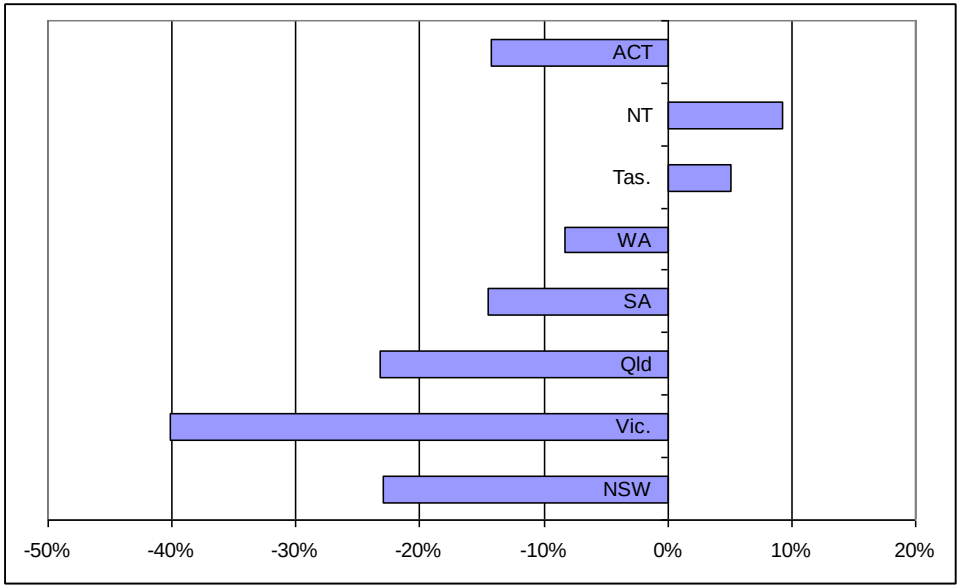

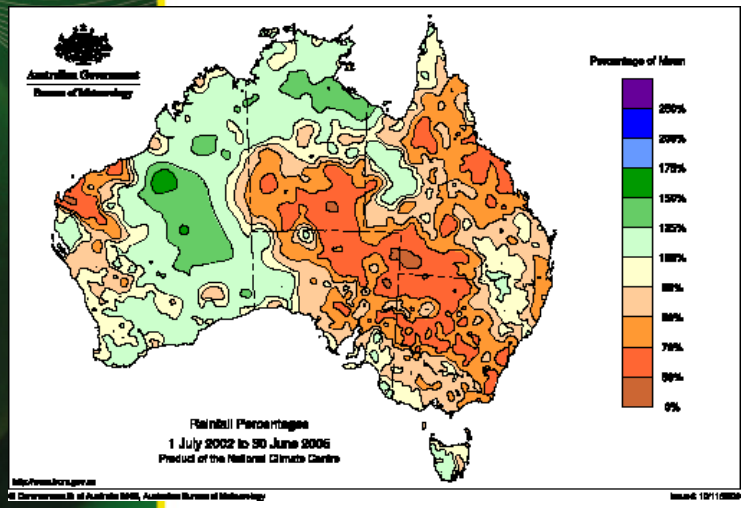

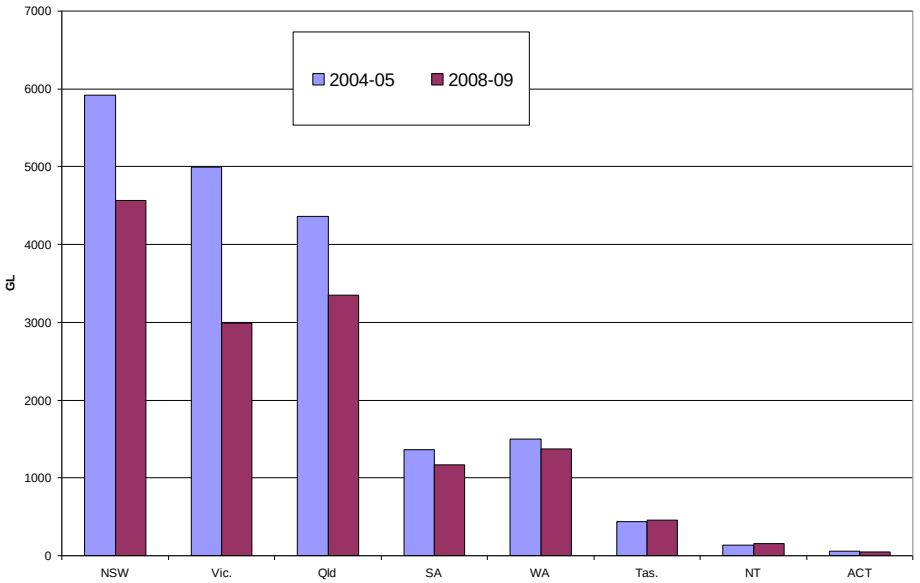

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