



Senate Environment Committee
Inquiry into the management of Australia's urban water
Environment Business Australia submission
13 May 2002

Introduction

Environment Business Australia welcomes the opportunity to provide comment to the Senate Environment Committee's Inquiry into the management of Australia's urban water.

Few resources are as essential as water and global attention is increasingly being focused on water access for drinking, sanitation, irrigation and ecosystem and biodiversity health. While the focus of this paper is on urban water, we wish to emphasise the importance of catchment health and security to the issue of supply. In Australia this has been highlighted by dryland salinity, river system degradation and the unsure future of supply to areas such as South Australia.

On the global scale water access is one of the most fraught political issues with significant potential for conflict. There are many aspects to be considered within the overall context of our urban water supplies - water source, water usage, waste water, stormwater, public health, and environmental sustainability. Catchment, delivery, treatment, recycling/reuse and disposal each have their own set of impacts and the future viability and quality of service will depend on the value ascribed by society and communities' willingness to pay for security of quality and quantity of water.

Australia is one of the most innovative countries in addressing water technologies and water infrastructure. We have a diverse range of treatment types and some world benchmarks. Australia has had to overcome a variety of environmental challenges with its many climates and topographies and home grown technologies have joined forces with those from overseas companies, placing us at the forefront of export opportunity.

Barriers

However, Australia has problems that for the solution-providing environment industry are critical to overcome:

- The risk averse nature of many commissioning agencies where proven process is deemed more desirable than new technology to ensure public health, environmental protection and customer service outcomes
- The need for harmonisation of regulations across State and Territories and local authorities.

Nowhere are these barriers more keenly felt than in the water sector and both these issues are addressed in the Environment Industry Action Agenda.

Lack of market assertiveness

Australia also suffers from a lack of assertiveness in seizing market opportunities for its technology and infrastructure. Innovation is high, a number of excellent demonstration sites now exist, but further commercialisation, in Australia or overseas, is weaker than seen in countries such as France, Germany, Canada or the United States. Memtech is the classic example of Australia not embracing opportunity.

Australia could benefit far more from its existing technologies and infrastructure for improved drinking water treatment, reticulation, wastewater treatment and stormwater capture and deployment. EBA recommends a major environmental infrastructure project approach where, for example, all local authorities in a given area commit to installing gross pollutant traps; or sea water desalination plants provide drinking and irrigation water; or captured stormwater is used for irrigation or recycling as potable water

Innovation and its commercialisation

The environment industry is looking for increased R&D spend to further refine technologies, deliver increasingly improved community services and maintain/develop Australia's competitiveness in this area.

The environment industry also recommends a reinvestment tax concession policy that actively supports the commercialisation of innovation. Another recommendation in this area is for tax credits for accelerated depreciation of water assets. Accelerated depreciation encourages faster replacement of older equipment and makes the commercial application of new technology more viable.

Vision 'pulling' strategy

EBA believes that a long-term vision and strategy are required. Our recommendation is a national sustainability policy which will act as 'pull through' for national strategies on, inter alia, water, air quality, land management, energy, population, innovation and its commercialisation, employment, taxation, and transportation. Our goal is to see water policies fully integrated with other long-term policies for the benefit of urban and regional Australia.

Pricing

Pricing and regulation are two key drivers. Market demand for cleaner (i.e. less chemically treated) water will also act as a major 'pull through' for improved services. Unfortunately water is also seen as a 'God sent right' and there is a resistance by the consumer to paying for it and a resistance by Government to apply a pricing structure which may alienate voters. However, a major awareness raising campaign could achieve a situation where the community demands higher quality and demonstrates their willingness to pay for it. The Brisbane City Council recently undertook a survey of ratepayers views and over 80% placed 'clean and green' as the single most important thing for the Council to focus on.

Broader government involvement

Australia's water needs and constraints are largely not understood by Government departments and information and decision-making need to involve a broader cross section of government departments and agencies.

Australia's technological expertise is not drawn upon to the full benefit of the community, the environment and the economy. There would appear to be high levels of scepticism relating to people who make their living out of water treatment and certainly there could be greater inclusion in specialist working groups relating to a number of areas – dryland salinity, health, agriculture, natural resources, waste, natural resources.

EBA is of the opinion that the COAG water reforms should be implemented. This was outlined in the Environment Industry Action Agenda.

Core recommendations

In addition to the important points raised above, EBA would like to highlight the following issues facing the environment industry:

1. Asset procurement and management

- Australia is suffering from aging assets and the lack of futuristic planning from those running water utilities at State and local authority level over the past twenty years. How assets should now be upgraded, repaired or replaced to meet customer expectations is a matter of extreme urgency, but the regulators, implementers and community are all 'on the back foot' and once again long-term future planning is in jeopardy because of the short term need to fix problems. Many urban water systems were designed and built for far smaller populations, many systems are now facing stresses from the impact of greater demand as well as wear and tear. There needs to be a national policy to deal with upgrading of water assets and a program supporting local authorities to work together to achieve benchmark service to their communities
- There is a need for broader public/private sector partnerships where government maintains control of the assets but outsources construction and operational management. This would improve quality of delivery to customers with the regulator being able to focus on monitoring both performance and infrastructure condition
- Little or no attention has been traditionally paid to the energy demand of delivering water – in movement or treatment terms. This is an added cost to the system and requires integration with energy programs in planning, design and implementation stages
- Procurement is still conservative, involving traditional engineering processes that suited urban centres some twenty years ago but now need updating to focus on outcomes and changing consumer demands in terms of water quality, environment impact, and health impact
- Groundwater resources are being squandered and coastal wetlands drained (urban water use, irrigation, and the euphemistically termed 'land reclamation'). The

'drying' of the Australian land mass may cause significant long term problems including land instability, salt water encroachment of aquifers, biodiversity loss, 'ecosystem services' loss. Loss of wetlands, bird life and natural ecology is also likely to reduce the tourism appeal of certain areas.

Realistic water supply:

- New factors are coming into play regarding the quantity and quality of supply, for example climate change may affect weather conditions and alter rainfall patterns
- There are now more competing areas of demand for environmental flows, upstream irrigation take-out affects both the quantity of water in river systems and the health of the system to deliver water; increased populations mean more intensive agriculture and more water use; growing populations demand more water; many sectors of industry need water to operate and they are generally on the outskirts of urban areas affecting the overall demand.
- Little in the way of water efficiency has entered into the general Australian psyche regarding water. While communities cope admirably with drought conditions and draconian water restrictions in times of urgent need, there is little societal willingness to embrace ongoing water efficiency
- Communities have a negative view of constructing new major storage areas or dams
- Desalination of sea water, stored stormwater, reused greywater, recycled wastewater are all technically feasible solutions to the water shortage problem and must be supported as integral components of sustainable water supply. EBA suggests that financing and taxation methods that encourage large scale capital expenditure programs be revisited from a national perspective that allows for the amortisation of costs over 15 to 20 year periods. This could offer significant savings to communities and the 'public purse'

Contamination:

- Stormwater run-off from increasingly paved areas significantly impacts the quality of receiving waters, Sydney Harbour beaches for example carry warning signs of pollution for three to five days after heavy rain. Leaking aged sewage infrastructure compounds the problems
- The content of recycled water or water taken from a river system with an upstream wastewater discharge area is likely to contain significant contaminants – chemicals, pharmaceuticals, endocrine disrupters that current designs of wastewater treatment plants do not remove. Little is known about the cumulative effect of these chemicals or the results of their interaction
- Stormwater run-off requires various levels of treatment not least of which are gross pollutant traps. While education against littering or polluting are highly important, it is not an admission of defeat to be treating a chronic problem. The integrated approach to pollution prevention and protection of the environment is not and should not be considered to be the sole domain of any particular lead agency - all local councils should be working together to protect their waterways

- Many in the industry have suggested that it is time to revisit licences to discharge/pollute given that better technologies are now available to enable companies to look at closed loop systems or other disposal methods. Sydney Water has drawn praise for its policy of encouragement rather than policing which has worked well with major ‘point source’ emitters. However, across the country it is the insidious non point source pollution that nature finds so damaging, and it is suggested that a system of regulation and enforcement that will bring into line all commercial operators who are still flaunting the rules would be timely.

Opportunity

- Combining water delivery with energy delivery – mini hydro turbines would be an example. The current disassociation of water and energy inhibits the potential to find efficiencies and improve environmental performance all round
- Using under-street delivery of fibre optics/energy to pipe greywater; with separate useage inlets to domestic and commercial buildings (toilet flushing, watering). Sydney will have an ideal opportunity to trial this with the underground cabling proposed by the NSW Premier
- Finding and implementing ways to use stormwater
- Revisiting the way we collect water. At present much is collected and piped in from catchments far from cities, stored in dams that cause environmental damage or drawn from river systems that can ill afford to lose flow. The embodied energy is high due to the distances involved. Most Australian cities are on the coast – desalinisation plants or captured and stored stormwater together with water efficiency and recycling could place far less strain on the entire structure – infrastructure, environment, economic. At present the expensively sourced water is used as follows: drinking water 2%; greywater (washing, laundry, etc.) 30%; waste or ‘black’ water that is heavily polluted 20%, the balance is lost in transit, wasted, or used on the garden. A cleaner production approach to water collection, use and reuse and disposal is recommended
- National regulation requiring all shower heads sold to be AAA standard
- A government rebate scheme for example encouraging installation of dual flush toilets at the household/commercial building level; efficient irrigation installation at farm level (however, national regulation would be more effective than rebates)

Stormwater

There is a concept known as sustainable urban drainage which concentrates on reducing the rate of stormwater runoff by the use of retention basins or structures incorporated into the urban drainage systems which act not only to reduce the hydrograph heights but also the overall volumes while improving the quality of the runoff. This is achieved by designing the retention basins and structures as infiltration basins incorporating solids filtration and biological treatment .

The basins or structures may have the form of permeable pavements, pavements with intermittent permeation structures built into them, permeable stormwater sumps where the substrate is permeable; wetlands or reed beds incorporating peat filters or similar replaceable treatment structures.

The advantages that derive from the use of these approaches is that local groundwater aquifers can then be used in some cases as a source of water for garden purposes and the aquifers become a long term source of baseflow to the local streams and act to support the hydrophilic environments that surround and beautify these locations. At the same time adoption of these techniques also reduces the costs of engineering in stormwater systems

Application of these systems is a feature of urban drainage systems in Perth where almost ideal conditions apply and they are seen in many major cities in other parts of the world (Paris , Istanbul, Stockholm, San Francisco, Los Angeles and others). Some interest is being shown in Melbourne by Melbourne Water, and particularly in Adelaide where they see direct benefits in the recharging of aquifers to provide a second source of water for new residential developments . This latter involves aquifer recharge storage and recovery values and also provides value in reducing the problems that they have with flash flooding.

While the concepts are well understood there is a need for them to be stimulated by federal government action. The approach will not be practicable every where, but it should be incorporated into the planning considerations for all new developments be they regional or major cities. Guidelines are required as to the constraints that might need to be applied in the application of these approaches, but these should be determined on a net benefit basis not on the hyper-conservative approaches that characterize the EPA/ NEPM guidelines since these issues are already there and any of the SUD and ASR concepts will give a better outcome.

Stephen Hancock, Director of URS Australia, has written a paper for Melbourne Water on this subject. It forms part of an approach to rationalizing our overall water management in Australia from a European model to an Australian model which incorporates the conjunctive use of our groundwater resources.

Summary

The main barriers to rapid implementation of best practice in water system design and management are:

- Inadequate frameworks for the commercialisation of innovation
- Taxation and subsidy regime that does not reward benchmarking and market success
- Tenders being process as opposed to outcome focused
- Lack of harmonisation of regulations across States, Territories and local authorities
- The attitude that water is a 'right' rather than a commodity
- Restricted investment in the sector
- Short term horizons of all levels of government and the cycle of Federal, State and local authority elections that 'freeze' activity in the lead up to and following elections

With population growth projections a feature of political and societal debate there is an increasingly urgent need to address current and potential demand for water and to incorporate long term planning approaches that allow for adequate capital expenditure which can then be amortised over the next 15-20 years.

Fiona Wain
Chief Executive Officer
Environment Business Australia
National Press Club
8/16 National Circuit
Barton
ACT 2600
Tel 02 6270 1333 email eba@environmentbusiness.com.au

Appendix 1

Setting the scene

“As environmental standards develop across the globe, the environmental technologies and services industry will provide one of the biggest opportunities for enterprise and technical innovation that the world has ever seen. It will generate profits, trade, employment and technological advances in both rural and urban settings, as well as protect the environment.” - Merlin Hyman in the UK.

“Over the next decade or so, sustainable development will constitute one of the biggest opportunities in the history of commerce.” – Stuart Hart, Harvard Business Review 1997.

While from Australia’s Environment Industry Action Agenda we have “the impact (of sustainability) on business models will be as far reaching in its effect as steam power and railways were in the past, and as the revolution in information technology is in the present day.”

“Businesses that wish to survive and thrive in a global economy must respond to major social and environmental trends that are reshaping markets,” says a report by the United Nations Environment Programme (UNEP), World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI).¹

¹ Backed with facts and figures, the new report outlines 19 powerful trends that are reshaping global markets and changing the roles and strategies of corporations. Tomorrow’s Market: Global Trends and Their Implications for Business is the first publication that links global economic, environmental, and social indicators to market development in order to help businesses better respond to future challenges.

The report reflects the rising interest in using market solutions to address some of the world’s most pressing problems such as population, wealth, nutrition, health, education, consumption, energy, emissions, efficiency, ecosystems, agriculture, freshwater, urbanization, mobility, communications, labor, democracy, accountability and privatization. The global trend for each topic is presented in a concise, lively format that can be easily adapted for business use.

Appendix 2

Background on EBA and the environment industry

EBA is the peak body for the Australian environment industry. This sector is worth \$16.7 billion to the national economy (approximately 2.6% of GDP) and is targeting growth to over \$40 billion by the end of the decade (as outlined in the Environment Industry Action Agenda). There are over 5,600 companies involved in the provision of environmental goods and services and they employ more than 146,000 people in Australia². At present the bulk of this turnover is in water and waste related technologies, services and infrastructure.

Another rapidly growing sector of the environment industry is the uptake by mainstream industry of goods, services, technologies, infrastructure, operational management and systems to make them more efficient, effective, productive and competitive in an increasingly demanding and sophisticated global marketplace. Commercial use of water needs to be made more effective and productive in both urban and rural settings.

Internationally the environment industry is a \$750 US billion business and growing rapidly. A 1999 PMSEIC report stated that there would be an additional \$750 billion market for goods and services to combat global warming and some of these will involve the need for adaptive technologies and systems for urban water supply and treatment. Australia needs to ensure that it positions itself to access a fair share of this market. The environment industry is poised for this challenge but government assistance in international leadership, regulatory frameworks and new financial/taxation models will be critical to our international success.

In addition to representing its own membership base of some 400 companies, EBA also acts as the secretariat for the Australian Environment Industry Alliance, a group of industry associations whose focus is on developing the environment industry³; together these bodies represent over 2,500 companies.

EBA is closely involved in its member companies' access to overseas markets as well as in handling the domestic issues related to trade and the environment. As an industry association we seek to represent our member companies' interests. As the sector's peak body we also seek to shape the future marketplace to the benefit of the whole environment industry. EBA's mission statement is "To develop the full commercial potential of the Australian environment industry in domestic and export markets."

EBA is funded entirely by its membership base.

² Environment Australia commissioned Environment Industry Capability Study, October 2001

³ The members of the Australian Environment Industry Alliance are the Australian Water Association; Clean Air Association of Australia and New Zealand; Eco-Generation Association; Environment Business Australia; Sustainable Energy Industry Association; Victorian Planning and Environmental Law Association and the Banksia Environmental Foundation.

