AUSTRALIAN WATER REFORM

Lessons Learned

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LESSONS LEARNED IN AUSTRALIAN WATER REFORM

**Political Will**
The will to reform must be accepted at a politically effective level. The economic importance of water and water related services at high standards and lowest possible cost must be recognised as a key national objective.

**Government Role Policy / Legislative**
Government must maintain ultimate control but retain only a policy/legislative role.

**Reform Team**
Government must establish a committed team of multi-disciplinary professionals AND key community stakeholders from outside the industry to set the framework to drive the reform (not existing water decision makers - but utilising their knowledge.) Key champions of reform must be identified early and engaged in the effort.

**Long Journey Over Many Electoral Cycles**
Reform is a long journey or the battle will be lost in the early stages.
LESSONS LEARNED IN AUSTRALIAN WATER REFORM (2)

Reform Ingredients Framework
The framework must cover:

• Measurement and accounting for the resource (sometimes takes many years and can run alongside reform)
• Statutory volumetric rights (capacity share) which are tradeable
• Reserve powers should remain in the hands of most powerful politicians – not bureaucrats
• Extensive community consultation in all phases of development of the framework and finalisation of water rights
• A statutory based register of all entitlement and allocation decisions
• Water trading at bulk and retail levels as the means of allocating water not Government/Ministerial/bureaucratic orgs (including environmental water)
• Institutional separation of policy, service delivery and regulation (and customer complaints) for water supply, sewerage, waterway and catchment management functions (PERHAPS THE MOST IMPORTANT ELEMENT OF ALL)
• Creation of financially viable regional authorities to undertake service delivery with skill based Boards, performance reporting and community obligations to perform. These authorities are independently regulated to determine prices of monopoly and must be empowered to charge customers. Social programs should be run separately or the whole reform program will be lost. (viz. Apple does not provide subsidies)
• Recognition of environmental standards, establishment of env. managers and the need for sustainability
• Long run water supply planning involving the community is critical as climate variability and demand happens faster than you think.
Restrictions are for Emergencies Only
Restrictions are almost invariably economically expensive and do not benefit the environment. There is plenty of water and price is the only variable—let the market and the community determine if they want to pay more or conserve.

Mult-Tier Framework
There must be a nationally agreed framework agenda involving the commitment of national/regional and local governments to the broad agenda and direction.
POPULATION DISTRIBUTION - AUSTRALIA

Population: ~23 million
IRRIGATED AGRICULTURE IN AUSTRALIA

- 70-80% of water use
- 0.4% land irrigated, 99.6% non irrigated
- 25% gross value of agriculture
- Agriculture 3% GDP
- - 22% total exports ($33.6b)
- Irrigation mainly in MDB
- Typical crops are (NSW) rice, cotton, (Vic) dairy – less than 20% on horticulture, viticulture, permanent plantings
AUSTRALIA’S CHALLENGE – OVER-ALLOCATION
WATER SUPPLY AND USE

Figure 3.1 Water use in Victoria and Melbourne – % used by sector

Total surface water 2004/05
- 73% Water for rivers
- 27% Water used

Victoria % of use
- 77% Irrigation
- 4% Rural domestic & stock
- 10% Household & industry use, Melbourne
- 9% Household & industry use, regional Victoria

Melbourne % of use
- 60% Residential
- 10% Non-revenue
- 30% Industry

Source: State Water Report 2004/05
SUPPLY, DROUGHT AND CLIMATE CHANGE

Victorian Murray River Flows – 1990-2055

Climate Change Scenarios - Murray System - Victorian share
Mean Annual Reduction in Inflow

- Scenario A - Low climate change
- Scenario B - Medium climate change
- Scenario C - High climate change
- Scenario D - Continuation of past 10 years low inflows
WATER MANAGEMENT - HISTORY

• Prior to the 1980’s, water management was largely conducted by local authorities, with separate trusts being responsible for water delivery and sewerage services

• Strong connections to municipal councils

• Victoria, geographically small with a relatively low population, had around 370 regional water authorities, yet no overarching integrated policy and planning body

• Melbourne’s water supply was managed by the MMBW, with rural supply managed by the State Rivers Commission
BACKGROUND - AUSTRALIAN ECONOMIC REFORM

• Prior to 1970s, Australia operated as a highly protected economy, dependant on agriculture

• In the mid 1970s there was a growing realisation that there was a need to enhance productivity and adapt to global economic conditions

• The mid 1970s and the 1980s saw some major Government initiatives to enhance national productivity through deregulation and liberalisation

• Victoria’s water reforms from the 1980s were inspired by and consistent with this national direction
RECENT WATER INDUSTRY REFORM

- 1980  Public Bodies Review Committee (Victorian Parliament)
- 1983  Water & Sewerage Authorities (Restructuring) Act
  - 370 authorities restructured to 105 water boards, 7 sewerage authorities and 43 municipalities with water supply functions
- 1989  Water Act
  - Statutory rights to water (continued)
  - Decision making in hands of Minister not bureaucracy
  - Consultation processes for Ministerial decisions
  - Bulk water entitlements
  - Water trading at bulk and retail levels
  - Separation of service delivery from policy and regulation
  - Corporate planning processes, Waterway management functions,
  - Environment considerations
REFORM - WATER AUTHORITIES

• Replaced local government and large Metro Authorities with expert Boards (with regional ties)
• Built capability (large regional authorities) with appropriate
  • people
  • financial muscle, and
  • knowledge and skills
• Self funding through water prices allowed authorities to
  • Cover operation and maintenance
  • Look after assets, and
  • Source money to grow business
• Focus on customer and commercial service delivery
• Clarified roles, responsibilities and incentives
OVERVIEW OF THE REGULATORY FRAMEWORK

Ministers, Secretaries and Departments

- Plans and Allocates Resource
- Sets Authority Obligations
- Owns and Monitors Authority's Financial Performance
- Makes Policy

Authorities

- Waterway Management
- Rural Water Supply
- Urban Water Supply
- Sewerage
- Recycling

Community/Customers/Local Government

Democratic processes, customer committees, advisory groups

Regulators

- Essential Services Commission
  - Regulates prices and service quality
- Environmental Protection Authority
  - Sets environmental standards
  - Regulates environmental performance
- Department of Human Services
  - Regulates drinking water quality
- Energy and Water Ombudsman Consumer Utilities Advocacy Centre
  - Complaints / Advocacy

CeRRF
CENTRE FOR REGIONAL + RURAL FUTURES
WATER ALLOCATION SYSTEM

The Government:
Creating a comprehensive system - including groundwater, stormwater & recycled water

Establish Environmental Water Reserve
UNBUNDLING WATER RIGHTS

Mortgageable asset easier to trade
able to be leased
don’t need land
choice b/w high, low
obligation to pay
can opt for more (e.g. if have drip irrigation)
standards can go up
Restrictions on water use
FURTHER DEVELOPMENT OF MARKETS AND WATER TRADING

• Why markets?
  – Efficiency – ability to identify willingness to pay and sell can inform investment decisions by water corporations and customers
  – Greater flexibility and customer choice
  – Individuals can manage their own risks during scarce times

• Where are we with markets?
  – Northern Victoria – working well but could be improved
  – Southern Victoria – cost of supply is known however value of water (willingness to pay) is not
  – Functioning water market in the north reflects value of water
REFORM AND MARKETS

Victoria’s water reforms have created an allocation framework which provides for secure, commercially certain and tradable water rights.

• Creates flexibility to plan use, trade shares, tailor delivery services and manage risk.
• Opens up markets - Separation of transferable components of entitlements has made buying and selling water a lot easier
• Promotes more efficient on-farm management of water and movement of water towards higher-value use.
• Aligns with obligations under The National Water Initiative to enhance the water market.
IRRIGATED AGRICULTURE – FINANCIAL RETURN ON WATER INPUT

Aim to have prosperous irrigated agriculture

For secure future, rivers must be healthy:
- more production from less water
- reduce salinity & nutrient side-effects
## EXPANSION OF WATER TRADE

### Water Trade summary - Victoria

<table>
<thead>
<tr>
<th>Year</th>
<th>Water Trade (ML)</th>
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<tr>
<td>2004/05</td>
<td>47,135 (58,120)</td>
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<tr>
<td>2005/06</td>
<td>42,928 (52,932)</td>
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<tr>
<td>2006/07</td>
<td>62,365 (76,899)</td>
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<td></td>
<td>128,047 (157,888)</td>
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<tr>
<td>2008/09</td>
<td>131,815 (162,534)</td>
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Note: Unbundling in northern Victoria on 1 July 2007 separated water entitlements from land. The permanent trade data for 2007/08 and 2008/09 includes all transfers of ownership of high reliability water shares. The permanent trade data for the earlier years exclude transfers of water rights/licenses that occurred as a result of a land sale.
CONSERVATION AND EFFICIENCY - HOUSEHOLDS

Melbourne’s residents have reduced consumption by over 35% per person compared to the 1990s. Changes include:

- **Tiered pricing structure** for urban consumers - rewards water savers
- **Water restrictions** and voluntary water reduction programs
- **5 Star Rating building regulations** – water efficiency requirements for new homes, renovations
- **Water Efficiency Labelling and Standards Scheme** – minimum standards and product advice for consumers
- **Water Smart Gardens and Homes Rebate Scheme** - has provided over 264,000 rebates since 2003, saving 2.6 billion litres (permanent greywater systems, dual flush toilets, rainwater tanks, water efficient showerheads, conservation audits, garden products etc).
- **Showerhead exchange program** - 400,000 free water efficient showerheads provided in exchange for old, inefficient models.
- **Audits** - voluntary home consumption audits by 110,000 households have reduced home water use by participating in voluntary behaviour change program.
CONSERVATION AND EFFICIENCY - INDUSTRY

Melbourne’s industry has reduced its water use by about 41% per capita when compared to the 1990s (keeping pace with households).

- **Annual Water Reporting** – water corporations to report annually on largest water users
- **Water Management Action Plans**
  - Targeted at organisations using more than 5 million litres a year
  - 1,750 Water MAPs completed statewide (100% compliance)
  - Water MAP customers have saved 15 billion litres (12,000 ac-ft) since inception in 2007
- **Smart metering** – Installation of smart meters to monitor water use in real time for Melbourne’s largest water users
- **Targeted industry programs** – Cooling towers water efficiency program, fire sprinklers water efficiency, laundry program, hospitals program
- **Financial incentives programs** – Stormwater and Urban Recycling grants, Drought Assistance Program
- **Support Water Use Reduction** – over 4,000 Melbourne businesses have joined voluntary program to help reduce water consumption
RECYCLING

- Original industry target to recycle 20% of Melbourne’s wastewater exceeded with over 65 billion litres currently being recycled (WSAA figures).
- Recycled water is predominantly used for agricultural and irrigation purposes on the outskirts of Melbourne, with a growing component of higher value residential and industrial use.
- Over 3,500 residences have been provided access to recycled water through dual pipe schemes – this figure is rapidly increasing.
- Proposed major upgrade of the Eastern Treatment Plant, which currently treats 40% of Melbourne’s wastewater. On completion in 2012, plant will treat 100 billion litres of wastewater to Class A (non-drinking) recycled water each year - potential uses include industrial, agricultural, and environmental.