



**Local Government Association
of South Australia**

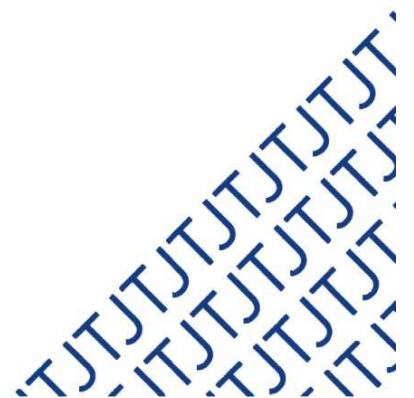
Jeff Tate Consulting

**Report on
Councils and Stormwater Harvesting**

June 2012

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1. EXECUTIVE SUMMARY AND RECOMMENDATIONS

1.1 Executive Summary

Local Government in South Australia has a long history in water management. In recent years this has included harvesting of stormwater in pursuit of environmental, socio environmental, flood mitigation, economic and social objectives. After providing for the environmental needs of waterways Councils have used the remaining harvested stormwater for their own purposes such as watering of parks, reserves and street trees and in some cases for commercial benefit through sale to other parties.

Stormwater harvesting comes with opportunities but also risks that need to be carefully managed. Councils have developed their own risk management strategies while also considering the opportunities that come from the availability of harvested stormwater.

This is an important time for Councils as the water policy settings of the state government undergo significant change and review. The recent proclamation of the *Water Industry Act 2012* establishes a framework for managing water resources. For Councils selling surplus harvested stormwater to other parties (and those providing Community Wastewater Management Schemes (CWMS) and selling treated effluent to other parties) it establishes new compliance requirements in relation to pricing and customer service.

In addition the stated intention of the state government to introduce a metropolitan water blueprint by 2014 which should also set a framework for integrated water plans in regional areas.

At the Commonwealth level there is a pause in the funding of new stormwater harvesting projects as applications closed in December 2011 for the final round of grants under the National Water and Desalination Plan.

The combination of these circumstances suggests that it is also a good time for the local government sector to reflect on past achievements and set a new path for the future. Features of that future are likely to be greater collaboration with the private sector and between Councils.

1.2 Recommendations

The following recommendations have evolved from undertaking this project and are cross referenced in the body of the report:

- 1(a) That the LGA adopt and publicise a consistent narrative about the multiple objectives (environmental, socio-environmental, flood mitigation, economic, financial) of stormwater harvesting; successes of Councils in stormwater harvesting; and the ongoing need for partnering by the three spheres of government.**
- 1(b) That the LGA encourage Councils to adopt and publicise a similar narrative.**
- 2. That the LGA establish a 'Water Issues Working Party' with an initial life of two years comprising Council staff with economic, engineering, environmental, financial, legal, policy, and risk management expertise (and able to access other advice as required) to advise it on water management issues including stormwater harvesting. There should be cross membership between the proposed Working Party and any technical advisory body formed under the Stormwater Management Authority.**
- 3. That the LGA in consultation with member Councils and assisted by the proposed Water Issues Working Party in recommendation 2 seek to have a major influence on the direction and detail of the State Government's proposed Greater Adelaide water blueprint, with a particular focus on economic (including actions and policies to attract economic development due to the availability of 'alternative' sources of water), environmental and social outcomes.**
- 4. That the LGA consider the concept of 'local' integrated water plans in its deliberations about the State Government's proposed water blueprint. For Councils in the Greater Adelaide area the integrated water plans would be subsidiary to the blueprint and for other Councils they would be the major strategic water management document.**
- 5. That the LGA seek information from Councils on their stormwater management needs and priorities (including harvesting) to assist it in its input to the State Government's proposed water blueprint and/or actions under any new stormwater agreement with the State Government.**
- 6. That the LGA seek from the State Government either through the proposed water blueprint or the review of the State-Local Government Stormwater Agreement a commitment to a prioritised list of stormwater projects and a funding agreement based on appropriate roles and responsibilities.**
- 7. That the LGA encourage Councils to engage early with the EPA, SA Health and Department of Environment, Water and Natural Resources in the planning of stormwater harvesting projects in relation to any regulatory requirements and advice.**
- 8. That the LGA facilitate discussions between Councils and private sector organisations to further identify the potential for their future involvement in stormwater harvesting.**

9. That the LGA (with the assistance of the proposed Water Issues Working Party in Recommendation 2) develop a risk based framework to assist Councils in decision making about stormwater harvesting projects.
- 10(a) That the LGA (with the assistance of the proposed Water Issues Working Party in Recommendation 2) commission a report on the methodology for the pricing of harvested stormwater for internal use by Councils and for sale to other parties. Given the need for compliance with ESCOSA requirements in relation to pricing for CWMS the report also include pricing for those services and the sale of treated effluent.
- 10(b) That the LGA consider other advice it needs to provide to Councils once ESCOSA has clarified the full range of regulatory arrangements under the Water Industry Act.
11. That the LGA negotiate with the State Government to ensure there is ongoing analysis of the demand for alternative sources of water (ie harvested stormwater and treated effluent) beyond the development of the State Government's proposed water blueprint.
12. That the LGA (with the assistance of the proposed Water Issues Working Party in Recommendation 2) provide to member councils a discussion paper on potential models (including structures and systems) for managing harvested stormwater.
13. That the LGA (with the assistance of the Water Issues Working Party in Recommendation 2) work with member Councils to consider the full range of options for collaboration between Councils including:
 - information sharing
 - research and development
 - staff development
 - specialist advisory services
 - staff secondments
 - brokering the sale of surplus water
 - sale of water to individual properties (ie a retail role) or in bulk (ie a wholesaling role)
 - managing stormwater harvesting schemes
 - monitoring of demand for harvested stormwater
 - investing in and undertaking stormwater harvesting projects and extension of distribution infrastructure
 - formation of a 'Local Government Water Authority'.

2. INTRODUCTION

The Local Government Association of South Australia (LGA) engaged Jeff Tate Consulting Pty Ltd to report on:

- Councils' objectives in the harvesting of stormwater
- lessons that have been learned from experiences in stormwater harvesting
- perspectives of state government agencies and private sector operators
- likely or possible future directions for Councils including business models
- potential for collaboration between Councils
- updated information from Councils on a previous study on the potential yield from stormwater harvesting projects in the Adelaide metropolitan area (this component was later removed from the project brief as a similar, more detailed project is planned by the Department for Water)
- responses to issues raised by Wallbridge & Gilbertⁱ regarding the need for a demand analysis for harvested stormwater and whether more market based approaches may be appropriate.

3. PROJECT SCOPE AND METHODOLOGY

The project is a high level overview of Councils' activities in stormwater harvesting. It does not detail the activities of all Councils but deals with major themes identified in the project brief and during the project. While the main focus has been on the Adelaide metropolitan area it has also taken account of activities in a number of regional Councils across the state.

There have been other reports and documents on various aspects of stormwater harvesting in recent years. Those particularly relevant to this project include:

- State-Local Government Stormwater Agreement, between the Premier and LGA President in 2006
- Water for Good: A Plan to Ensure our Water Future to 2050, released by the State Government in June 2009.
- Urban Stormwater Harvesting Options Study (USHOS), by Wallbridge & Gilbert Consulting Engineers, Richard Clarke and Associates, Australian Groundwater Technologies, Design Flow (2009). Commissioned by the Stormwater Management Authority.
- Recycled Water Scheme for Metropolitan Adelaide: Opportunities and Constraints, by Wallbridge & Gilbert Consulting Engineers (September 2010). Commissioned by the LGA.
- Stormwater Strategy: The Future of Stormwater Management released by the Department for Water in July 2011.

Those documents are important background to this project which seeks to clarify the context for Councils' roles in stormwater harvesting and to suggest some potential paths forward. It has involved desktop research; discussions with representatives of state government agencies, the LGA, private sector companies providing water and wastewater infrastructure and services, and selected Councils. A workshop for senior staff of metropolitan Councils in March 2012 was a very valuable exercise in testing and adding to preliminary findings at that point.

4. COUNCILS' OBJECTIVES IN STORMWATER HARVESTING *(Recommendation 1)*

Councils in South Australia have been actively involved in water management for many years. Most regional, and some metropolitan, Councils own and operate Community Wastewater Management Schemes (CWMS) to treat sewage from households, businesses and other premises. Many of those Councils now have an element of re-use of the treated effluent from their Schemes.

In more recent times Councils have taken further steps in water management with sophisticated irrigation systems, water conservation systems in buildings, and Water Sensitive Urban Design (WSUD) in Councils' own projects and as a condition of development approvals.

Many of these activities fly under the public radar but Councils have been leaders in better water management.

Managing stormwater is another important element of water management for Councils. Flood mitigation is one aspect of stormwater management which is a longstanding role of Local Government. Other aspects of stormwater management have had a high profile in recent years as communities and governments address water resource issues. There is a common community perception that stormwater is wasted water that could be simply and easily put to better use. The reality is somewhat different. Not all of the stormwater that flows through the drainage network is available for alternative uses as some is required to maintain environmental flows.

The remaining stormwater is certainly a resource that, after treatment, and on a fit for purpose basis can be used as an alternative to potable water. But the difficulties of stormwater harvesting should not be underestimated. In urban settings stormwater contains pollutants which need to be removed through natural processes such as in wetlands or through chemical treatment. The biggest challenges, however, come from storage and distribution. Above ground storage of an economic scale is difficult to achieve in many urban settings and aquifer storage is only viable with certain geological formations. Distribution networks need to take available water to where there is demand at a price that makes economic sense.

Many Councils have been active in stormwater harvesting projects, often with financial support of the State and/or Commonwealth Governments. They have pursued multiple objectives in undertaking the projects:

- environmental – reducing pollutant levels in waterways and before discharge to sea; reinstating environmental flows in waterways; managed aquifer recharge and recovery
- socio-environmental – providing for recreational opportunities in parks; meeting community expectations of green suburbs and townships; improving the aesthetics of urban areas; drought-proofing public and private spaces in urban areas
- flood mitigation – reducing the risk of flooding of property
- economic – providing a resource to attract new industry
- financial – reducing watering costs of parks and recreation facilities by substituting harvested stormwater for mains water; finding markets for harvested stormwater that is surplus to their own needs.

Local circumstances have determined which objectives have priority. However, it is clear that the recent drought has had a significant impact on Councils' views about stormwater harvesting. Increased government funding (especially Federal) has then been an enabler for Councils to become very proactive in planning and implementing stormwater harvesting schemes in both metropolitan and regional areas.

There is a danger now that drought conditions have abated that the success of 'drought proofing' projects will be measured primarily on financial results alone. That would be unfortunate as the other objectives are equally, if not more, important. The objectives and successes of Councils in stormwater harvesting deserve to be better understood in communities. A consistent narrative is required to ensure understanding of those multiple objectives beyond memories of the drought.

5. POLICY SETTINGS (*Recommendations 2, 3, 4, 5, 6*)

Stormwater harvesting has been a successful area of partnering between the three spheres of government. However there is a need for greater clarity in policy. For instance harvested stormwater and treated effluent compete in parallel markets. It isn't clear which source of 'alternative' water has priority. In regional areas this may not present difficulties. In fact some regional Councils have purposely and strategically built (separate) infrastructure for both effluent reuse from CWMS and harvested stormwater. In these cases the two 'alternative' sources of water complement each other as 'drought proofing' measures.

However in the metropolitan area the situation is different. Apart from a small number of Councils owning and operating CWMS schemes, SA Water is the main provider of wastewater infrastructure and services. An integrated approach then becomes more difficult to achieve.

In mid-2011 the State Government announcedⁱⁱ that it will develop a 'blueprint for urban water' for Greater Adelaide that takes a multi-objective to water management including flood control, and planning for the supply and use of harvested stormwater and treated effluent. The blueprint is an action from the state's Water for Good plan and is due for completion by 2014.

The proposed blueprint provides an opportunity to develop a much more policy based and strategic approach between the State Government and Local Government to the management of harvested stormwater and treated effluent. Consistent with Councils' sustainability goals the blueprint should include economic, environmental and social aspects of water management. This should include actions and policy settings to capitalise on the availability of 'alternative' sources of water in attracting economic development.

The development and implementation of the blueprint are likely to present many challenges given the currently fragmented approach to water management between various pieces of legislation and agencies. However it is a very important initiative and one that should be supported by Local Government.

Also relevant to improving strategic planning and policy in this area is the current review of the State-Local Government Stormwater Agreement which has links to the State Government's proposed water blueprint. It will be important for any new agreement to include mechanisms to identify priorities for stormwater projects (including harvesting) and funding arrangements based on appropriate roles and responsibilities.

The water reforms present an opportunity for the local government sector to influence the debate about how water should be managed and the appropriate roles of the various agencies. Some Councils have already developed integrated water management plans. Given the significance of water as a resource to Councils and their communities it makes sense for such plans to be developed by more Councils (either individually or in regional or catchment groupings). In the Greater Adelaide area the plans would sit under the State Government's water blueprint while in regional areas they would be the main strategic water document for those Councils.

Obviously the water reforms will evolve over a timeframe of several years. It will be important for the State Government and the LGA to continue to progress stormwater issues in parallel

with the reform processes. Obviously it isn't a viable option to wait until new frameworks are put in place before acting on issues already identified as priorities.

To ensure Local Government can provide a united and influential voice on the future of water management in SA, it would be appropriate for the LGA to have a strong point of focus that is enhanced by access to the expertise within Councils. A 'Water Issues Working Party' with a life of (approximately) two years would provide a mechanism to formalise such an approach. Obviously the working party would also at times require external advice. There has been some discussion about forming a technical advisory committee under the Stormwater Management Authority. If that group is put in place there should be crossover of Local Government membership on it and the proposed Working Party.

The proposed working party and the LGA will need good information from Councils on their stormwater needs and priorities to be able to play a strong role at this time of water reform.

6. VIEWS OF OTHER AGENCIES (*Recommendation 7*)

Various state government agencies have roles in relation to stormwater harvesting. The key ones are:

- **Department for Water** (to amalgamate with Department of Environment and Natural Resources on 1 July 2012 as the Department of Environment, Water and Natural Resources) – roles in relation to flood hazard leader, urban water policy, and management of specific stormwater assets identified in the 2006 State-Local Government Stormwater Management Agreement.
- **SA Water** – management of specific stormwater assets identified in the 2006 State-Local Government Stormwater Management Agreement.
- **Environment Protection Authority (EPA)** – ensuring environmental water quality, including meeting legislative requirements set out in the *Environmental Protection Act 1993* and associated regulatory tools, policies and guides.
- **Department of Planning, Transport and Infrastructure (DPTI)** – advisory agency in relation to land use planning, development policy and strategy, urban design and open space planning. DPTI also houses State stormwater (hydrological) expertise which is sometimes called on by others including the Stormwater Management Authority.
- **Department of Health (SA Health)** – responsible for developing policy and providing advice to other agencies and the public to prevent or minimise the adverse health effects of environmental hazards in the South Australian community. While there is no direct SA Health licensing required for stormwater harvesting projects the agency offers a free service to assess public health aspects.

In addition to State agencies, others with roles in South Australia in relation to stormwater include the:

- **Stormwater Management Authority** – established under Schedule 1A of the *Local Government Act 1999*.
- **Natural Resources Management Council** – which under the Schedule 1A of the *Local Government Act 1999* has a role in the approval of stormwater planning guidelines issued by the Stormwater Management Authority.
- **Regional Natural Resources Management Boards** – which prepare and are responsible for implementing Natural Resource Management Plans for their region, and have roles including in relation to water affecting activities, and water allocation plans (for prescribed water resources).

For this project discussions took place with the Department for Water, SA Water, EPA and SA Health. A brief summary of the views expressed is:

- **Department for Water** – recognition of the important roles Councils play in stormwater management including harvesting, acknowledgement of the need for clearer policy settings for stormwater harvesting which will be addressed in a ‘blueprint for urban water’ (see 5 above) to be completed in 2013.

- **SA Water** – recognition of the important roles that Councils play in stormwater management including harvesting, desirable to have ‘local’ water plans that integrate all water activities sitting under state level plans, keen to have open dialogue with Councils about water issues including planning for urban growth
- **EPA** – recognition of the need for full risk assessments prior to undertaking stormwater harvesting schemes, noted the interface between the land use planning system (in relation to development approvals) and stormwater planning, also has a lot of knowledge and expertise in relation to environmental risks with stormwater harvesting; keen to ensure early dialogue with Councils when planning stormwater harvesting projects to provide advice and clarify regulatory requirements
- **SA Health** – while there is no direct SA Health licensing required for stormwater harvesting projects the agency offers a free service to assess public health aspects; keen to ensure early dialogue with Councils when planning stormwater harvesting projects to provide advice and clarify regulatory requirements.

7. ROLES FOR THE PRIVATE SECTOR *(Recommendation 8)*

The private sector is an increasingly important player in the provision of water and infrastructure and services in South Australia as it is in other states and overseas. Roles range from consulting advice and the sales of goods and services through to designing, building, owning and operating water and wastewater schemes. South Australia is well experienced with private sector involvement in partnering contracts with SA Water and some Councils.

Obviously private sector interest is at a commercial level rather than in a policy sense (other than policy as an enabler for their involvement).

Stormwater harvesting is considered more complex than the provision of water and wastewater infrastructure and services. However there is potential private sector interest in investing in the development and operation of larger stormwater harvesting projects or groups of projects with Councils as guaranteed customers. Scale would be an important consideration. Charging would probably be through a two tiered approach – base costs to cover the infrastructure investment plus charges for consumption of the harvested stormwater (with guarantees of minimum consumption levels).

Private sector organisations also have a potential role in managing stormwater harvesting schemes if councils are prepared to outsource that function. This is potentially a viable option for Councils, especially if they don't have the full range of expertise required to manage the schemes.

A further consideration is that successful stormwater harvesting schemes are likely to have an increasing commercial value over time. It may well be that they would be attractive to investors (such as smaller superannuation funds) seeking safe, long term returns. In their forward planning Councils should be open to the notion of selling their schemes (or components of them) if that provides the best outcomes for their communities. It would obviously require careful consideration and negotiation around some issues such as the ownership of various components of infrastructure and meeting the multiple objectives of stormwater harvesting.

As the value of water increases and new models of providing water services evolve the private sector can be expected to become more significant to Councils. The LGA could assist in building understanding between Councils and private sector investors and operators.

8. KEY LEARNING – MANAGING RISKS *(Recommendation 9)*

The key learning for councils involved in stormwater harvesting has been the management of risk.

There are significant risks for councils in undertaking and maintaining stormwater harvesting projects:

- they are generally relatively large (sometimes very large) investments and complex projects to manage
- not all issues can be fully identified at the design stage (eg with aquifer storage the extent of likely recharge of the aquifer is unlikely to be known until bores are sunk during the project)
- the required skills and expertise for planning, procuring, delivering and maintaining stormwater harvesting projects may not be available in all councils
- long term costs of schemes are not well knownⁱⁱⁱ, creating a risk that maintenance costs and asset replacement costs will be underestimated and/or that the assets will not be adequately maintained
- variable weather patterns (whether from climate change or not) dictate volumes of water
- regulatory regimes are currently changing with the proclamation of the Water Industry Act (which sit alongside the environmental requirements of the Environment Protection Authority (EPA) and SA Health)
- policy settings of other governments are still evolving (see 5 above)
- water is an increasingly political issue at all levels of government.

There is potential to harvest large volumes of stormwater. The SA Government's water security plan, Water for Good, set targets of up to 60 GL per annum of recycled stormwater in the Adelaide metropolitan area by 2050 and up to 15 GL per annum in regional areas.

Previous research^{iv} has concluded that (then) current or planned stormwater harvesting schemes in the Adelaide metropolitan area could have yields of up to 31 GL/annum while the total needs of Councils for watering parks and reserves is much lower. Some Councils have questioned the accuracy of that research given the need for detailed assessment of each potential harvesting site. Whether completely accurate or not it does appear that there is potentially more harvested stormwater available from current schemes in the metropolitan area than could be used for Councils' own purposes.

In any event the potential demand for harvested stormwater will be researched shortly as part of a study being commissioned by the Adelaide Mt Lofty Ranges Natural Resources Management Board (ALMRNRM). This is an important piece of work that will assist Councils in their planning for current and future stormwater harvesting schemes.

While modelling is very important it will be market forces that determine the actual demand for harvested stormwater. As well as the size, timing and distribution of urban growth economic factors will also play a role. This includes the availability of alternative sources of water as a potential enabler to attract new economic activity.

There will also be a need for ongoing demand analysis as circumstances change (eg changes in projected populations, establishment of new businesses and industries). The Department for Water has indicated that the water blueprint is intended to include a rolling review of water demand. The LGA has an advocacy role on behalf of councils to ensure that this ongoing analysis occurs.

Several Councils with volumes of harvested stormwater surplus to their own needs sell some of it to other parties for various purposes such as industry, and school use (watering of open space and flushing of toilets). Other Councils are considering this option. In all cases the sale or potential sale of the harvested stormwater is secondary to higher order objectives listed in 4 above.

For Councils selling surplus harvested stormwater the risks listed above apply but there are further risks to manage:

- developing and maintaining viable markets for alternative supplies of water
- community perceptions about stormwater (eg not understanding the difficulties and cost of delivering it as an alternative to potable water)
- operating in a new area of business for councils which requires commercial skills that may not be readily available for all of them
- implementing pricing structures which both meet the regulatory requirements of the Essential Services Commission of South Australia (ESCOSA) under the Water Industry Act and take account of all costs (given the new Act this issue requires urgent attention)
- uncertainty about payback periods for 'commercial' harvesting schemes
- operating in a commercial environment will require new governance structures
- the political risks associated with some demands for alternative water supplies being met and some not, creating water 'haves' and 'have nots' (for example, having an alternative water supply for watering home gardens in new developments during times of mains water restrictions as against established residential areas where retro-fitting of alternative water supplies is unlikely to be viable; sporting clubs that are able to access alternative water supplies as against those that cannot).

Each council and each project will have a different risk profile. What is consistent, however, is the need for a structured approach to decision making which is based on:

- clear objectives
- applying the best information available
- an understanding of the risks and their implications and how they will be managed
- identification of potential and preferred governance structures
- a fully costed implementation plan.

The LGA has a leadership role to play in providing Councils with a framework to assist in that structured approach to decision making.

9. FUTURE DIRECTIONS FOR COUNCILS (*Recommendations 10, 11, 12*)

The availability of funding from other governments has been a significant factor in Councils being able to afford schemes for the harvesting of stormwater. The conclusion of grant funding under the National Water and Desalination Plan of the Commonwealth government in December 2011 has led to questions about the role the Commonwealth will play in the future. At the time of preparing this report there had been no announcements about future funding programs.

There is discussion occurring within some metropolitan Councils in particular about future directions for stormwater harvesting. The focus is shifting from the immediacy of implementing stormwater harvesting projects to future roles, pricing and governance structures.

There is a continuum of views about future roles in stormwater harvesting. Some Councils are taking a conservative approach, planning and implementing projects that will assist in meeting their own needs only for water. Others are open to undertaking projects in response to specific opportunities to sell water to other parties. Further along the continuum are those councils that generate, or will generate, more water than required for their needs and actively pursue opportunities for the sale of that surplus water.

A common issue being discussed is whether Councils that are selling water should move from only selling bulk water to act more as a retailer of water to individual property owners (including residential). Such a move would significantly change the risk profile for those Councils. While the decision rests with individual Councils the LGA can assist them in their deliberations through the decision making framework in recommendation 7.

Pricing of harvested stormwater has always been a significant consideration for Councils - to correctly account for the cost of the water for their own uses (eg against budgets for parks and reserves etc) as well as for sale to other parties. It has become more significant now with the new Water Industry Act and the involvement in ESCOSA in water pricing and licensing.

While ESCOSA has declared that it will apply a light handed approach to the water businesses of Councils they will still be required to have comprehensive documentation in place for pricing, long term business plans, contracts, and consumer protection policies. All of these requirements add to the cost and complexity of operating stormwater harvesting schemes. The LGA can assist Councils with advice about meeting these new requirements.

The importance of fit for purpose water at a potentially lower cost than mains water in attracting economic development also needs to be considered. It is an important resource for many businesses and Councils can achieve multiple objectives by being proactive in identifying and attracting those businesses that fit with the vision for the economic future of their areas.

What business models, structures and systems are most appropriate to manage harvested stormwater? Different Councils have come up with different answers to this question.

At one end of the spectrum the harvesting of stormwater and its subsequent use is managed much like any other function of a Council. Responsibility sits within a part (or parts) of the organisation and performance is measured against business plans and budgets. This approach is adequate and appropriate in many situations where stormwater harvesting is relatively

straight forward and/or of a modest scale. However, as scale and complexity increase other structures and systems should be considered.

Several metropolitan Councils have introduced innovative structures and systems to manage their stormwater harvesting activities along more commercial lines. One has a Water Management Board comprising external independent members (including the chair) and senior staff. The Board makes recommendations to the Council CEO who operates under authority delegated from the elected Council. Although the Board is advisory in nature it conducts its business as though it has full authority and responsibility. Day to day management of the stormwater harvesting activities is carried out by Council staff. Full cost attribution is applied to ensure all costs are captured.

At least one other metropolitan Council is establishing a water business unit to centralise all recycled water activities and operate in a more commercial way including full cost attribution.

Another option for Councils to consider is establishing a subsidiary authority under section 42 or 43 of the Local Government Act for individual or groups of Councils. While subsidiaries bring their own issues and risks they also provide an opportunity to access commercial expertise at board and staff level. They also have the benefits of specialisation and potential for decision making to be removed from the politics of water.

Further along the continuum Councils could help to facilitate private sector involvement in some or all of stormwater harvesting activities. This is particularly the case with sales of surplus water, especially if the 'retailing' of water to individual residential and other properties is to be pursued.

10. POTENTIAL FOR COLLABORATION *(Recommendation 13)*

The local government sector has a long history of collaboration to achieve things together that are beyond the means of individual councils. At the highest levels the LGA and associated entities are very successful examples of sector-wide collaboration.

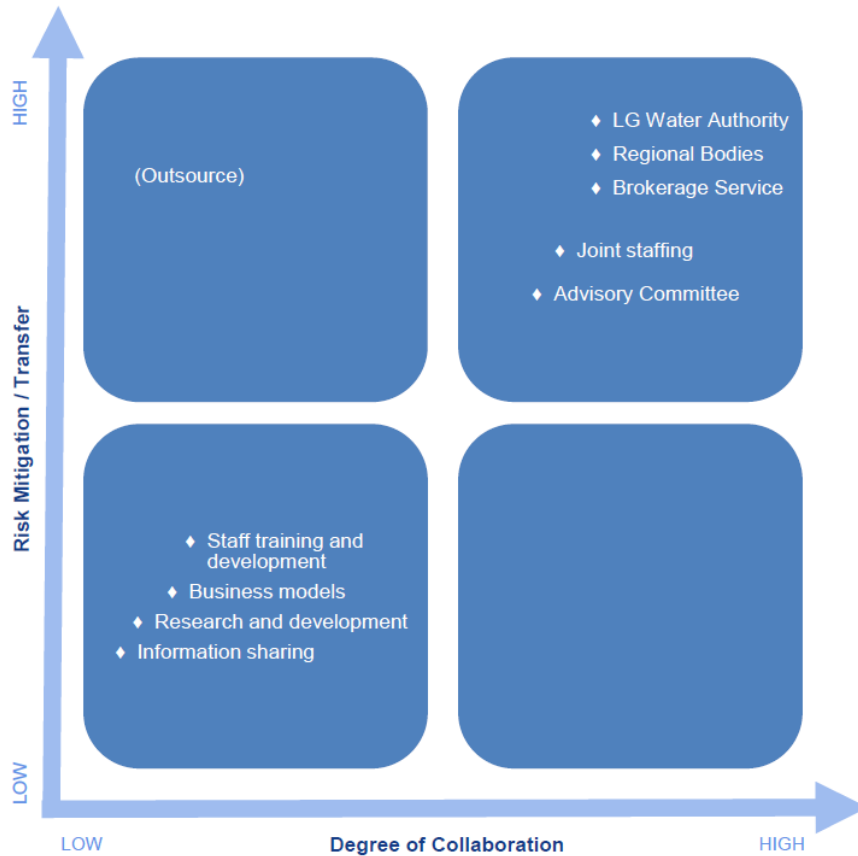
Other formal structures are in place at a regional level to collaborate on a range of issues and there are other arrangements between councils to collaborate on service delivery.

Councils face significant challenges in water management and with stormwater harvesting in particular as discussed earlier in this report. There is already informal collaboration between Councils at various levels within organisations (eg information sharing, provision of advice). There are many opportunities for further collaboration in a more structured way. They range from structured information sharing through to the other end of the spectrum where a single 'authority' is formed to manage some or all of the roles of Councils in stormwater harvesting.

The following activities (in general terms ranging from least to most complex) are potentially suitable to more formalised collaboration:

- information sharing to increase awareness and understanding of stormwater harvesting issues
- research and development in relation to issues affecting multiple Councils
- design and implementation of business models to manage stormwater harvesting schemes
- staff training and development
- advisory committees to act as a sounding board for Councils and to publish material to assist Councils in decision making
- joint staffing between groups of Councils
- a brokerage service to identify markets for harvested stormwater
- 'regional' bodies (eg structured around catchments or existing regional arrangements) to manage all or selected components of stormwater harvesting
- a 'Local Government Water Authority'.

The following table shows the conceptual positioning of the various elements of collaboration against the potential for risk mitigation or transfer.



The notion of a 'Local Government Water Authority' requires further explanation. It may be controversial and it may not be regarded as the right time for that level of collaboration. But it should be discussed and considered as Local Government moves forward in managing this most important resource. It is important to visualise what the future could be and whether an authority has a place in that future. The greater the expansion of Councils' activities in stormwater harvesting the more likely it is that a central authority will have a role, especially if they pursue the sale of surplus stormwater on a large scale.

Water for Good targets the harvesting and subsequent use for various activities of 60 GL per annum of stormwater in the metropolitan area. When added to the volumes from schemes in regional areas the potential exists for very significant levels of investment and business activity. While not all stormwater harvesting is or will be carried out by Local Government the sector can be expected to be significant players in it. The option of a 'Local Government Water Authority' may well be an attractive one in that context.

Collaboration between Councils would enable harvesting and surplus water sales opportunities to be pursued but an equally important focus should be risk mitigation or

transfer. Focussing skills and resources in a separate, special purpose authority provides the potential to manage risk.

Any such authority would operate on a strictly commercial basis. Its legal form would need to be determined and may require legislative change. Councils would require flexibility so that they were able to make decisions about which roles (if any) were pursued through the authority. For instance it may be that individual or groups of Councils would decide to effectively outsource the sale of surplus harvested stormwater, and all the risks attached to it, to the authority. Given that there is a documented surplus of harvested stormwater available this may be an attractive option to better match supply and demand across Council boundaries. Other Councils might decide to have the authority manage their harvesting schemes, or provide specialist advice. The authority could also play a strong role in identifying the best sites for future harvesting schemes to geographically match identified demand.

11. CONCLUSION

Much has been achieved by Councils in harvesting stormwater and Local Government as a whole should be proud of those achievements.

The sector is now in a new phase as many Councils move from a focus on designing and building stormwater harvesting schemes to considering their ongoing management and maintenance, compliance with a new regulatory regime, pricing, future roles and governance arrangements.

Managing the numerous risks associated with stormwater harvesting is an important consideration but it is also important to capitalise on the opportunities that come from access to an 'alternative' source of water. Greater collaboration will provide opportunities to both manage risk and pursue the opportunities available.

ⁱ *Recycled Water Scheme for Metropolitan Adelaide: Opportunities and Constraints*, Wallbridge & Gilbert Consulting Engineers (September 2010).

ⁱⁱ *Stormwater Strategy: The Future of Stormwater Management*, Department for Water, July 2011.

ⁱⁱⁱ *Recycled Water Scheme for Metropolitan Adelaide: Opportunities and Constraints*, Wallbridge & Gilbert Consulting Engineers (September 2010).

^{iv} *Urban Stormwater Harvesting Options Study (USHOS)*, Wallbridge & Gilbert Consulting Engineers, Richard Clark and Associates, Australian Groundwater Technologies, Design Flow (2009).