

## **Inquiry into Stormwater resource in Australia**

### **Stormwater Australia**

**Answers to questions taken on notice from public hearing, Melbourne, 18 May 2015**

Question 1. Now that we have invested heavily in desalination is there now a case that water utilities, having regard to a need to protect these investments, are less enthusiastic to consider stormwater into the future?

#### Recognising conflicting investment priorities

The dual role that state-based administrations hold in relation to setting broader water policy and managing the water supply and sewer servicing needs of their respective communities can lead to conflicts where revenue and investment decisions are not made with regard to broader policy outcomes. In the absence of clear obligations to consider alternatives, the influential role of urban water utilities (as monopoly providers and providers of revenue to state revenue) is a major obstacle.

This manifests in several ways. Monopoly and governance arrangements can act as disincentives to allowing competing water sources to enter the market. Where revenue generated for traditional supply and sewer servicing is tied to a mechanism that relies on contributions from customer 'service charges' and 'usage charges' it can be susceptible to 'adjustments' in the relative contributions of each. By weighting toward fixed, 'service' charges, there are no pricing signals that incentivise for alternate supplies (or indeed water conservation). Often, the justification for favouring fixed charges relates to network maintenance and the need to deliver a future program of capital works, further compounding barriers unless alternatives are supported by a tangible (economic) commitment to policy.

Economic regulators in most states are required to assess the pricing submissions of water agencies against their stated obligations. Unless there is a strong policy commitment that requires consideration of alternatives and accountabilities to allow follow-up and subject decisions to scrutiny there is no clear incentive to consider alternative options (e.g. through more innovative pricing signals).

A second area of significant concern is the recent swathe of investments in desalination around the country which now hangs as a Damocles sword over the alternative water industry. These were single-focussed solutions, generally negotiated in relatively short timeframes, often at odds with longer-term state water policy objectives and, in some cases, with little public scrutiny into the particulars of contractual arrangements and to inflated specifications. These now 'sunk' investments have been justified as insurance policies against future drought conditions, but as a short-term distortion to more progressive water planning. Now, as many of these facilities sit idle we incur a considerable cost burden that acts as a further disincentive for alternatives.

By way of example, analysis of the situation in Victoria is provided in the boxes below to illustrate how these factors have played out in practice.

### **Opportunity lost. How better investments could be made over time.**

Since the Victorian Government announced its intention to build the Wonthaggi desalination plant in June 2007 it is estimated that over 3,600 billion litres of stormwater has been generated in the greater Melbourne area and represents over 9 years of water supply at current demand rates (1).

With a build cost of around \$4 billion, the plant attracts a \$1.8 million per day standby fee, irrespective of if it is supplying water to Melbourne or not. Since it reached operational status in late 2012 it is estimated that Victorian taxpayers have paid over \$1.5 billion, and over the 27 year life of the current contract will add up to a total payment of over \$18 billion (2). To date the plant has not delivered a single litre of water supply to Melbourne (indeed, under the contract the first drop of water will come at an additional price premium for Melbourne Water customers). This is a situation that is repeated in other states (e.g. South

Australia). This desalination investments contrast with the \$200 million investment in stormwater projects which were delivered under the special call for stormwater projects under the National Urban Water and Desalination Plan. Projects funded under this scheme are now delivering an estimated 14 billion litres of water annually (3).

If the capital money spent on desalination had instead been invested in stormwater projects it is estimated the community could now be enjoying the benefit of an additional 280GL of water supply every year (on average), around double that which the Wonthaggi plant was designed to supply (4).

These benefits are factored on purely the comparing the cost of water. Investment in stormwater projects yields other benefits to the community including flood protection, urban amenity, waterway protection and reduced pollution to Port Phillip Bay.

#### Notes/ References.

- (1) Calculations based on Melbourne area ~1560 km<sup>2</sup> (estimate), rainfall in period 4620 mm (BoM figures), runoff factor 0.5 (estimate), Melbourne water demand 395GL per annum (Melbourne Water website).
- (2) Victorian Government Public Accounts and Estimates Committee Report 'Inquiry into Effective Decision Making for the Successful Delivery of Significant Infrastructure Projects' estimated the total life cost of the desalination plant up to \$23.9 billion (p 202)
- (3) Estimated from figures on the Australian Government Department of Environment website <http://www.environment.gov.au/water/cities-towns/national-urban-water-and-desalination-plan>
- (4) Wonthaggi plant built to supply 150GL p.a, expandable to 200GL with additional investment in treatment modules.

### **Ensuring transparent policy.**

In Victoria, the previous coalition government introduced a progressive policy (Living Victoria) that put the consideration of alternative water sources as a priority, however the increase in water bills to customers as a result of desalination costs was a factor that led to a later initiative (Fairer Water Bills) aimed at reducing household water bills (i.e. providing an efficiency dividend).

Living Victoria was a broad and engaging policy with great potential, however a key outcome under Fairer Water Bills was to require water companies to identify internal savings with the ultimate aim of returning around \$100 per annum to around 1.7 million residential water customers in Melbourne.

Broadly speaking, this amount, equated to between 6 and 8% of total income received by the 3 Melbourne metropolitan water retailers, places pressure to ensure that corporate objectives are being delivered.

It is not uncommon for water utilities to provide dividend payments back to Government (in 2012 it was reported that Victorian water utilities paid half a billion dollars worth of dividend payments to the state government over two years). How these dividend payments are reinvested is poorly understood.

We have a set of challenging paradigms which conspire to frustrate good stormwater policy which include:

- Cost pressures on influential players in industry 'squeeze' operational funds, and can be used to justify a general narrative of a need to focus on core (familiar) business;
- A general lack of transparency around how water industry dividends are reinvested; and
- The politic of managing cost imposts on the general public.

In the corporate world, productivity and advancement is achieved through the identification of new and emerging market opportunities and competition that requires organisations to be efficient and invest for the future.

### **Ensuring a robust Policy framework**

The policy framework that was developed under the National Water Initiative (NWI) in the early 2000s had a key focus on managing water resources for the purpose of consumptive supply. There was high-level guidance provided requiring that ecological impacts and sustainable system yields should be considered when planning for future water supply. 'Externalities' (i.e. benefits that were derived outside the explicit water supply outcomes) were able to be considered, but it was cautioned that these should be kept relatively simplistic. Flood management was not a consideration under NWI guidance, nor was there any specific indication of the need to work across different agencies. In essence there was a focus on supply-focussed water resource planning.

Prior to the Millennium drought there was an expectation that water resource planning could take place within the norms of a predictable climate, however this assumption is no longer able to be relied upon. It was, perhaps, this earlier false belief that led to a level of complacency about the need to proactively plan and implement alternative water sources that ultimately left us in the invidious position of having little choice but to follow an 'emergency investment' path as a result of one of the worst droughts in recent history.

A tendency towards complacency in planning remains a significant risk into the future. Justifying past investments or political expediency provides an 'easy out' to put off decision making until later. With the demise of the National Water Commission and no clear strategic direction at the Federal level, we are at risk of repeating the mistakes of the past.

A third area of considerable frustration is the influence of other industry lobby groups (most notably in the housing and construction industry) who argue that any cost associated with achieving outcomes beyond the narrow servicing requirements of water supply and sewerage lead to additional costs for development. This is an argument that plays out in other areas (e.g. energy efficiency), while at the same time larger building footprints (which in turn increase the load on stormwater and energy supply systems) are arguably greater contributors to building cost, while at the same time placing a greater load on the systems that are required to support development.

The influence of these lobby groups is another key reason why stormwater management does not feature more strongly in planning policy.

## Question 2: What should be included in a Cost Benefit Analysis?

From feedback we have received from various sources, regarding the process of changing regulations to require greater emphasis on stormwater management, it is apparent the process of undertaking Cost Benefit Analysis has proven to be problematic in the past.

Improvements in undertaking Cost Benefit Analysis include:

### **Consideration of benefits beyond the cost of water supply.**

- Inclusion of mitigated flood risks where stormwater solutions can be demonstrated to have a positive impact. This may include the total avoidance of flood exposure, or an altered risk profile that reduces the frequency and impact from smaller (nuisance) flooding.
- Including the cost of transport (e.g. energy for pumping for remote water sources) when considering local solutions. As an example, desalination plants located in low lying coastal areas may not be the optimal solution for areas higher in the catchment as a result of the need to pump water. Conversely, managing stormwater flowing downhill is unlikely to have the same energy implications and could be very effective in mitigating flooding.
- Inclusion of waterway and stream benefits, especially as a result of stormwater use. It has been suggested that the cost of waterway rehabilitation as a result of erosion and volume driven stormwater processes ranges between \$800,000 and \$1.2 million per kilometre of waterway. Using a Victorian example where Melbourne Water manages up to 3,200 km of stream frontage this impact could total in the billions of dollars and is not well factored into CBAs. There are proxies for pollution removal (e.g. Nitrogen reduction) but the cost of mitigating this into the future is generally increasing.

### **Whole of Community Economics**

- There should be a greater emphasis on economic methods that do not discount future benefits. Water industry economics is geared towards methods which depreciate and discount asset values over time. While this may be appropriate for assets that have a defined life, it is not the case when considering future amenity and security bought about by favourable city states. As cities grow, and density increases the value of avoided flooding and improved amenity actually appreciates, and the value placed on natural assets (e.g. Sydney Harbour, Great Barrier Reef) increases. A number of submissions (e.g. City of Melbourne, Cooks River Trust and Surfrider Foundation Australia) provide insights into how natural assets are valued at the community level.

### **Sensitivity Analysis**

- Sensitivity testing should be undertaken against a range of future city states to examine how different servicing pathways are able to achieve policy outcomes. The deterministic approaches of water supply and servicing are of diminishing relevance where the future is uncertain (e.g. as a result of changing climate) and planning for an ‘envelope’ of futures will provide a better opportunity to consider investments into the future.

### **Co-investment**

- Techniques where the potential to attract co-investment across different levels of government and in partnership with industry is another area where further work is needed. For example, well-grounded planning policy can attract investments through building and development and there is a strong evidence of interest at the local government level to support outcomes that are in line with their community expectations. Currently it is considered the narrow focus of water planning economics does not allow these opportunities to be properly explored.
- Impact of ‘scales of investment’ and inclusion of concepts such as proportionality and optimised intervention should be included. Different agencies have different cost paradigms that can dramatically affect the cost of delivering solutions and pragmatic principles to ensure proportionality in long-term delivery. It is particularly the case with stormwater that optimised investment strategies should target higher in the catchment before issues are generated. This requires a different approach to investing which includes clear issue definition, transparency and governance.

The fact that the traditional approach to economic evaluation to date has been unable to normalise a ‘definitive’ case for holistic stormwater outcomes should be considered an indictment on the methods rather than the outcomes. Submissions by Dr Peter Dillon (citing CSIRO research) and Dr Peter Coombes provide evidence that there is a broader policy agenda that can be served by proper economic evaluation.

### Question 3. Regarding institutional frameworks and ‘immediate’ improvements.

Leadership and direction from the Commonwealth would be useful to provide a pathway to manage institutional confusion across different levels of government.

We have provided a summary table in our submission identifying 6 key areas where support could be best directed. Responding to the specific question on notice we provide two examples of where immediate assistance could be directed to set up a longer-term outcome-focussed paradigm.

#### **Developing industry standards**

From the perspective of industry we have undertaken steps to instigate a program to develop industry standards and protocols to allow the efficacy of manufactured stormwater treatments to be evaluated (SQIDEP). Our process to date has attracted widespread commendation from all levels of government and has been progressed on a ‘shoe string’ budget. As we move into an implementation phase (e.g. to provide recommendations for testing and a process for evaluation) the support of the Commonwealth Government would be welcome. We note a similar proposal received \$20 million worth of funding under the National Urban Water and Desalination Plan in the area of water recycling technologies; we feel we are further progressed in our process. Once established we expect our SQIDEP process will provide pathways for local research and development to access international markets.

#### **Developing improved design tools**

The history of the stormwater industry in the early 2000s saw separate areas of focus on water quality and quantity management. More recently there is a growing impetus to develop integrated design tools that will allow these to be considered together.

Attempts to do this previously have been frustrated by industry and scientific ‘politics’ which have attempted to (unsuccessfully) develop new integrated design tools. Across our industry there are multiple software developers and vendors who are capable of developing better design tools if the appropriate policy signals are provided. Our SQIDEP process has been, in part, designed to allow improved integrated design and, with support, software vendors across the industry could develop better tools into the future.