



CRC for
Water Sensitive Cities

Tranche 2 Project Development Workshop

Background information – transition needs and
opportunities, 2 – 3 December 2015



Australian Government
Department of Industry and Science

Business
Cooperative Research
Centres Programme

Table of contents

Tranche 2 Combined transition needs – list of group names

Tranche 2 Combined transition needs summary mind maps

Transition needs survey questions

Raw data – city / region-based transition needs

1. Sydney voting results and table discussion notes (1 day workshop)
2. Melbourne voting results and table discussion notes (2 day workshop)
3. Brisbane table discussion notes (1 day workshop – no voting)
4. Perth voting results and table discussion notes (2 day workshop)
5. Adelaide voting results and table discussion notes (1 day workshop)

Tranche 2 - Combined Needs

Enabling structures

1. Strengthening and aligning policy, legislation and regulation in support of water sensitive cities
2. Shared vision and narrative for water sensitive cities that connects with community values and drives decision making
3. New financial model and incentives that recognises the values and benefits of water sensitive cities
4. Robust and inclusive decision making frameworks
5. Governance frameworks that enable coordination and collaboration across agencies and sectors
6. Holistic evaluation frameworks to support water sensitive city investments

On-ground practices

7. Guidance on how to develop context-specific solutions and asset management regimes
8. Achieving multiple benefits through integrated planning, and design of water systems and the urban form
9. Next generation of flood risk assessment frameworks and tools for a water sensitive cities approach
10. Monitoring and evaluation for improved system design and performance
11. Efficient and effective operations and maintenance systems to achieve water sensitive city outcomes
12. Coherent understanding of groundwater systems and interactions with surface waters

Social capital

13. Influencing water sensitive city outcomes through leadership, collaboration and networks
14. A culture of learning and innovation
15. Translation and sharing of water sensitive cities knowledge
16. Building community and industry connection and engagement
17. Building capacity to deliver a water sensitive cities

CRCWSC Tranche 2 Needs and Opportunities Workshops: Voting Questions

Enabling Structures:

1. Vision and Narrative
2. Policies and Strategy
3. Evaluation Frameworks
4. Legislation and Regulation
5. Incentives
6. Revenue, Funding and Investment

On-Ground Practice:

1. Water Systems Planning
2. Urban and Landscape Design
3. Water Systems Design
4. Operation and Maintenance
5. Monitoring and Evaluation
6. Citizen Engagement
7. Cost-Benefit Analyses

Social Capital:

1. Leadership
2. Science Influence
3. Networks
4. Capacity
5. Community Connection
6. Learning Culture

Enabling Structures

(1) Vision and narrative Aspirations of a city, how to get there and why they are important	Please rate from 1 to 5 which statement best describes the vision and narrative with regards to water sensitivity in your city. Vision and narrative... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>do not feature a shared understanding of the role of water in a city. Aspirations of water sensitivity are limited and unclear.</td><td></td><td>feature a shared understanding in the water sector of the role of water in a city. General principles and ideas of water sensitivity are understood and appreciated.</td><td></td><td>feature a widely shared understanding of the role of water in a city which embraces all principles of water sensitivity in a locally contextualised way. They are embedded across sectors and linked to broader city aspirations.</td></tr></table>					1	2	3	4	5	do not feature a shared understanding of the role of water in a city. Aspirations of water sensitivity are limited and unclear.		feature a shared understanding in the water sector of the role of water in a city. General principles and ideas of water sensitivity are understood and appreciated.		feature a widely shared understanding of the role of water in a city which embraces all principles of water sensitivity in a locally contextualised way. They are embedded across sectors and linked to broader city aspirations.
1	2	3	4	5											
do not feature a shared understanding of the role of water in a city. Aspirations of water sensitivity are limited and unclear.		feature a shared understanding in the water sector of the role of water in a city. General principles and ideas of water sensitivity are understood and appreciated.		feature a widely shared understanding of the role of water in a city which embraces all principles of water sensitivity in a locally contextualised way. They are embedded across sectors and linked to broader city aspirations.											
(2) Policies & Strategy Policies and strategies that facilitate the delivery of desired outcomes	Please rate from 1 to 5 which statement best describes the policies and strategies with regards to water sensitivity in your city. Policies and strategies... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>reinforce conventional water practices.</td><td></td><td>reflect water sensitive principles but lack integration and coordination between sectors and levels of government.</td><td></td><td>are coherently aligned to the water sensitive vision. They coordinate effectively between sectors and levels of government and define how water sensitive goals should be achieved.</td></tr></table>					1	2	3	4	5	reinforce conventional water practices.		reflect water sensitive principles but lack integration and coordination between sectors and levels of government.		are coherently aligned to the water sensitive vision. They coordinate effectively between sectors and levels of government and define how water sensitive goals should be achieved.
1	2	3	4	5											
reinforce conventional water practices.		reflect water sensitive principles but lack integration and coordination between sectors and levels of government.		are coherently aligned to the water sensitive vision. They coordinate effectively between sectors and levels of government and define how water sensitive goals should be achieved.											
(3) Evaluation frameworks Instruments to facilitate coordination towards desired outcomes	Please rate from 1 to 5 which statement best describes the use of evaluation frameworks with regards to water sensitivity in your city. Evaluation frameworks... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>are not used to coordinate between sectors and levels of government. Decision making is opaque.</td><td></td><td>are used and some may align with water sensitive city goals but they differ between sectors and levels of government.</td><td></td><td>are used and correspond with water sensitive city goals. They are shared by different sectors and levels of government to promote coordination, set priorities and clarify responsibilities.</td></tr></table>					1	2	3	4	5	are not used to coordinate between sectors and levels of government. Decision making is opaque.		are used and some may align with water sensitive city goals but they differ between sectors and levels of government.		are used and correspond with water sensitive city goals. They are shared by different sectors and levels of government to promote coordination, set priorities and clarify responsibilities.
1	2	3	4	5											
are not used to coordinate between sectors and levels of government. Decision making is opaque.		are used and some may align with water sensitive city goals but they differ between sectors and levels of government.		are used and correspond with water sensitive city goals. They are shared by different sectors and levels of government to promote coordination, set priorities and clarify responsibilities.											
(4) Legislation and regulation Legislative and regulative instruments that ensure and enable water sensitive practices	Please rate from 1 to 5 which statement best describes legislation and regulation with regards to water sensitivity in your city. Legislation and regulation... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>inhibit water sensitive practices. They tend to be prescriptive and contradict each other.</td><td></td><td>neither inhibit nor promote water sensitive practices. They are fragmented, complex and lack coordination between sectors.</td><td></td><td>promote water sensitive practices. They are outcome oriented, flexible, and coordinated between sectors.</td></tr></table>					1	2	3	4	5	inhibit water sensitive practices. They tend to be prescriptive and contradict each other.		neither inhibit nor promote water sensitive practices. They are fragmented, complex and lack coordination between sectors.		promote water sensitive practices. They are outcome oriented, flexible, and coordinated between sectors.
1	2	3	4	5											
inhibit water sensitive practices. They tend to be prescriptive and contradict each other.		neither inhibit nor promote water sensitive practices. They are fragmented, complex and lack coordination between sectors.		promote water sensitive practices. They are outcome oriented, flexible, and coordinated between sectors.											
(5) Incentives Financial and non-financial incentives to promote water sensitive practices	Please rate from 1 to 5 which statement best describes the incentives with regards to water sensitivity in your city. Incentives... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>reinforce conventional practices.</td><td></td><td>support water sensitive principles and steer practices towards water sensitive goals. They are mostly limited to financial instruments and their application is not coordinated between sectors.</td><td></td><td>align with and reinforce all goals of the water sensitive vision. A coordinated suite of financial and non-financial incentives drive water sensitive practices across different sectors.</td></tr></table>					1	2	3	4	5	reinforce conventional practices.		support water sensitive principles and steer practices towards water sensitive goals. They are mostly limited to financial instruments and their application is not coordinated between sectors.		align with and reinforce all goals of the water sensitive vision. A coordinated suite of financial and non-financial incentives drive water sensitive practices across different sectors.
1	2	3	4	5											
reinforce conventional practices.		support water sensitive principles and steer practices towards water sensitive goals. They are mostly limited to financial instruments and their application is not coordinated between sectors.		align with and reinforce all goals of the water sensitive vision. A coordinated suite of financial and non-financial incentives drive water sensitive practices across different sectors.											
(6) Revenue, funding and investment Revenue, funding and investment models to deliver water sensitive practices	Please rate from 1 to 5 which statement best describes revenue, funding and investment with regards to water sensitivity in your city. Revenue, funding and investment models... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>reinforce conventional practices.</td><td></td><td>can support water sensitive practices but they result in ad-hoc and unreliable investments.</td><td></td><td>are reliable and dedicated to driving investments in water sensitive practices. They are embedded in different policies across a range of sectors.</td></tr></table>					1	2	3	4	5	reinforce conventional practices.		can support water sensitive practices but they result in ad-hoc and unreliable investments.		are reliable and dedicated to driving investments in water sensitive practices. They are embedded in different policies across a range of sectors.
1	2	3	4	5											
reinforce conventional practices.		can support water sensitive practices but they result in ad-hoc and unreliable investments.		are reliable and dedicated to driving investments in water sensitive practices. They are embedded in different policies across a range of sectors.											

On-Ground Practice

(1) Water system planning Planning of urban water infrastructure	Please rate from 1 to 5 which statement best describes water systems planning with regards to water sensitivity in your city. Water systems planning... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>is done in isolation and does not engage with urban planning. It is reactive and does not take long term issues or uncertainties into account.</td><td></td><td>engages with urban planning. Uncertainties are acknowledged and contingency planning is done.</td><td></td><td>is cross sectoral and highly integrated with urban planning. Uncertainty is addressed through flexibility and contingency planning incorporates many future scenarios.</td></tr></table>					1	2	3	4	5	is done in isolation and does not engage with urban planning. It is reactive and does not take long term issues or uncertainties into account.		engages with urban planning. Uncertainties are acknowledged and contingency planning is done.		is cross sectoral and highly integrated with urban planning. Uncertainty is addressed through flexibility and contingency planning incorporates many future scenarios.
1	2	3	4	5											
is done in isolation and does not engage with urban planning. It is reactive and does not take long term issues or uncertainties into account.		engages with urban planning. Uncertainties are acknowledged and contingency planning is done.		is cross sectoral and highly integrated with urban planning. Uncertainty is addressed through flexibility and contingency planning incorporates many future scenarios.											
(2) Urban and landscape design Designing urban environments for water service delivery	Please rate from 1 to 5 which statement best describes urban and landscape design with regards to water sensitivity in your city. Urban and landscape design... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>conceals and separates water service delivery from the built environment. Greenspace is incidental and the few public displays of water features, don't deliver functional and amenity benefits. Local aspirations are peripheral in the design process.</td><td></td><td>realises water service delivery through the built environment. The role of green space and water in public areas is understood in fulfilling amenity and functional benefits. Local aspirations are acknowledged and incorporated in the design process where possible.</td><td></td><td>enables water service delivery to be an integral part of the built environment. Well connected green spaces and public areas are fundamental in fulfilling important amenity and functional benefits. Local aspirations directly inform the design process.</td></tr></table>					1	2	3	4	5	conceals and separates water service delivery from the built environment. Greenspace is incidental and the few public displays of water features, don't deliver functional and amenity benefits. Local aspirations are peripheral in the design process.		realises water service delivery through the built environment. The role of green space and water in public areas is understood in fulfilling amenity and functional benefits. Local aspirations are acknowledged and incorporated in the design process where possible.		enables water service delivery to be an integral part of the built environment. Well connected green spaces and public areas are fundamental in fulfilling important amenity and functional benefits. Local aspirations directly inform the design process.
1	2	3	4	5											
conceals and separates water service delivery from the built environment. Greenspace is incidental and the few public displays of water features, don't deliver functional and amenity benefits. Local aspirations are peripheral in the design process.		realises water service delivery through the built environment. The role of green space and water in public areas is understood in fulfilling amenity and functional benefits. Local aspirations are acknowledged and incorporated in the design process where possible.		enables water service delivery to be an integral part of the built environment. Well connected green spaces and public areas are fundamental in fulfilling important amenity and functional benefits. Local aspirations directly inform the design process.											
(3) Water systems design Designing and implementing water service infrastructure	Please rate from 1 to 5 which statement best describes water systems design with regards to water sensitivity in your city. Water systems design... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>focuses on designing large scale systems to deliver water for single objective solutions. Each area of the water cycle is addressed separately.</td><td></td><td>favours one scale over the other. Multiple objective solutions are adopted where possible and total water cycle management is understood.</td><td></td><td>focuses on designing at multiple scales to achieve multiple objectives and to deliver a range of benefits. Fit-for-purpose solutions are widely used and synergies between different areas of the water cycle are created and utilised.</td></tr></table>					1	2	3	4	5	focuses on designing large scale systems to deliver water for single objective solutions. Each area of the water cycle is addressed separately.		favours one scale over the other. Multiple objective solutions are adopted where possible and total water cycle management is understood.		focuses on designing at multiple scales to achieve multiple objectives and to deliver a range of benefits. Fit-for-purpose solutions are widely used and synergies between different areas of the water cycle are created and utilised.
1	2	3	4	5											
focuses on designing large scale systems to deliver water for single objective solutions. Each area of the water cycle is addressed separately.		favours one scale over the other. Multiple objective solutions are adopted where possible and total water cycle management is understood.		focuses on designing at multiple scales to achieve multiple objectives and to deliver a range of benefits. Fit-for-purpose solutions are widely used and synergies between different areas of the water cycle are created and utilised.											
(4) Operation and Maintenance Integrating and managing green infrastructure in asset base.	Please rate from 1 to 5 which statement best describes operations and maintenance with regards to water sensitivity in your city. Operations and maintenance... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>does not consider green infrastructure and waterways to be part of the asset base. Their monitoring and assessment is not integrated in the asset management regime.</td><td></td><td>considers some green infrastructure and waterways as part of the asset base. Monitoring and assessment is undertaken but not fully integrated into the asset management regime.</td><td></td><td>considers green infrastructure and waterways as a highly valuable part of the asset base. Full integration with other assets is achieved through comprehensive monitoring and asset management systems.</td></tr></table>					1	2	3	4	5	does not consider green infrastructure and waterways to be part of the asset base. Their monitoring and assessment is not integrated in the asset management regime.		considers some green infrastructure and waterways as part of the asset base. Monitoring and assessment is undertaken but not fully integrated into the asset management regime.		considers green infrastructure and waterways as a highly valuable part of the asset base. Full integration with other assets is achieved through comprehensive monitoring and asset management systems.
1	2	3	4	5											
does not consider green infrastructure and waterways to be part of the asset base. Their monitoring and assessment is not integrated in the asset management regime.		considers some green infrastructure and waterways as part of the asset base. Monitoring and assessment is undertaken but not fully integrated into the asset management regime.		considers green infrastructure and waterways as a highly valuable part of the asset base. Full integration with other assets is achieved through comprehensive monitoring and asset management systems.											
(5) Monitoring & Evaluation Improving existing practices through monitoring & evaluation	Please rate from 1 to 5 which statement best describes monitoring and evaluation with regards to water sensitivity in your city. Monitoring and evaluation... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>are not used to assess the level of service provision. Adapting existing practices only occurs when prescribed.</td><td></td><td>are used to assess the level of service provision. Lessons learned lead to the adaptation of existing practices.</td><td></td><td>are actively used through comprehensive data collection and performance analysis to improve existing practices and increase water sensitivity.</td></tr></table>					1	2	3	4	5	are not used to assess the level of service provision. Adapting existing practices only occurs when prescribed.		are used to assess the level of service provision. Lessons learned lead to the adaptation of existing practices.		are actively used through comprehensive data collection and performance analysis to improve existing practices and increase water sensitivity.
1	2	3	4	5											
are not used to assess the level of service provision. Adapting existing practices only occurs when prescribed.		are used to assess the level of service provision. Lessons learned lead to the adaptation of existing practices.		are actively used through comprehensive data collection and performance analysis to improve existing practices and increase water sensitivity.											

(6) Citizen engagement Interacting and engaging with citizens in decision-making processes	Please rate from 1 to 5 which statement best describes citizen engagement with regards to water sensitivity in your city. Citizen engagement is... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>poor and citizens are only informed when decisions directly affect their livelihood or when required by law.</td><td></td><td>good and citizens are regularly informed about decisions. Their feedback is welcome and they are invited to comment and express their views and interests.</td><td></td><td>excellent and citizens are treated as partners in decision-making. Their meaningful involvement and empowerment is actively pursued.</td></tr></table>	1	2	3	4	5	poor and citizens are only informed when decisions directly affect their livelihood or when required by law.		good and citizens are regularly informed about decisions. Their feedback is welcome and they are invited to comment and express their views and interests.		excellent and citizens are treated as partners in decision-making. Their meaningful involvement and empowerment is actively pursued.
1	2	3	4	5							
poor and citizens are only informed when decisions directly affect their livelihood or when required by law.		good and citizens are regularly informed about decisions. Their feedback is welcome and they are invited to comment and express their views and interests.		excellent and citizens are treated as partners in decision-making. Their meaningful involvement and empowerment is actively pursued.							
(7) Cost-benefit analyses Quantifying the costs and benefits of water services	Please rate from 1 to 5 which statement best describes how cost-benefit analyses are undertaken with regards to water sensitivity in your city. Cost-benefit analyses... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>does not consider externalities and non-market values of water services. Lowest cost option and return on investment are the basis for investment decisions.</td><td></td><td>considers externalities and non-market values of water services but does not quantify them. Triple bottom line and multi-criteria analysis are undertaken when possible.</td><td></td><td>considers and quantifies externalities and non-market values of water services. Investments are based on the highest value option that incorporates market and non-market benefits as well as citizen preferences.</td></tr></table>	1	2	3	4	5	does not consider externalities and non-market values of water services. Lowest cost option and return on investment are the basis for investment decisions.		considers externalities and non-market values of water services but does not quantify them. Triple bottom line and multi-criteria analysis are undertaken when possible.		considers and quantifies externalities and non-market values of water services. Investments are based on the highest value option that incorporates market and non-market benefits as well as citizen preferences.
1	2	3	4	5							
does not consider externalities and non-market values of water services. Lowest cost option and return on investment are the basis for investment decisions.		considers externalities and non-market values of water services but does not quantify them. Triple bottom line and multi-criteria analysis are undertaken when possible.		considers and quantifies externalities and non-market values of water services. Investments are based on the highest value option that incorporates market and non-market benefits as well as citizen preferences.							

Social capital

(1) Leadership Individual and organisational champions	Please rate from 1 to 5 which statement best describes leadership with regards to water sensitivity in your sector. Leadership... 1 2 3 4 5 supports conventional practices. supports water sensitive practices through a network of champions. Some organisations champion water sensitive principles and goals. is distributed and key organisations drive innovation and water sensitive practices across sectors and government levels.			
(2) Science influence The practices of science and its influence	Please rate from 1 to 5 which statement best describes the influence of science with regards to water sensitivity in your city. Science and research... 1 2 3 4 5 does not engage meaningfully with industry and real world applications are of little interest. It is regarded with scepticism and mostly inaccessible. engages with industry through partnerships which generate more accessible and applied science. Science is reliable, trusted and provides new insights that sometimes inform existing practices. engages with industry through robust partnerships which generate reliable, trusted and interdisciplinary science. New insights from collaborative research are highly valued in decision-making and provide the basis for adapting existing practices.			
(3) Networks Networks across organisations, sectors and levels	Please rate from 1 to 5 which statement best describes the networks with regards to water sensitivity in your city. Networks... 1 2 3 4 5 are inward looking with little outreach to develop cross sectoral relationships in support of water sensitive aspirations. are valued but they are mostly informal. They gravitate around key individuals at similar levels from different sectors. They coalesce in response to crisis or opportunities and generally support water sensitive aspirations. are highly valued, informal and formal across different sectors, organisations and levels. They are strong, responsive and actively support water sensitive aspirations.			

(4) Capacity Knowledge, skills and experiences of practitioners	Please rate from 1 to 5 which statement best describes capacities with regards to water sensitivity in your city. Practitioners' skills and knowledge... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>are limited to traditional urban water engineering. Integrated water-related skills and knowledge are limited.</td><td></td><td>are strongly based on the water management field but are complemented by other areas. Skills and knowledge are strong in core areas but integration is weak.</td><td></td><td>are cross-sectoral, multi-disciplinary and inter-organisational. Specialised skills and knowledge in core areas are combined with a broad working knowledge of other relevant areas.</td></tr></table>					1	2	3	4	5	are limited to traditional urban water engineering. Integrated water-related skills and knowledge are limited.		are strongly based on the water management field but are complemented by other areas. Skills and knowledge are strong in core areas but integration is weak.		are cross-sectoral, multi-disciplinary and inter-organisational. Specialised skills and knowledge in core areas are combined with a broad working knowledge of other relevant areas.
1	2	3	4	5											
are limited to traditional urban water engineering. Integrated water-related skills and knowledge are limited.		are strongly based on the water management field but are complemented by other areas. Skills and knowledge are strong in core areas but integration is weak.		are cross-sectoral, multi-disciplinary and inter-organisational. Specialised skills and knowledge in core areas are combined with a broad working knowledge of other relevant areas.											
(5) Community connection Citizens' attitude and appreciation of water and its role in the place they live	Please rate from 1 to 5 which statement best describes the community connection with regards to water sensitivity in your city. The community... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>has little understanding of the water cycle and how water systems work. People don't feel connected to their local neighbourhood and don't value the role of water beyond basic service provision.</td><td></td><td>has a general understanding of the water cycle and how water systems work. People care about their neighbourhood and local waterways in the vicinity.</td><td></td><td>is very knowledgeable about the water cycle and how the different elements of the system work together. People are proud of their neighbourhood and water's role in the landscape, and welcome opportunities to be engaged in managing and protecting it.</td></tr></table>					1	2	3	4	5	has little understanding of the water cycle and how water systems work. People don't feel connected to their local neighbourhood and don't value the role of water beyond basic service provision.		has a general understanding of the water cycle and how water systems work. People care about their neighbourhood and local waterways in the vicinity.		is very knowledgeable about the water cycle and how the different elements of the system work together. People are proud of their neighbourhood and water's role in the landscape, and welcome opportunities to be engaged in managing and protecting it.
1	2	3	4	5											
has little understanding of the water cycle and how water systems work. People don't feel connected to their local neighbourhood and don't value the role of water beyond basic service provision.		has a general understanding of the water cycle and how water systems work. People care about their neighbourhood and local waterways in the vicinity.		is very knowledgeable about the water cycle and how the different elements of the system work together. People are proud of their neighbourhood and water's role in the landscape, and welcome opportunities to be engaged in managing and protecting it.											
(6) Learning culture Professional and organisational learning culture	Please rate from 1 to 5 which statement best describes the learning culture with regards to water sensitivity in your city. The professional and organisational culture... <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>is risk averse and conservative. Experiments are discouraged, failures are penalised and new insights are not willingly shared.</td><td></td><td>is open to experimentation and trial and error. Risk taking is accepted in a controlled environment. New insights are shared in closed circles.</td><td></td><td>embraces learning through experimentation and reflexivity. Different types of risks are embraced as opportunities to innovate. New insights are actively shared and discussed across sectors.</td></tr></table>					1	2	3	4	5	is risk averse and conservative. Experiments are discouraged, failures are penalised and new insights are not willingly shared.		is open to experimentation and trial and error. Risk taking is accepted in a controlled environment. New insights are shared in closed circles.		embraces learning through experimentation and reflexivity. Different types of risks are embraced as opportunities to innovate. New insights are actively shared and discussed across sectors.
1	2	3	4	5											
is risk averse and conservative. Experiments are discouraged, failures are penalised and new insights are not willingly shared.		is open to experimentation and trial and error. Risk taking is accepted in a controlled environment. New insights are shared in closed circles.		embraces learning through experimentation and reflexivity. Different types of risks are embraced as opportunities to innovate. New insights are actively shared and discussed across sectors.											

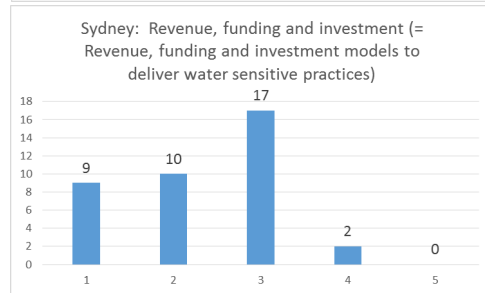
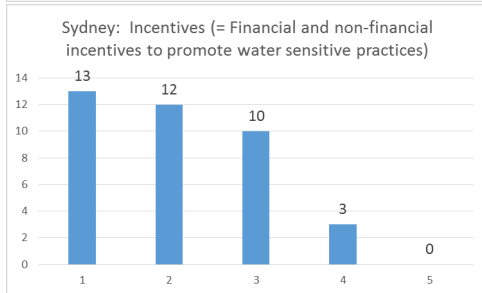
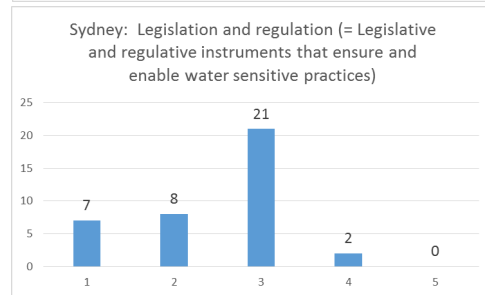
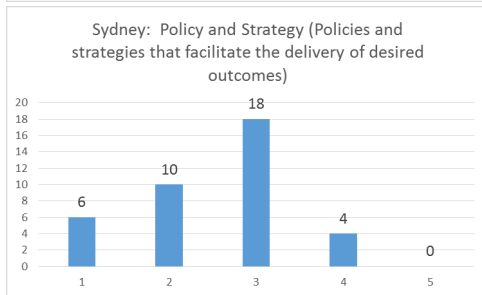
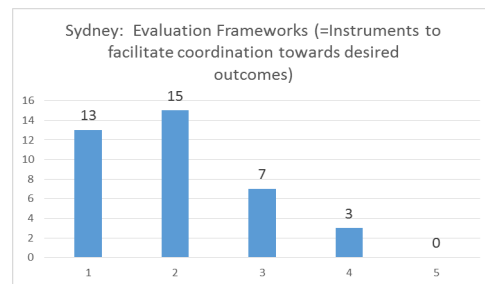
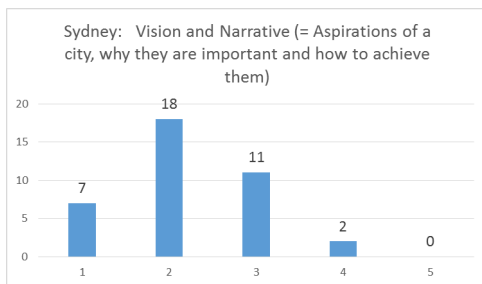


Sydney, NSW

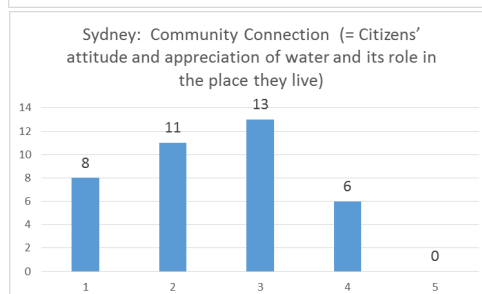
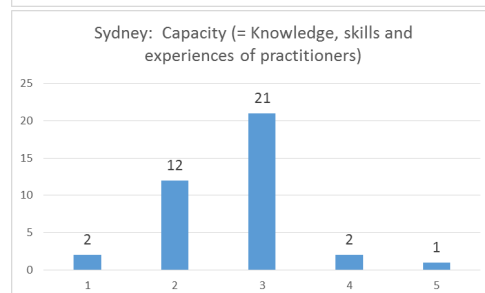
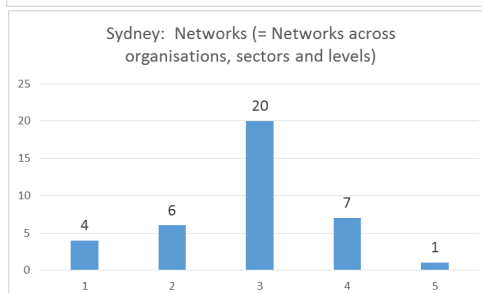
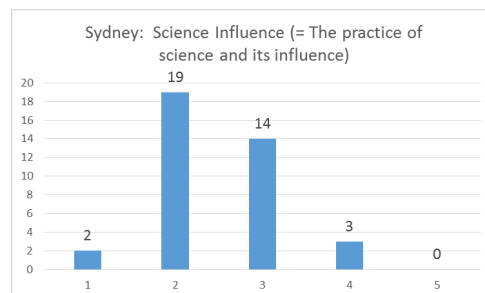
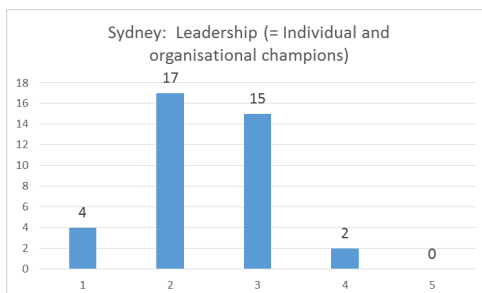
Voting results

Sydney – transition pathways voting results (N = 45):

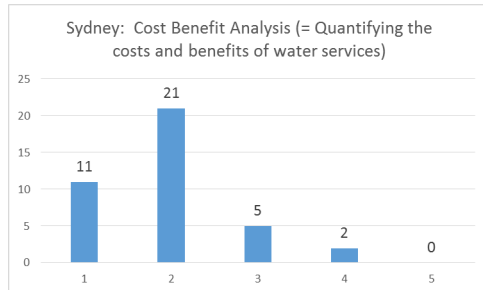
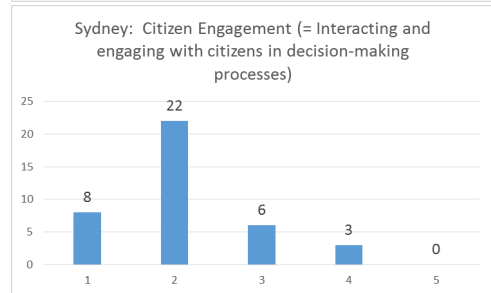
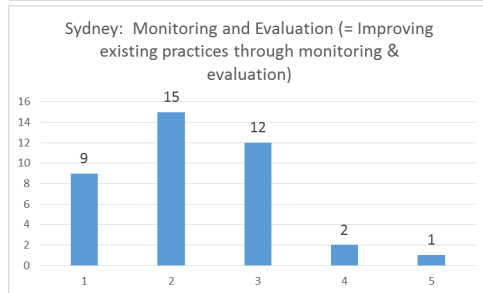
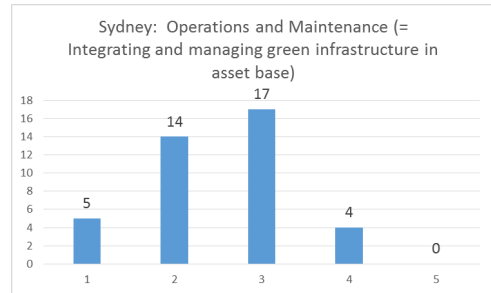
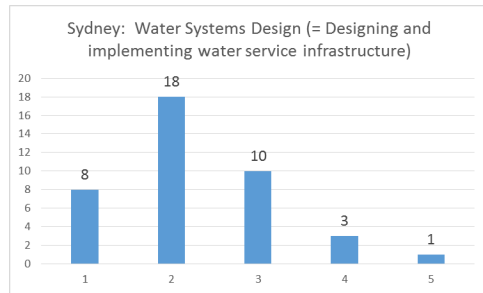
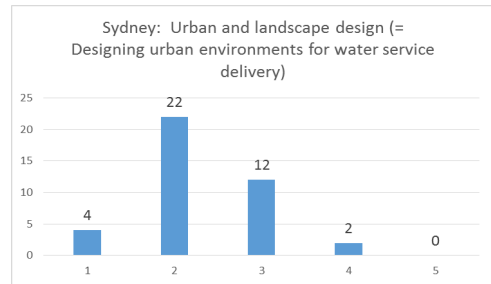
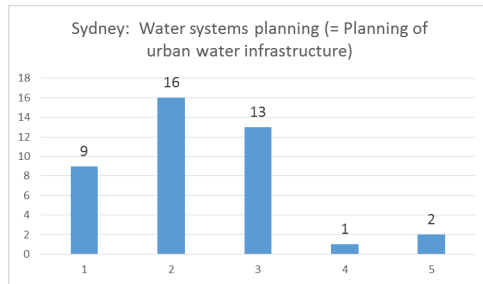
Enabling Structures:



Social Capital:



On Ground Practices:



ENABLING STRUCTURES

SYDNEY – <i>Strengthening and aligning policy, legislation and regulation in support of WSC</i>	
What are the most important things to achieve:	What is required support those priorities:
Policies and Strategies	• Inter-jurisdictional - Multiple agencies - “Together” Getting water in all • Complexity - Who owns what? • (lack of policy with teeth)
Legislation • Some policy gaps State-level planning policy missing (including targets, metrics) - will inform local govt planning	• Use existing legislation better – e.g. source of revenue – New stormwater harvesting regulations soon to go out to consultation + WICA • Peak industry to advocate effective use of legislation • Offsets and trading - Big picture/ economic efficacy • Review of incentives for development • More innovation required • Need to understand developer attitudes, drives, barriers, influences, incentives, benefits - for different elements of WSC
Regulation and policy settings (e.g. NABRS /Green Star (BASIX, SEPPs) • Pricing Perform	• Targets • New powers • Regulation • Stronger water sensitive goals and targets • In partnership with CRC & industry
Planning and regulation • Integrated planning	• Gateway for WICA (inclusion of WICA / IWCM in planning gateway process) • Master planning and design for new growth - must include options for IWCM • New regulatory powers for infill development to enable dual reticulation and IWCM outcomes

SYDNEY – Shared vision and narrative for WSC that connects with community values and drives decision making	
What are the most important things to achieve:	What is required support those priorities:
Vision and narrative • Needs to be applicable / adaptable to all levels • Underpinned by targets – link to evaluation framework • Aligned with priorities	•

SYDNEY – Governance frameworks that enable coordination & collaboration across agencies & sectors	
What are the most important things to achieve:	What is required support those priorities:
WSC practice not embedded in industry practice or council's: • Communication within planning (intersection) (e.g. asset renewals) – No over-arching narrative for Sydney that could reduce piece-meal approach (43 councils)	• Over-arching coordinating body/authority? • Increased excitement / energy about the idea • Momentum loss as councils change – would be ameliorated if individuals remain connected
Governance • Lack of vision - overarching vision with nested layers at different scales that speak to different groups • Lack of policy/fractured • Inadequate legislation • No coordination • Silos for various water services • Population growth will exacerbate problems Climate change will exacerbate need	• Remove organisational barriers • Integrate citizen/interest groups participation • Develop technical, social, and regulatory approach/capacity • Promote value of water sensitive city to greater Sydney community • Engage developers to develop cost effective and stable long term infrastructure solutions, not the attractive/cheap short term solutions • Develop regional strategies • Integration • More capacity

SYDNEY – *New financial model and incentives that recognises the values and benefits of WSC*

What are the most important things to achieve:	What is required support those priorities:
Investment pathways • Development focus exists - still need to have different approach ie: What different mix of servicing strategies • Discussion/evidence around costs and benefits of innovative approach • Need small, agile (not necessarily large) • Stormwater harvesting - difficult to demonstrate cost-benefit – e.g. if only looking at cost of water • Temporal element to investment – in drought grants • Accepted norm to traditional CBA • Developers invest and handed over to council to maintain and need to put in significant funds	• Change Incentives – a smart water fund for demonstration projects • Opportunity for improving local government capacity to achieve special rates levy through the independent regulatory and pricing tribunal • Regional analysis of costs + benefits to assist partnering to deliver locally • Pilot site of innovation • Sydney Water - looking for decentralised opportunity • Coordinated planning
Pricing reform	• SWC ring fenced • Incentives for IWCM
Revenue, funding and investment • Access to funding, including for maintenance • Who should pay/fund WSUD? User pays? • Stormwater management is an after thought/not front of mind • Identify funding requirements and strategic plan and actions	• How do you put a value on 'health' etc in your CBA? • Develop multifunctional assets and infrastructure, and raise and divert funding • Develop place-based planning • "Whole of Catchment" water management plans would facilitate WSUD works over time to be effective • Funding - ongoing finances for future maintenance • Sponsorship • Embed stormwater management costs as a "normal" cost to beneficiaries • Make people value it so they want to fund it – cultural shift • Water sensitive philanthropy ' crowd sourcing' • Real case studies to show improvements - why is something valuable • Build understanding in community that stormwater is a p[pollutant and needs treatment to

	reduce impacts on natural assets • A WSUDs judging body which provides technical advice & funding - Allows proper assessment of projects for funding and best practice • Identify a galvanising vision to engage and educate communities eg “Swim in Sydney harbour” • Focus on how much people are willing to pay for something ie swimming in Parramatta river, having a green park • Divert some runoff from other areas – environmental restoration/management • Target waterways health and raise funding with Sydney water and local council • Develop solutions along with flood mitigation projects • Address local flooding and environmental issue, and divert funding to develop WSUD facilities • Improvements of waterways health – sewer overflow and stormwater management •
Revenue, funding and investment • Prevent use of stormwater levies to cross subsidies other areas • Require reporting on spending of levies • More innovative revenue streams • Need more value from investments by developers (ineffective infrastructure) – State Gov funding for “Blue Grid” (Similar to green grid)	• Health department (preventative medicine) • Insurance agencies (flooding) • Combine developer contributions to a larger more effective local solutions that would provide great local amenity and local process and or waster and storm water • Localities (sub-sub-catchments) petition for devices in their own area rather than councils choose the location which has less enthusiasm from community • Community crowd sourcing – infrastructure, lobby government • Developer contributions of offset mechanisms • Corporate sponsorship of raingardens, trees, WSUD
Incentives • New or improved rating based programs (i.e. BASIX +++, Green star more effective)	• Make Green Star and other rating tools relevant and appropriate for stormwater. Typically stormwater in these tools are not appropriate as developed by Energy Consultants. • Incentives should not just be related to money • This could be a good topic for CRC research – for example: we need to go beyond money, environmental incentives/just for the sake of the planet • Schemes to allow offsets for green/blue initiatives - water Sensitive Trading Schemes (i.e. pollutants, volume/flow) eco markets • Good old fashioned rebates - WSUD devices
Willingness to pay	• Evidence to make innovative business cases

• What is the business case to pay for WSC's? • How do we know the value to better invest?	• Get buy in on the recognition of evidence • Communicating that message and amplifying that message • Quantifying/ valuing intangibles - work of the CRC
Cost-benefit analysis • No coordination of the complete water cycle between governmental departments	• Opportunities to use ??improvement to implement WSUD • Cost benefit analysis requires monitoring and evaluation • Showcase projects and give better recognition to them • Environmental value of water to include aquatic benefits including quantifying benefit to community, recreational fishing, clean waterways. Not just based on the supply of water. • Better quantify benefits and beneficiaries • Monitoring and evaluation to gather data • Don't be afraid of failure • Develop a culture - less risk adverse • Comparative analysis of what works and what doesn't, e.g. sacrificing open space versus provision of open space

ON GROUND PRACTICES

<i>SYDNEY – Achieving multiple benefits through integrated planning, and design of water systems & the urban form</i>	
What are the most important things to achieve:	What is required support those priorities:
Finding space for multiple benefits • Multifunctional use of space • Natural + built environment co-existence • Modify regulatory frameworks to enable multi-functional use of space • Partnerships between agencies to open up and combine space	• More regulations to bring “green developments” (i.e. work on DCPs) • More effective cost/benefit analysis + tools • Create more permeable surfaces

<i>SYDNEY – Efficient & effective operations and maintenance systems to achieve WSC outcomes</i>	
What are the most important things to achieve:	What is required support those priorities:
Asset / infrastructure linking to long-term asset management plans for local government	
Operation and maintenance • Life cycle cost \$ • Lack of forward thinking - planning • Lack of knowledge / capacity • Working in silos • Budget constraints \$ • Risks? • Culture of Council • Reliance on consultant advice • Lack of integration or relevant O&M personnel in planning process	• Integrated planning • Get all players in the room early to get all issues aired and addressed • Do appropriate forward budgeting for maintenance • Sharing information, workshops, seminars • Up-to-date guidelines for best practice • Integrate O&M issue to develop and design of urban WSUD • Improve the skills of the maintenance crews • Make council's value ‘Water sensitive urban design’ • Multi function areas (water management/ recreation/ biodiversity) will help spread maintenance costs across budgets sources • Real case studies to emulate (& assist forward planning) • Develop internal capacity on O&M matters since the existing knowledge on WSUD asset

	management is limited • Design the assets for easy maintenance i.e. driveways to access wetlands etc.
Asset / infrastructure linking to long-term asset management plans for local government	•

SYDNEY – Monitoring & evaluation for improved system design and performance	
What are the most important things to achieve:	What is required support those priorities:
Metrics and criteria to measure WSC	• Identify prioritised / target areas that will yield maximum benefit and provide incentive for developers • Need new metrics to measure and evaluate costs and benefits of on-ground practices - justification of WSC approaches, helps achieve co-ordinated approach ○ Create right metrics ○ Embed in policy • Baseline required - No regret actions - What's possible now
Water quality targets and cumulative load models	• Online models for calculating loads + receiving water impact • thresholds – using locally calibrated ANZECC guidelines
Evaluation frameworks for current practices technologies- create consistency in validation process • How do you scale frameworks and evaluation process- multiscale evaluation criteria needed – city, precinct, catchment etc... • Lack of coordination between different organisations to deliver evaluation- eg. Does state govt take lead in setting criteria? Need consistent delivery framework.	• Need evaluation frameworks for each topic of “enabling structures” eg. Visia/ narrative, policies, strategy, Case study etc • DA processing- evaluation framework- mopping/ linking evaluation frameworks to DA process • Linking aspirations and practice • Evaluation frameworks for new and emerging initiatives- eg. Offset schemes; tell us how to evaluate the effectiveness of new initiatives – guidance. • Evaluation of frameworks for a wider range of integrated solutions- eg. Wastewater /stormwater combined systems

SYDNEY – Achieving multiple benefits through integrated planning, and design of water systems & the urban form	
What are the most important things to achieve:	What is required support those priorities:
Finding space for multiple benefits • Multifunctional use of space • Natural + built environment co-existence • Modify regulatory frameworks to enable multi-functional use of space • Partnerships between agencies to open up and combine space	• More regulations to bring “green developments” (i.e. work on DCPs) • More effective cost/benefit analysis + tools • Create more permeable surfaces

SYDNEY – Guidance on how to develop context-specific solutions and asset management regimes	
What are the most important things to achieve:	What is required support those priorities:
• Mainstreaming technology through the lifecycle – Simplify terminology so everyone understands – More “how to” guidelines for the various disciplines – Collect and communicate evidence – Need someone or something to lead the implementation, responsibility, remit, funding – Need simple robust systems that can be installed, maintained – compliance, warranties?	• Work together with landscapers, manufacturers, plumbers, construction • Price control • More regulation (ie. Australian standards) • Seed a work team to maintain stormwater devices in new developments clustered around intense development areas (near rivers) + urban transport nodes, cost-benefit • Engage Automotive Technology Association to come up with clever, cheap and easy devices • We need a revolution
Cost-benefit analysis • No coordination of the complete water cycle between governmental departments	• Opportunities to use ??improvement to implement WSUD • Cost benefit analysis requires monitoring and evaluation • Showcase projects and give better recognition to them • Environmental value of water to include aquatic benefits including quantifying benefit to

	community, recreational fishing, clean waterways. Not just based on the supply of water. • Better quantify benefits and beneficiaries • Monitoring and evaluation to gather data • Don't be afraid of failure • Develop a culture - less risk adverse • Comparative analysis of what works and what doesn't, e.g. sacrificing open space versus provision of open space
--	--

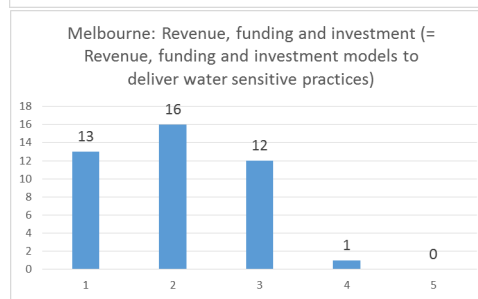
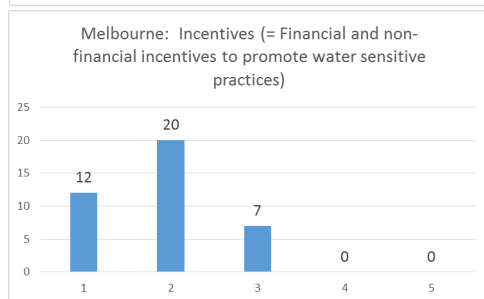
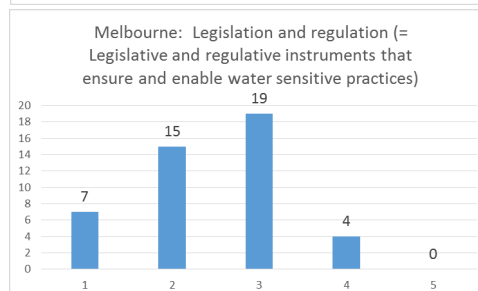
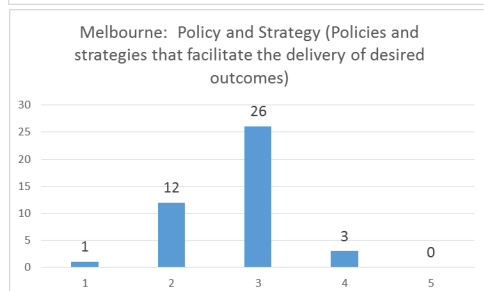
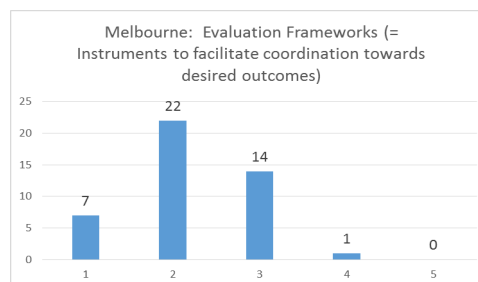
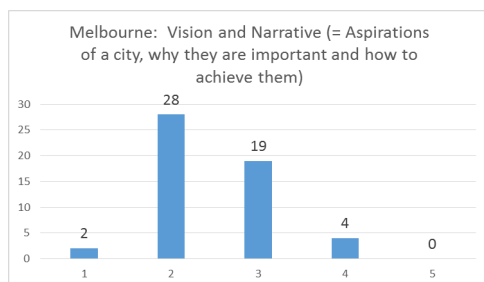


Melbourne, Vic

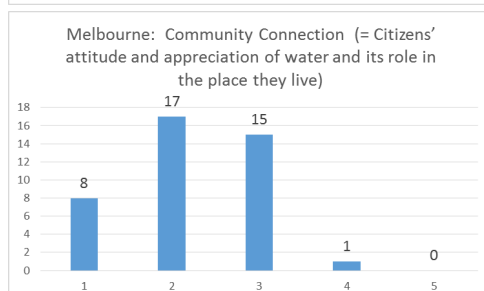
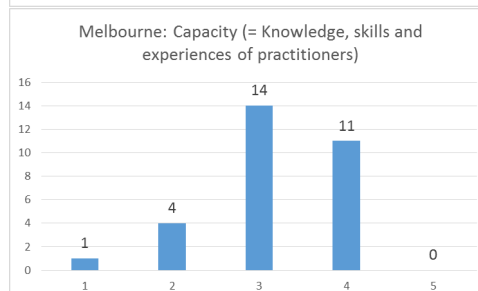
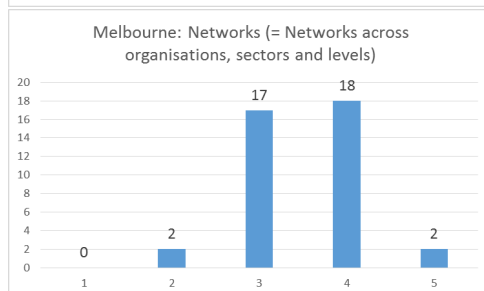
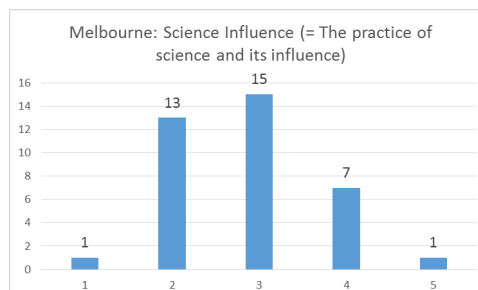
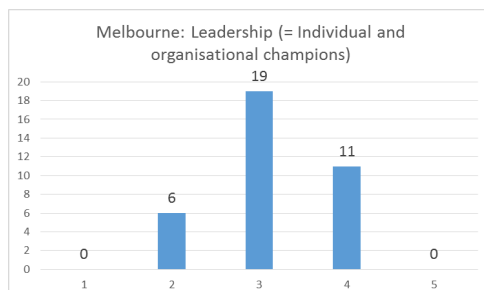
Voting results

Melbourne – transition pathways voting results (N = 53):

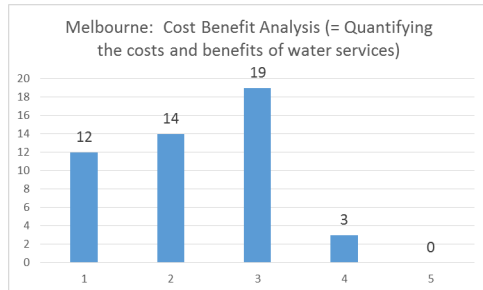
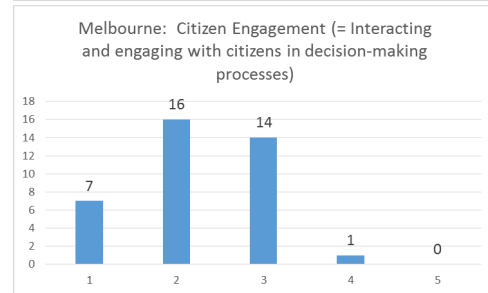
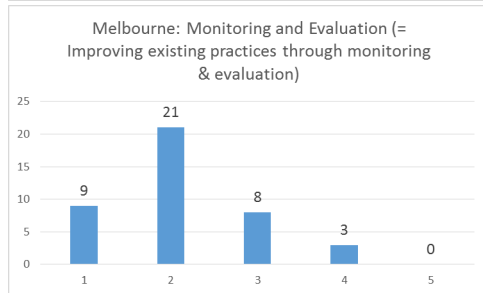
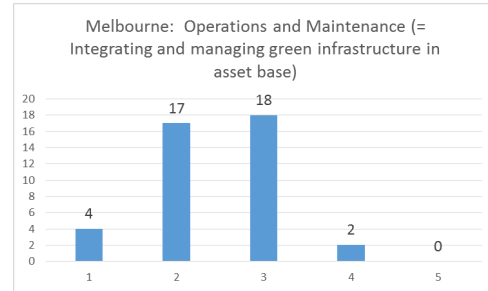
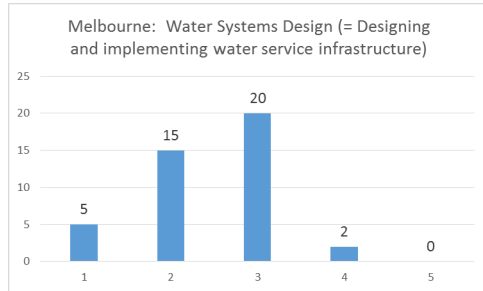
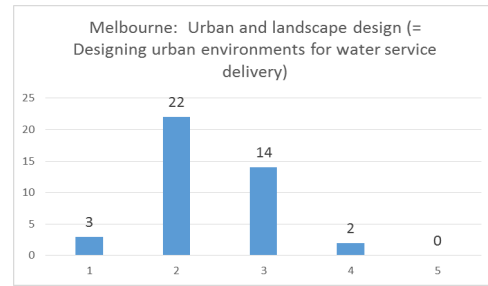
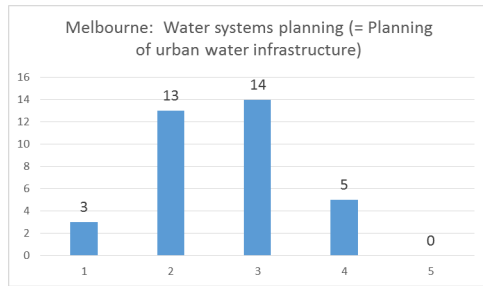
Enabling Structures:



Social Capital:



On Ground Practices:



MELBOURNE – ENABLING STRUCTURES - ‘TRANSITION NEEDS’

No.	Cluster	Total votes	Breakdown
a	Urban & landscape design	19	- State government = 8 - Local government = 3 - Private = 5 - Water Utility = 3
b	Operations & Maintenance / Monitoring & Evaluating	25	- State government = 7 - Local government = 6 - Private = 9 - Water Utility = 3
c	Citizen Engagement	12	- State government = 5 - Local government = 4 - Private = 2 - Water Utility = 1
d	Water systems design; Cost-benefit analysis; Citizen engagement; Monitoring & evaluation	33	- State government = 10 - Local government = 7 - Private = 4 - Water Utility = 2
E	Cost-benefit analysis; Monitoring & evaluation?	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
F	On-ground practice	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
G	Water Systems Design; Citizen engagement	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
h	Water Systems Planning	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
i	Water Systems Planning; Monitoring & Evaluation; Cost-benefit analysis	5	- State government = 4 - Local government = 1 - Private = 0 - Water Utility = 0
j	Water systems planning; Cost-benefit analysis	4	- State government = 2 - Local government = 1 - Private = 1 - Water Utility = 0

Melbourne - Policy & legislative framework (a)

Total votes = 35 (State government = 14; Local government = 5; Private = 10; Water Utility = 6)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Identify appropriate regulation to enable/support policy intent (eg. SEEP) Align / combine /refine regulation	Nil	Nil
Legislative framework that support multi-beneficiaries of a WSC - Recognize long-term social benefits - Should there be dis-incentives for states or poor practice ie. Build incentive & disincentive	Selling value proposition of long-term benefits ie. Inform new framework	Nil
Review policy, legislative and adapt planning frameworks to get WSC outcome in development at all scales	Identify best practice identify gaps & inconsistencies	Commitment to innovation and implementation
Updates regulations (cl. 24 SEPPWOV) for place based/risk based process	- Advice to SEPP review on risk Model - Expansion of tool kit	- DELWP to come to CRC for advise on SEPP review - Port Phillip environmental management plan to come to CRC
Lift policy ban on uses of alternative water sources	Nil	Nil
Broaden responsibilities of government (incl. Local, water action etc.) To triple bottom line approach – through regulation / legislation	- Facilitate discussion with regulators on broaden benefits - Not existing financial models that promotes lower costs and agreed value on externalities - Increase awareness of other & benefits from social / environment outcomes	- State Government - Ensure eg / legislation ensure outcome to achieve water sensitive cities - Local Government & Utilities to determine willingness to pay of their constituents /customs - Also health benefits - Waterway benefit - Flooding costs

Greater linkage of water outcomes with other sectors & policy spaces, i.e. health sector	- Engage with other sectors of importance of WSC on delivering their policy outcomes - Elucidating barriers across sectors to facilitate change (i.e. policy mismatch)	Same as CRC
--	---	---

Melbourne - Shared vision for a water sensitive city (b)

Total votes = 25 (State government = 10; Local government = 4; Private = 5; Water Utility = 6)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Shared vision of a water sensitive city	- Policy advice - Neutral/independent facilitator - Bring in data on community view/engagement	- Water plans adopts - Plan Melbourne
- Vision and narrative – embed in the community - Making clear what is in it for the community – What are the benefits? Green playing fields - Across organizations / within org - To drive decision making - To avoid random political decisions	- Listen – dovetail research and needs - Talk to/present to other group and industries (develop cities / transition) - Provide independents reflection on where we are going wrong – where are the barriers - Research and b. advocacy	Bring section on board – percent to / go and talk to
Create shared vision, across all sectors - Clearly communicated - Well-articulated - Community ownership & engagement of water way tangible to community eg. Dutch example	- Define & communicate core outcomes of a WSC - Benefits of a water sensitive cities - Inform – influence policy opportunities eg. Infrastructure Victoria water plan	- Build on state government vision in water plan 30 year old vision – infrastructure Victoria - Promote to community - Commit to having consistency and common messaging - Peek bodies to align and messaging of all industry players
Developing a shared vision that reflects community needs and aspirations (reflected in govt. policy)	Nil	Nil
- Shared compelling vision - Contextualised & connected stakeholders - Vision for community - Vision know by government	- Literacy → community. How to improve? - Understand what water literacy means for community - Overarching story & great narrative	Nil

	• Place based liveability: what does this mean to an individual? • Tools for improving literacy	
--	--	--

Melbourne - Integrated planning (c)		
Total votes = 7 (State government = 0; Local government = 5; Private = 2; Water Utility = 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
• Update BPEM – integrate into planning • Integrate water planning with urban planning 9 (eg. Plan Melbourne)	• T1 – Toolkit available (D1.1) • T1 Planning recommendations (B5.1) • T2 – case studies of (successful) local planning policy implementation. • T2 – expanding on tools for appropriate scales	• Participate in case studies and tool development (T2)

Melbourne - Incentives; Revenue, funding & investment; and Evaluation frameworks (d)		
Total votes = 38 (State government = 13; Local government = 9; Private = 12; Water Utility = 4)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Evaluation frameworks - externalities • better cost evaluation frameworks	• Nil	• Nil
Move beyond economic evaluation frameworks	• Create non-economic, liveability, integrated evaluation frameworks	• Nil
Improve evaluation and long term funding models, coordinating across sectors and levels of government	• Evaluation models • Models to take into account non-financial/quantifiable benefits	• Government incentives
Financial justification for investment in WSC • treasury, councils, developers, utilities, private • reduce the financial gap (innovation, efficiency) • identify mechanisms to find the gap	• More systemic/holistic economic assessment/business case WSC outcomes • How to find the gap between financially viable & WSC aspiration	• Link more strongly with CRCWSC to leverage capacity & expertise of industry • Show case success/case studies

Coordinated funding & revenue streams to address market failures Questions: Who is paying for what? Unclear funding & revenue No agreement on cost-sharing principles Risk sharing & allocation of risk unclear Un-clear valuation (benefits)	• Nationwide, coordinated approach to off-sets & schemes • Incentives as solution beyond state boundaries	• Create a market (water trading) • Create discussion around Integrating multiple be
Sustainable & shared funding mechanisms • Ensure multiple sources • Considered as core, no opportunistic • Create innovative policy & funding mechanisms & frameworks e.g. value capture • Does it cost more to have a WSC – timing, if yes where does the cost lay?	• Articulate monetary & non-monetary benefits & time consequences • What new frameworks & models for shared funding for WSC benefits (multi-beneficiaries = multiple investors required) • More contemporary cost-benefit analysis frameworks – different paradigm required • Costs more initially – seeding market required – transparency to identify investors	Nil

MELBOURNE – ON GROUND PRACTICES

No.	Cluster	Total votes	Breakdown
a	Urban & landscape design	19	- State government = 8 - Local government = 3 - Private = 5 - Water Utility = 3
b	Operations & Maintenance / Monitoring & Evaluating	25	- State government = 7 - Local government = 6 - Private = 9 - Water Utility = 3
c	Citizen Engagement	12	- State government = 5 - Local government = 4 - Private = 2 - Water Utility = 1
d	Water systems design; Cost-benefit analysis; Citizen engagement; Monitoring & evaluation	33	- State government = 10 - Local government = 7 - Private = 4 - Water Utility = 2
E	Cost-benefit analysis; Monitoring & evaluation?	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
F	On-ground practice	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
G	Water Systems Design; Citizen engagement	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
h	Water Systems Planning	0	- State government = 0 - Local government = 0 - Private = 0 - Water Utility = 0
i	Water Systems Planning; Monitoring & Evaluation; Cost-benefit analysis	5	- State government = 4 - Local government = 1 - Private = 0 - Water Utility = 0
j	Water systems planning; Cost-benefit analysis	4	- State government = 2 - Local government = 1 - Private = 1 - Water Utility = 0

MELBOURNE - Urban and landscape design (a)

Total votes = 19 (State government (8); Local government (3); Private (5); Water Utility (3))

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Stormwater quality quantity greening at buildings	- Extended on green stormwater technology - Guidelines or green buildings infrastructure – same as for bio-filtration	- Participate - Review industry water sensitive design guidelines
Spatial arrangements for Green infrastructures to provide multiple benefits and cash benefits eg. Urban head island efforts	- Valuing of benefits - Research -> \$ Value (to embed into industry practice) - Disseminate info - Value being accepted by ESC / Industry	- Offer case studies - Support research
Provide on-group examples (demonstrations/experimentation) of water sensitive initiatives at a range of scales that: - Demonstrate planning a design collaboration - Provide basis for O&M, M&E learning / capacity - Benefits to community event - Understand & manage risk	- Provide evidence (proof of concept) - Provide evaluation capacity	- Provide locations and opportunities - Provide organization support funding to deliver - Provide expertise & capacity around community engagement, operations and maintenance.

MELBOURNE - Operations & Maintenance / Monitoring & Evaluating (b)

Total votes = 25 (State government (7); Local government (6); Private (9); Water Utility (3))

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Maintenance and performance IWM system • Are they delivering the level of service? • What are the life cycle costs? • Is there an optional maintenance regime? • Can we more cheaply and effectively monitor systems performance? Eg. Vegetation cover as a indicator of performance in biofilter Are we evaluating performance in the right way?	• Helping to define levels of service • Develop indicators of performance/monitor recommendations • Consolidate life cycle cost information • Provide system on maintenance	• Provide case study material • Perform monitoring • Trial indicators of performance
Developing tools – monitoring, evaluation feed back into design: a, b, c, d: • Operation • Site selection • Design • Tech. selection • Yield and quality	• Is there an on-going project (eg. Gum Scrub Creek?)	• Test/implement • Support the Coordination • Implementation system

MELBOURNE - Citizen Engagement (C) Total votes = 12 (State government (5); Local government (4); Private (2); Water Utility (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Citizen Engagement Providing a clear transparent approach	• Increase community's water literacy • Provide advice to industry to help increase community's water literacy • A citizen jury type approach; to identify community's vision for a WSC	• They need to build citizen engagement (providing a clear transparent approach) • Use IAP2 framework • A citizen jury type approach; to identify community's vision for a WSC
Developing processes for effective community engagement	• Continuation of visioning stream A4 & A3	• Participation
Citizen engagement Focus groups Target '155' for green cities	• Case studies • Identify preferred channels • What is the baseline of understanding • What is our kind of engagement	• Produce material of community engagement (e.g. videos) • Provide info for case studies • Engage in the right way

MELBOURNE - Water systems design; Cost-benefit analysis; Citizen engagement; Monitoring & evaluation (d)

Total votes = 3 (State government (10); Local government (7); Private (4); Water Utility (2))

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Decision-making framework for water sector & local government planning authorities Better understanding of costs; long-term life cycles; better assessment; non-quantifiable costs/benefits; more transparency; community decisions & inputs	- Place where costs are incurred is different to where benefits accrue - How to deal with multi-layered projects - A generic model or local government model	- Demonstrate, test models, evaluate e.g. Clyde Casey analysis - Willingness for parties to cooperate & work together - Sharing best practice

MELBOURNE - Cost-benefit analysis; Monitoring & evaluation? (e)

Total votes = 0 (State government (0); Local government (0); Private (0); Water Utility = 0)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Investment evaluation process	Continue from T1 economic projects	Participate

MELBOURNE – On-ground practice (f)

Total votes = 0 (State government (0); Local government (0); Private (0); Water Utility = 0)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Clear decision-making framework to enable influence (ground rules in different contexts; conflict between policy frameworks) (Cost Benefit Analysis doesn't give guidance on how to deal with different policies)	- Business case beyond CBA – contextualize e.g. council vs consultancy - Identify leverage & “sweet spots” to influence	- Understand decision-making process - How are decisions made? Understanding the cascade of influence

MELBOURNE – Water Systems Planning Citizen engagement (g)

Total votes = 0 (State government (0); Local government (0); Private (0); Water Utility = 0)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Indirect/direct potable reuse - social challenges - integration missing	Nil	Nil

MELBOURNE – Water Systems Planning (h)

Total votes = 0 (State government (0); Local government (0); Private (0); Water Utility = 0)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Planning for whole of life cycle costs/project delivery model to become standard practice	Advocate for appropriate maintenance costs as part of project development	Not accept business cases without costed asset maintenance schedules

MELBOURNE – Water Systems Planning; Monitoring & Evaluation; Cost-benefit analysis (i)

Total votes = 5 (State government (4); Local government (1); Private (0); Water Utility = 0)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Robust, simple, agreed, TOTEX economic evaluation framework for comparing options	- Case studies - Identify top 3 non-market values - Visualise 'story' comparison; 'look & feel' of options - What do we lose if we continue with business as usual? E.g. waterway health decline	- Provide case studies, also what didn't work - Scenario planning - Involve citizens e.g. via deliberative polling

MELBOURNE – Water Systems Planning; Cost-benefit analysis (j)

Total votes = 4 (State government (2); Local government (1); Private (1); Water Utility = 0)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Understand the ingredients for a successful water sensitive project – CBA is one part Do strategic plans work?	• Assess the projects that got up & those that didn't • Identify where resources should be spent • Beyond CBA, identify what factors take WSC from a 3 to a 5 • Examine internal planning & decision-making process	• Nil

Melbourne		Social Capital	
No.	Cluster	Total votes	Breakdown
a	Community Connection - Community understanding of water cycle – understand how landscape (land – water) connections work	12	• State Government = 5 • Local Government = 2 • Private = 4 • Water utility = 1
b	Community Education	2	• State government = 0 • Local government = 0 • Private = 1 • Water Utility = 1
c	Capacity building	19	• State government = 4 • Local government = 10 • Private = 3 • Water Utility = 2
d	Science influence & Learning Culture	16	• State government = 8 • Local government = 4 • Private = 1 • Water Utility = 3
E	Leadership	4	• State government = 3 • Local government = 0 • Private = 1 • Water Utility = 0
F	Community Connection; Science influence; Learning Culture	19	• State government = 5 • Local government = 6 • Private = 5 • Water Utility = 3

MELBOURNE - Community Connection - Community understanding of water cycle – understand how landscape (land – water) connections work (a)

Total votes = 12 (State Government = 5; Local Government = 2; Private = 4; Water utility = 1)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Community buy-in is critical for city wide transformation and questions of risk	• Avenues for community support and participation • Help build support • Achieve the 'right' level of support • Find ways for the community to participate • Identify the connections that resonate to encourage participation (different connections (recreational, productive, mental, sense of place)	• Educate & Raise awareness • Listen by engagement; what is acceptable and identify needs

MELBOURNE - Community Education (b)

Total votes = 2 (State government = 0; Local government = 0; Private = 1; Water Utility = 2)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Base level water literacy	• Explain the benefits of having a water-literate community • Finding ways to engage with uneducated citizens • Competing with other educators (how can we deliver multiple messages?)	• Use existing channels to engage & educate • Campaigns (e.g. "Don't flush drinking water down the toilet")

MELBOURNE - Capacity Building (c)

Total votes = 19 (State government = 4; Local government = 10; Private = 3; Water Utility = 2)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
• Capacity to deliver from problem definition to evaluation • Evaluate on framework • Plan -> Design -> Construct -> Maintain -> Evaluate (loop) • This underpins adaptive management • Learning culture – accept experimentation	• Training and capacity building content • Support experimentation • Updating design manuals	• Planning • Formalize design standards • Co-invest on pilot projects with CRCWSC • Manage community expectations that the pilot is acceptable with scientific backing • Identify projects that are safe to fail
Capacity Building • linkages between tertiary, vocational, TAFE, Trade education & industry needs	• Help identify the WSC future, to identify the WSC future, to identify capacity needs • Influence the influencers • Write for specific audiences	• Identify current and future needs • Capacity for planning, implementing, operating (& handovers)
Target non-watch agencies to provide leadership to achieve integrated outcomes	• Engage with other agencies: Vic Roads / Transport • Engage with other CRC Organisations (CRC Low Carbon Living)	• Bring project ideas to the table

MELBOURNE - Science influence & Learning Culture (d) Total votes = 16 (State government = 8; Local government = 4; Private = 1; Water Utility = 3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Knowledge, knowledge, knowledge • Sharing • using	• clarity of outcomes • From T1 ○ availability ○ innovative ways of showing T1 • T2 ○ (how to develop) Best practice forums • Technical manual	• Establish industry forums to ○ Share experiences ○ Learn experiences ○ Apply experiences • Document experiences • Mentoring across boundaries • Recognizing/using “leaders”
• Science communication for different stakeholders ○ Senior level politicians ○ Community ○ Management ○ Champion & lobbying • Not delivering on community communication ○ Language ○ not personalized enough • Not front of mind of community Limited understanding of system & management	• Charismatic scientists ○ High profile ○ approachable • Capacity building for scientists ○ communication • Communication strategies for different stakeholders • Improve communication amongst CRC partners • Knowledge translation of science to difference practices. Accessible equals influence	• Knowledge translation of science to difference practices. Accessible equals influence • Identify if right network nodes for communication
• Knowledge transfer ○ Working to ensure right people get right message ▪ Sharing of knowledge/learnings ▪ Engagement Mapping key decision makers	• Have a strategy to achieve knowledge transfer and build ownership	• Participating in opportunities for knowledge transfer • Making time/providing opportunity to increase knowledge • Ownership through active participation in research

MELBOURNE – Leadership (e)		
Total votes = 4 (State government = 3; Local government = 0; Private = 1; Water Utility = 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Developing emerging leaders to achieve a water sensitive city	- Capacity building – study tours, emerging leaders course, university course content - Science policy – training for emerging leaders	- Keep informed - Identify & support emerging leaders - Succession planning - Embedding water sensitive cities into their way of thinking
Develop a market for WSC outcomes (new developments)	- Develop rating tools - WSC Index - Help communicate value proposition - Clarify where markets work best	- Embed tools into everyday process - Provide case studies e.g. Sydney rain gardens at roundabouts - Explore differential price & rate systems

MELBOURNE – Community Connection; Science influence; Learning Culture (f)		
Total votes = 19 (State government = 5; Local government = 6; Private = 5; Water Utility = 3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Increasing community awareness of water cycle & their role & consequences & costs of their actions	- What are drivers for community to change their actions to benefit the environment - What are the avenues to effectively engage the community to effect behavior change	- Alignment of activities – common message based on research - Work with CRCWSC to ensure programs they are running are applicable

To clearly identify & articulate “the problem” that WSC is helping to solve, how it is important to the individual, family, community • Catalyse a national campaign to drive a change in behavior & practice related to water & green infrastructure • Australian context: solar radiation, heat, water • Water is a key enabler of communities	• Help with problem articulation & methods of community engagement • Evidence • How to enhance willingness to pay/social licence to be charged • Better articulation of the problem	• Conduit between CRCWSC knowledge/evidence & community • Develop & implement policies & actions (state & local) that support
Citizen attitudes, appreciation & engagement in total water cycle management e.g. community engaged in drought but not waterway	• Tools & technologies on how to engage & measure impact • Role of market forces in selling the value	• Tell a story but not just their own



Brisbane, Qld

Results

BRISBANE - Influence public & political opinion by building a compelling case for the Water Sensitive City in the local context		
Total votes = 12 (State government (4); Local government (1); Private (5); Water Utility (1); NGO (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Engage development industry, create whole of life value proposition, align needs/ opportunities for everyone's benefit.	• Influence urban planning and regulation • Help create public demand to change policies • Provide tools to inform system based thinking/ decision making	• Advocate • Demonstration projects • Enable developers to "sell" new vision, create <u>branding</u> • <u>Support innovation</u> in regulation • Risk and costs get passed onto society/ community
Politics: - Clarify issues and provide evidence - Legitimising regulation – not throwing good elements out in reforms to remove red tape	• Offsite stormwater management • Innovative, local approach • Prescriptive vs performance based regulation with flexibility for locally based solutions and benefits balanced with or aligned with urban design guidelines etc • More autonomy fro regional organisations • Better transitions of research into policy relevant advice	• Access to policy networks • Better connection to information in 'elevated pictures' • Apply community communication and engagement knowledge and tools, and build capacity in this area
Influencing public opinion_this drives most of the other structures/ processes/ pathways	• Provide <u>evidence</u> of benefits • Help to create the <u>right</u> types of <u>communications</u> (images, examples etc) • Create <u>joint vision</u> and <u>objectives</u>	• Provide leadership • Create joint objectives to align with actual interactions (catchment to bay)

BRISBANE - Develop a shared vision & narrative for SEQ as a WSC that is locally specific		
Total votes = 5 (State government (1); Local government (0); Private (3); Water Utility (0); NGO (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Shared vision of a water sensitive SEQ Regional plan	• Independent facilitation • Research knowledge • Build compelling case for WSC to engage stakeholders	• Influence 30 year water strategy • Expert panel • Peak bodies for urban development
Vision & narrative • How do you work out trade-offs & drivers • Content specific • Unified vision • Simple meaning that make sense to people	• WS Index • WS toolkit • Dance4water • Facilitating role e.g. A2.4 visioning workshops • Urban metabolism •	• Articulate drivers & hooks at different scales e.g. how does energy relate to WSC in green star rating • Educating & informing developers about alternatives – get developers to the table. Communicating value to the developers • Understanding & communicating lifecycles costs not just up-front costs

BRISBANE - Develop a new financial model that recognises the values and benefits of Water Sensitive Cities		
Total votes = 12 (State government (2); Local government (4); Private (4); Water Utility (1); NGO (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
New financial model not penalizing WSC – Infrastructure/models/asp. Problems: 1- Costs are not right (supply/discharge) Infrastructure charging regime... passes costs to community	• Infrastructure – charging regime – study – Plug-ins for different solutions at different institutions • Understand and quantify the true costs of water + benefits – Supply + wastewater – Right tools to support this analysis • Understand transition cost - cost to move	• Advocate • Share data

	between systems – Regional specific – Tools to support that assessment • Understand optimal solutions for different local contexts - optimal mix of solutions	
Infrastructure charges framework	• Research around whole of lifecycle • Costing	• Participate and lead • Changes to current reforms
Create incentives that enable WSC outcomes	• Demonstrate environmental costs / benefits • Assess / demonstrate whole-of-life / system-based outcomes / costs / benefits	•

BRISBANE - Governance framework to enable coordination & collaboration across agencies & sectors		
Total votes = 12 (State government (3); Local government (2); Private (3); Water Utility (0); NGO (4))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Whole of government systems e.g. whole water cycle management plans, and overall coordination role with shared targets (stretch targets) • Water cycle fragmentation • Lack of regional approach • Disconnected roles & responsibilities • Context of : restructuring/reforms/change of government	• Advocacy for more alignment in policy & planning frameworks • Informing business case with research from elsewhere • Communication tools for broader benefits of good water management & to demonstrate attitudinal & behavioural change	• Genuine commitment for water cycle management • Review incentives for water cycle planning & actions • Adopt goals beyond “no negative change” • Find opportunities for embedding incentives, coordination requirements
Collaboration & bridging structure Loss of national coordination & advocacy body Fragmentation of water management responsibilities; storm water vs supply vs waste	• Advocate for national body	• Lead by example – best practice • Learn from each other about how collaboration can be established • Kick start leadership

		Why do we do well in certain areas but not in others – learn!A
Co-ordinating entity/authority Role: Champion WSC & coordinating role Negotiate roles & responsibilities Avenue for revenue & funding	- Advise on effective models - Who should be involved - Need honest broker - Identify international success stories	Commit resources

BRISBANE - Understand and improve the legislative, negative and policy tools to enable and promote water sensitive practices Total votes = 10 (State government (2); Local government (2); Private (3); Water Utility (1); NGO (2))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Review of policies and legislation - Highlight inconsistencies - Align goals of agencies - Integrate objectives	- Independent + outside review of policy + legislation (best practice basis) - GAPS analysis	- Levels of government + water companies - Agree + initiate review
Legislation and regulation - Flexibility and coordination - What are minimum community standards Cost is about enabling to achieve performance	- Help understand what min. community standard is? - Capturing complexity into a policy / code - Need good methods - Local waterways needs and thresholds - Revisions desired standards of service - Packaging knowledge and presenting to ?? inform policy	- Localised standards of service - Allow flexibility to occur (i.e. not one size fits all) - Be ?? performance feedback to Regulations - Some Industry bodies age as knowledge brokers taking CRC → Industry

BRISBANE - Understand how to achieve multiple benefits through integrated planning and design of water systems & the urban form		
Total votes = 16 (State government (4); Local government (4); Private (5); Water Utility (1); NGO (2))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Integrated infrastructure planning at all scales 1. Holistic framework 2. Infill contested spaces Common vision	• WSC vision, translate 'infra' provision • Parks, roads, stormwater standards • What is the function • Multiple functions, level of service • Asset management • Localised service levels – flood • Non-asset solutions	• Translating how – who pays, owns, manages • Change service standards – acceptable solutions • Councils/ DA, tools to assess
Systematically capturing & integrating multiple values (& disciplines) into industry & design standards	• Integrate decision support tools & frameworks • Identify & fill knowledge gaps • Develop standards with support from industry	• Create multidisciplinary teams • Increase collaboration • Adopt & champion multi-value industry standards
Incorporate systems thinking, holistic catchment & WSC planning at all levels (Local, regional, state, community) Practice IWRM at all levels	• Develop suite of measures & standards • Communicate IWRM & systems knowledge	• Lose water quality targets as sole/major priority • Holistic outcome-focus

BRISBANE - Develop next generation flood risk assessment framework and tools as part of a WSC approach		
Total votes = 16 (State government (2); Local government (4); Private (0); Water Utility (0); NGO (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Quantifying flood mitigation benefits of alternative water systems & catchment management practices	• How to manage before/after floods (give Brisbane its kidney back) • Integrated modelling • Systems to account for flooding performance, impact of catchment management activities • Engage with insurance industry for information	•
Flood assessment tools & management strategies & frameworks Problems:	• Scenario simulations – design curve for certain technology • New flood management framework for	• Make resource allocation a priority • Rigorous/robust assessment of flood events

1. Boundary conditions change – scenario approach 2. Deep uncertainties 3. Existing flood management framework Existing assessment tools & rationales	the future – planning to adoption • Scenario planning & implications for flood management	• Integrative land use planning with flood mitigation
--	--	---

BRISBANE - Better knowledge sharing to raise CRC profile and influence on-ground practices Total votes = 4 (State government (1); Local government (1); Private (1); Water Utility (1); NGO (0))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
CRCWSC needs to raise its profile and awareness in South East Queensland industry	- Transfer CRC knowledge to future generation - Increase CRCWSC knowledge to current professional in water and broader stakeholders - More self promotion	Help CRCWSC with opportunity to explain its vision and research (through AWA, SWA local govt. etc)
Better knowledge sharing	- Make the CRCWSC website more accessible and usable - Directory of industry practitioners - Integrated model	- Report on its case studies - Be proactive itself in finding out what the CRCWSC is doing

BRISBANE - Monitoring and evaluation to provide local evidence for improved water system design and performance Total votes = 15 (State government (4); Local government (2); Private (5); Water Utility (1); NGO (3))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Locally –relevant monitoring + evaluation systems to collect info on success + failures to share knowledge better Lesson learned + feedback + dissemination	- Framework to collect + disseminate data - Communicate learnings in accessible ways - Consider local context + make learnings applicable to it	- Providing data + information - Champion - advocate learning - Include data & information on processes that support & champion WSCs
Learn from current projects and case studies	- Report of project outcomes - Life cycle costs analysis - Ground proof existing tools	- Bring forward their projects - Collaborate with researchers - Identify existing barriers hindering application

BRISBANE - Guidance on how to develop context-specific solutions and asset management regimes Total votes = 8 (State government (4); Local government (1); Private (3); Water Utility (1); NGO (0))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Guidance on offsite stormwater management including off-set schemes to incentivise alternative solutions / system designs	• Maintenance costs – Monitoring and evaluation of long-term performance • Rural riparian restoration • Training → feeding into Water by Design, contribute resources • Economic models for alternative schemes • Improve science on efficiency and costs of catchment management	• Coordinate training and capacity building effort including learning from failures and successes • Develop 'off-set' • Schemes based on CRC science to provide incentive for multiple benefit solutions
For Urban Infill (<2,500m ² lots) - On the lot - Informed by catchment and context	• Identify what's possible, effective, effective, economically viable, socially acceptable. • Economic / funding (e.g. reverse auctions) • DA tools	• Good integrated design at smaller scales • DA, planning •
Asset Management - Financial - Level of services - Roles and responsibilities	• ZAM – City Manningham • Visual Amenity • SVB tropical	• Integrated Asset Management • Resource recovery • Close loop
Context-specific alternative solutions (e.g. stormwater treatment) Performance under tropical conditions	• Testing systems (e.g. bioretention) in tropical / sub-tropical conditions & developing guidance manuals • System performance at different scales – optimum solution for different scales? • Long term performance • Recycling Centre of Excellence • Adopt Water VAL (testing framework for stormwater technologies)	• Helping to identify and access demonstration sites (Local Gov & Developers)

BRISBANE - <i>Creating a culture that embraces uncertainty, encourages learning and supports innovation</i>		
Total votes = 8 (State government (2); Local government (3); Private (3); Water Utility (0); NGO (0))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Innovative culture of learning Cross sectoral / organizational/ level Appreciation of experimentation	• To take the fear out of uncertainty. Encourage innovation and new solution • Model of engagement between industry and government - exchange •	• New measurements of success and performance indicators
Support innovation	CRCWSC can lead to: • Cost efficiencies • Business case • Cost effective • Innovation pathway. Risk outline • Risk framework • Demo projects • Seed financial required •	• Calculated risk • Areas of most benefit • Information support

BRISBANE - Build community connection and ownership to promote behaviours for WSCs		
Total votes = 8 (State government (4); Local government (3); Private (5); Water Utility (3); NGO (0))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Proactive campaign A new campaign with WSC messages (e.g. River Cities, Blue Brisbane)	• Market research on what would/could work? • WSC index • Awareness (competition)	• Engage industry media/marketing departments • Create an award for the best WSC campaign •
Capacity building /knowledge building – community - To help meet WSC goals Targets – non asset solutions	• Legal point discharge • Raingarden • Low impact development • Body corporate management • Incentives through DA • Behavioural change engagement • Business case ↔ 10,000 raingardens • Hip pocket & water energy news, water use • Pricing	• Community asset management • Community education campaigns • Facilitation • Legislation, local laws, state laws
Communication with media + influencing	• Bring in relevant disciplines for media comms.	• Bring in relevant disciplines for media comms.

as a way to connect and inform communities and politics	• Media training •	• Media training •
Community understanding Awareness and demand for WS – practices / goals	• Informing industry on what the community wants (performances, drivers, etc) • → Help inform industry to undertake right activities	• Building up community capacity at non-crisis times • Learn from recent experiences (flood/drought) and leverage from that to increase awareness •
Creating community connections - To water issues and water cycles - For water behaviours To broader water values (e.g. role in food and fiber production)	• Increase water literacy (e.g. water cycle, embedded water in food) • Engaging science spokesperson / personalities (e.g. Dr Karl) • Utilising social media to connect to primary and secondary school students (e.g. youtube, WSC apps) • Capture info on community attitudes and behaviour and feed back into industry programs and policy)	• Increase investment in community education programs → behaviour change • Communicate the cost of water supply and use (not see it as a risk or a way to lose revenue) • Engage more with community on the design of their common spaces and use water to connect

RISBANE - Encourage & empower community leadership for WSCs Total votes = 10 (State government (4); Local government (2); Private (2); Water Utility (0); NGO (2))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
WSC Communication champions Science –community – industry – media Leadership	• Identify & engage champions • Support champions with information • Average “joe” to create relatedness messages re WSC • E.g. Rhonda from AAMI. Student from UQ, customers from RACQ	• Align key messages • AWA support • Use industry customers to sell WSC messages
Identifying community leadership/champions Also work outside industry – sporting clubs, social clubs etc	• Identify & map community leadership inside urban areas • Identify potential channels & approaches to connect with & motivate this leadership	• Provide leadership through industry bodies & champions • Assist community leaders spread the mission/vision/narrative

BRISBANE - Increase capacity of current and future urban water professionals

Total votes = 9 (State government (4); Local government (3); Private (2); Water Utility (0); NGO (0))

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Informing curriculum development. Formal programs. Training future interdisciplinary decision makers (undergraduates)	• Developing undergraduate courses • Mentoring students / supervising post-graduate researchers (Eg. Expand on IWC Model) • Networking with international capacity and educational capacity and education programs • CRC can help answer: What are the training needs of industry? • And provide knowledge and resources for training providers and/or provide targeted training	• Contributing expertise and experience to teaching (guest lecturing) • Eg. Expand IWC model • Better coordination of professional development opportunities for industry •
Increasing capacity of urban water practitioners to influence and advocate: • understand/ address risk • who and what to communicate (in context) • having evidence to do so • build “why” case	•	•

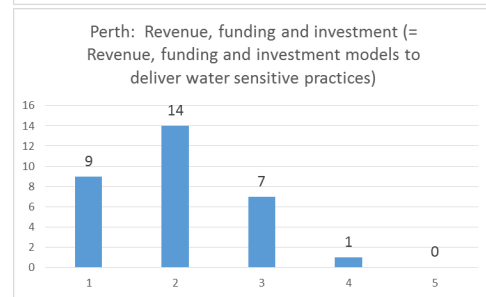
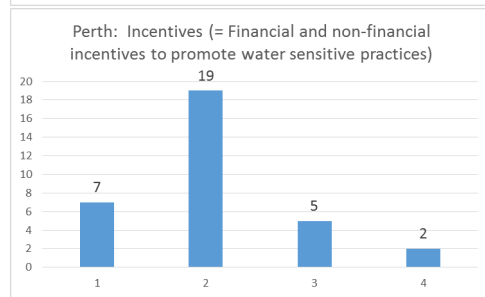
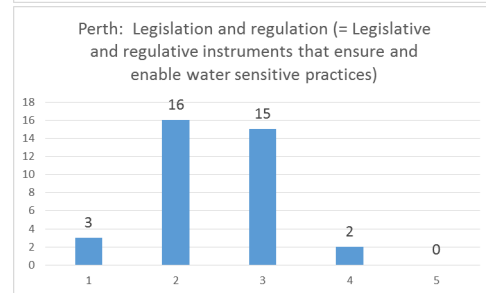
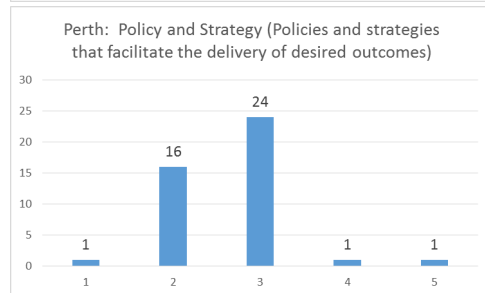
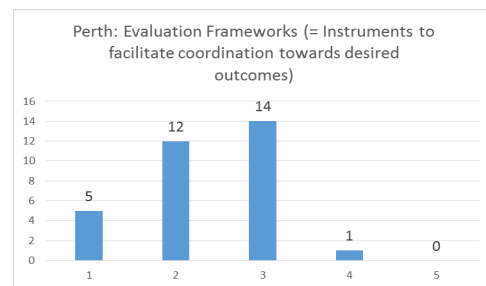
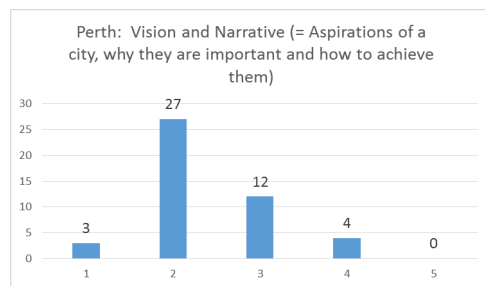


Perth, WA

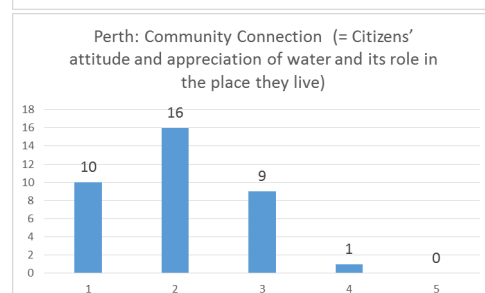
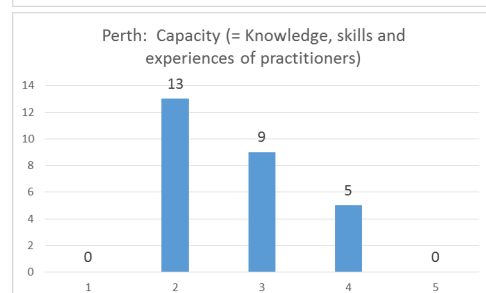
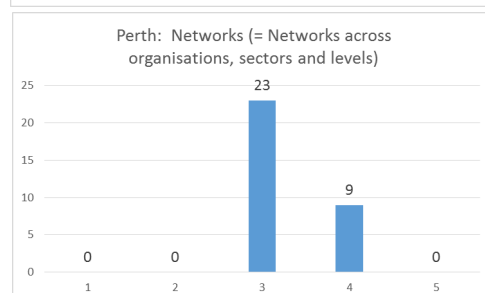
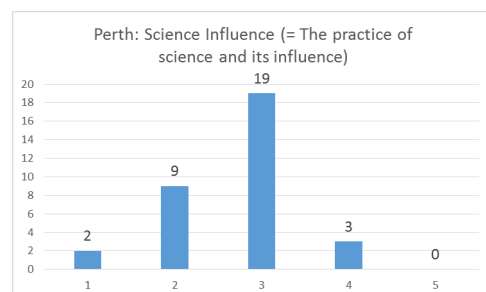
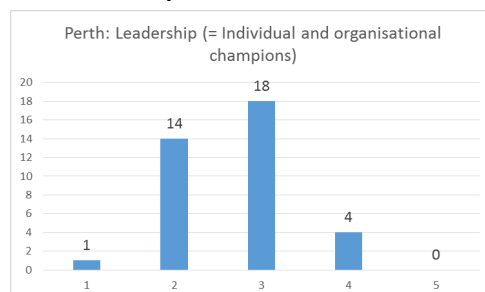
Voting results

Perth – transition pathways voting results (N = 46):

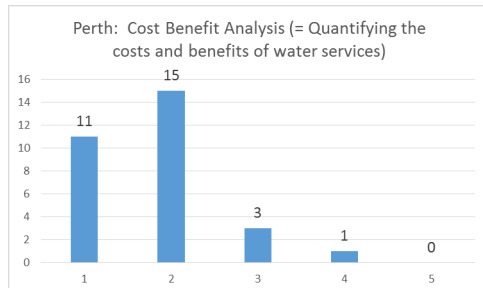
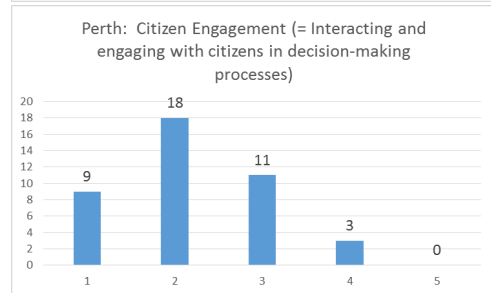
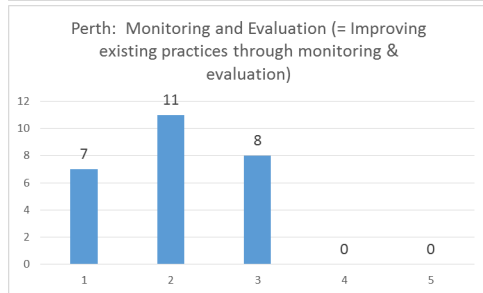
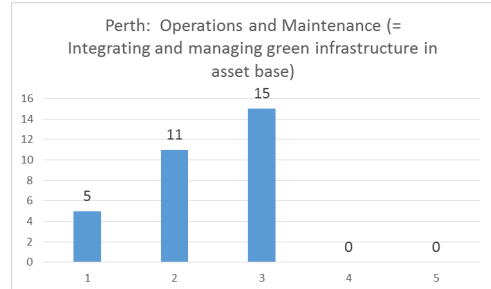
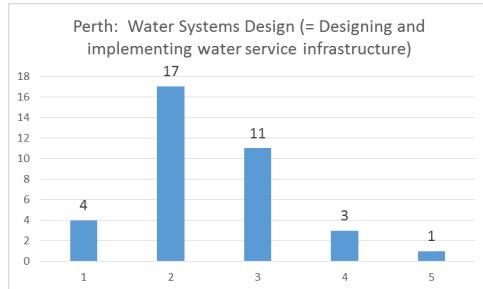
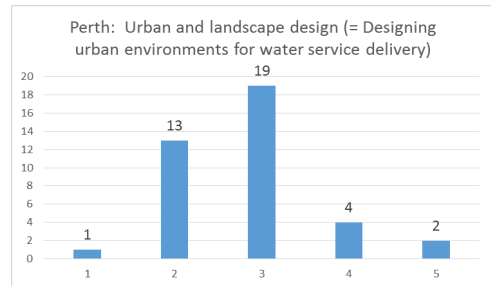
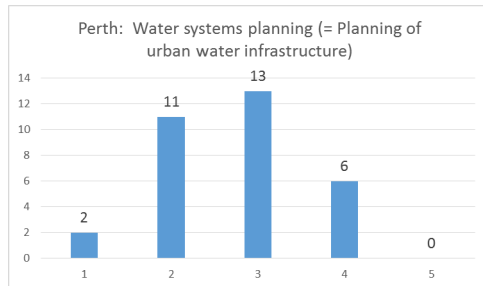
Enabling Structures:



Social Capital:



On Ground Practices:



Perth			Enabling structures
No.	Cluster	Total votes	Breakdown
a	Incentives for implementing water sensitive practices and solutions	13	• State government 4 • Local government 3 • Private 6 • Water Utility 0 • NGO 0
b	Effective and sustainable funding mechanisms for water sensitive practices (drainage and whole water cycle)	28	• State government: 9 • Local government: 8 • Private: 7 • Water Utility: 1 • NGO: 2 • Research (non-CRC): 1
c	Coordinated and aligned legislation, regulation and policy for driving water sensitive outcomes	38	• State government 22 • Local government 7 • Private 4 • Water Utility 3 • NGO 2
d	Develop, communicate & translate a shared vision & narrative for different target audiences	12	• State government 6 • Local government 2 • Private 4 • Water Utility 0 • NGOs/Other 0
e	Integration and improved collaboration across organisations and sectors	31	• State government: 14 • Local government: 9 • Private: 4 • Water Utility: 3 • NGO: 1
f	Improved frameworks for evaluation of costs, risks & performance of water sensitive practices	13	• State government 6 • Local government 1 • Private 3 • Water Utility 2 • NGOs/Other 1

PERTH - Incentives for implementing water sensitive practices and solutions		
Total votes = 13 (State government (4); Local government (3); Private (6); Water Utility (2); NGO (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Provide incentives for development industry to implement measures to work towards a Water Sensitive City	• Preparation of a guide for local/state government for identifying the benefits for working to a WSC • CRC to provide a Business Case in terms of Benefits	• Ensure that industry are able to implement measures to work to delivering incentives
Incentives: Broad need for incentives for local governments, utilities, developers, community, regulators	• Demonstrate costs and benefits • Value non-cash benefits – compare – e.g. reduced land take for water management • Which incentives are the most effective at driving change? E.g. from other places	• Funding for WSC projects • Awards • Waterwise • Star ratings • Cost savings → reinvest these in WSC • Keep exploring non-cash benefits
Increasing incentives for bodies responsible for implementation \$	• Lobby • Lifecycle cost analysis • Valuation of C & B	• Adoption through accounting systems • Cross subsidies

PERTH - Effective and sustainable funding mechanisms for water sensitive practices (drainage and whole water cycle)		
Total votes = 28 (State government (9); Local government (8); Private: (7); Water Utility (1); NGO (2); Other / Research (non-CRC):(3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Revenue, funding + investment • Link to community awareness + willingness to pay • Need effective and sustainable funding	• Provide economic analysis + evidence for sustainable funding models • Provide demonstration (e.g. does	• Advocate to have a stronger role in drainage + review + reform of funding models • Demand review of drainage governance

mechanisms especially for drainage	this already work well elsewhere?)	Water Corp – clear revenue + expenditure reporting on Each Product stream
Revenue, funding + investment - Not only drainage but also supply - Integrated water supply	- Provide evidence based - Cost effectiveness - Cost / benefits - New methods / technologies - Provide tools to allow assessment	Work together to develop sustainable funding mechanism / cost recovery

PERTH - Coordinated and aligned legislation, regulation and policy for driving water sensitive outcomes Total votes = 38 (State government (22); Local government (7); Private (4); Water Utility (3); NGO / Research (non-CRC) (2)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
<u>Legislation & Regulation</u> Leadership - Political/governance - Understand/make priorities - Decision making - Trade offs - How to persuade/convince direction - Getting the right people in the room - What role for community? Is there sufficient engagement and leadership?	- Create networks to have the right conversation in the <u>same</u> room → influence leaders - Get right info/narrative to have the right conversation in the right room - Right evidence in right language/form	- Help break-down silos, e.g. within government departments → CRCWSC as independent broker
Change Water Corporation operating license to deliver broader water objectives (WQ, safety, amenity, environment) → all service providers; no mandate for WSC – regulation & legislation	Provide evidence base (published results, etc.) to give confidence in change Influence decision makers & politicians, DGs, etc.	

Revenue tied to outcomes		
- Standardise Legislation across Governments - State (Water, Planning, Housing) - Local - Enables assessment on common objectives to achieve Water Sensitive Cities	- Influence Government decision makers - Ministers - Director Generals - CEOs	Ensure Industry understands the minimum standards they are working towards
- Legislation & Governance - Lack of clear direction - Different/overlapping mandates - Integrated solutions falling under various legislation and needing multiple approvals	- Draft legislation provisions - Advocate to politicians	Clearly articulated roles & responsibilities
- Policy, strategy, legislation, regulation - Need to get coordinated approach that has power to influence the outcome	- Provide evidence base to inform policy, strategy, legislation, regulation - Advocacy	- Decide/define roles & responsibilities - Identify similarities & conflicts & work out how to resolve them - Identify gaps, issues - Influence infrastructure planning & funding - Embed in documents (Liveable Neighbourhoods BUWM)
- Governance & Statutory Arrangements - Consistency - Alignment across agencies - Coordinated vision & actions	- A context specific translation of the "shared vision" - Identify inhibitors to achieving alignment & consistency	- Identify how I can contribute - How does what I do contribute to the bigger picture & vision - Provide capacity for finance & staffing
Coordination of policy, e.g. Liveable Neighbourhoods, is WSC integrated		Address GAP between disciplines (e.g. planning, water) to avoid the policy gaps & discrepancies & practice gaps

PERTH - Develop, communicate & translate a shared vision & narrative for different target audiences Total votes = 12 (State government (6); Local government (2); Private (4); Water Utility (0); NGO/Other 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Vision & narrative Need a shared & agreed vision that everyone is committed to achieving	- Provide the collaborative space to develop shared vision - Communicate the vision to stakeholders & the community (create/develop the methodology)	- Communicate the vision - Demonstrate vision – examples - Provide peer pressure via champions - Embed the vision into policy, planning processes - Inform politicians
Vision & narrative - Communicate to right audience - Create/translate key messages –make more relevant, buy in/personal - Create community connections - Education, marketing materials	- Focus on children e.g. SERCUL material - Research to identify least/most effective techniques to communicate & enact behavioural change - Role of social media? - What practices are more compelling? - What benefits to public?	- Deliver communication strategies through government & community - Identify funding sources - Embed vision in policies (LG) - Linking/interpreting policy

PERTH - Integration and improved collaboration across organisations and sectors Total votes = 31 (State government (14); Local government (9); Private (4); Water Utility (3); NGO: (1)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Collaboration between sectors and organisations and within organisations	- Promote recognition and progress of “Champions” (e.g. through awards) - Provide forums for discussion - Trigger changes in capital works program	- Recognise each other - Facilitate change in the capital program - Outreach / dialogue

	(incl. modernise definition of an asset) • Promote collaboration through: 1) Case studies 2) Facilitation of dialogue between / within organisation on specific issues Promote WSC index as a framework / pathway	• Shared projects • Strategic “outside box” projects • Inform and use WSC index •
Improve integration across all sectors • Policy and strategy • Regulation • Incentives	• Independent advice / facilitation • “No agenda” – seen as impartial	• Agree on the vision and narrative
• State wide integrated approach, similar to IWCM (e.g. rivers, waterways – link with land ownership)	• Urban growth monitor for living streams	•

PERTH - Improved frameworks for evaluation of costs, risks & performance of water sensitive practices Total votes = 13 (State government (6); Local government (1); Private (3); Water Utility (2); NGO/Other (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Transparent cost benefit, information & frameworks – well understood & trusted	• Provide on-ground case studies to demonstrate how this can be done • Evidence for the need to change • What risks are associated with change	• Tracking evidence for cost benefit & then sharing it • Creating a safe space for sharing information
Accurate evaluation of risk: • Manage perceived risk • Cost actual risk	• Develop specific risk assessment tools • Partner LGIS 1. Continue quantifying the performance of WSUD	• Adopt tool wholesale

Perth		On ground Practices	
No.	Cluster	Total votes	Breakdown
a	Engage citizens to improve awareness, knowledge & behavior towards a WSC vision	18	• State government 4 • Local government 7 • Private 4 • Water Utility 2 • NGO/Other 1
b	Frameworks & evidence to support full life-cycle cost-benefit analyses that also consider non-monetary values	22	• State government 6 • Local government 5 • Private 6 • Water Utility 2 • NGOs/Other 3
c	Guidance on how to use urban & water system design to deliver multiple benefits	13	• State government 4 • Local government 1 • Private 2 • Water Utility 1 • NGOs/Other 5
d	Efficient & effective operations & maintenance systems to achieve WSC outcomes	13	• State government 4 • Local government 2 • Private 4 • Water Utility 0 • NGOs/Other 3
e	Integrated planning across sectors, agencies & water systems	24	• State government 10 • Local government 7 • Private 3 • Water Utility 3 • NGOs/Other 1
f	Integrated monitoring and evaluation through better data sharing	6	• State government 0 • Local government 1 • Private 2 • Water Utility 1 • NGOs/Other 2
g	Coherent understanding of groundwater systems & interactions with surface waters	20	• State government 8 • Local government 7 • Private 5 • Water Utility 0 • NGOs/Other 0

PERTH - Engage citizens to improve awareness, knowledge and behaviour towards WSC vision		
Total votes = 18 (State government (4); Local government (7); Private (4); Water Utility (2); NGO (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Improve citizen engagement	• Create vision for people to get behind (something bigger picture that 'take shorter showers') & positive • Communicate the vision effectively	• Citizen willingness to pay for amenity • Educate people to engage in the decision making
Citizen engagement Need citizens to be more interested & informed	• Link the built environment to benefits – streetscapes & parklands • Info about what is the most effective way to influence behavior to achieve <u>change</u> (not just understanding or awareness)	• Share good news stories & information in a way the community can digest • Promote WSUD • Engage citizens in design • Consistent messaging – keep it running

PERTH - Frameworks + evidence to support full life cycle cost-benefit analyses that also consider non-monetary values.		
Total votes = 22 (State government (6); Local government (5); Private: (6); Water Utility (2); NGO (2); Other / Research (non-CRC):(3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Cost benefit analysis – get the most out of it. • apply c.b.a. processes through life cycle project monitoring performance • Embed c.b.a. in practices, part of business case	• Provide tools & educate • Facilitate collaborative c.b.a. (e.g. consensus in weighting of different values) •	• Build c.b.a. into business cases • Demonstrate social & environmental values in costing •

Cost benefit analysis Across local governments / utilities	- Information of costs / benefits of different on-ground practices - Innovative techniques - Non-monetary values - Provide guides on how to estimate costs / benefits - Assist with identification of risks	- Share information on on-ground practices – costs, benefits, risks - Looks at full life-cycle costs (TWCM) - Value non-monetary values - Identify share of costs & benefits - develop funding options
---	---	--

PERTH - Guidance on how to use urban & water system design to deliver multiple benefits Total votes = 13 (State government (4); Local government (1); Private (2); Water Utility (1); NGO / Research (non-CRC) (5))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Water Systems Design Centralised one system fits all vs. agile, fit for purpose, integrated	- Identify what systems work where - Knowledge resource - How to integrate Water System design and urban design to deliver multiple benefits - Off the shelf analysis - Bringing stakeholders together	- Government – policy flexibility - Product development
Better Urban Landscape and Waterscape Design for retrofitting and infill	CRC to provide research or a “test case” to inform the review of Liveable Neighbourhoods	Revise Liveable Neighbourhoods and “R Codes”
Appropriate water systems design practices - What’s the right system for the job? E.g. stormwater treatment, groundwater treatment, subsoil treatment - Geographically & hydro-geologically & climatically appropriate	- Seeing is believing - Demo sites - Data about efficacy of systems - Data on costs & demonstrated benefits - Guidelines Information to inform capacity building	- Seeing is believing - Demo sites - Policy - Information sharing

Water availability and reuse	• Water options for irrigating public open space • Provide info on viability of decentralized systems vs. traditional & connection to reticulated systems in future • Suggestions for legislation that could be introduced • Create awareness of policies & techniques & translate these for regional contexts • Stormwater & wastewater treatment → recycling & reuse options • High density developments & management of run-off	• Provide region specific policy & examples • Point to gaps in the policy
------------------------------	---	--

PERTH - Efficient & effective operations & maintenance systems to achieve WSC outcomes Total votes = 13 (State government (4); Local government (2); Private (4); Water Utility (0); NGO/Other 3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Operations and maintenance LGs do not have a good understanding of what to do & how	• Provide information + case studies on O&M • Provide evidence of what works best, cost effectiveness, management methods	• Build capacity + understanding of O&M • Have a good asset management system • Planning for future management & costs • Share information across + within LGs & water sector practitioners • Feedback on what works, costs and issues
What are the 'true' operation & maintenance cost for IWW vs traditional	• What maintenance / operations activities • How much does it cost ?	• Collect and share data

Need a specific program for Operations & maintenance (needs to be proactive)	- Identify emerging technologies for cost effective solutions - More in-depth analyses of lost benefits	Proactive approach to O&M and monitoring
--	--	--

PERTH - Integrated planning across sectors, agencies and water systems Total votes = 24 (State government (10); Local government (7); Private (3); Water Utility (3); NGO: (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Water Systems Planning - E.g. underground water extraction - Understand it, evaluate it, plan/policy - Perth aquifers	- Knowledge provision - Assist policy options development (e.g. cost benefits/public good)	- Develop UGW models (gov.) - Policy on use options
Water Systems Planning - Need to integrate planning across silos, water sources - Across entire planning process	- Provide guidance for best practice water systems planning - Compare jurisdictions - Case studies - Provide assessment of different water management options - Evidence-based - Provide neutral forum for information sharing	- Better link land planning & infrastructure planning - Role for government - Government should give water the same priority it gives roads - Government policy framework to implement expanded BUWM (to take in all forms of water – potable, non-potable) - E.g. a government policy on water sensitive cities

PERTH - Integrated monitoring and evaluation through better data sharing Total votes = 13 (State government (4); Local government (2); Private (4); Water Utility (0); NGO/Other 3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Make monitoring meaningful	Collate existing data residing in	Personalised data, e.g. on water

Get the most out of data collected Gather & collate data from different sources	different organisations, e.g. water quality - Make the data visual, e.g. interactive online map; info-graphics - Value & use the data collected - Share data more	bill – how close your house is to ‘water-wise’ target use - Value & use the data collected - Share data more
Understanding the performance & effectiveness of interventions/treatments → short & long term	- ATU’s → impact on groundwater and waterways - Water sensitive urban design: assess effectiveness - Cost benefit analysis of: 1. ATU’s vs. Retic (traditional vs. onsite) 2. Water sensitive urban design	- Provide & share data - Evaluating systems over the long term
Monitoring & Evaluation Need to know how to monitor to demonstrate functionality & outcomes to review & modify practices	- Produce monitoring protocols - Benchmarks to compare monitoring results to - Guidance on how to interpret w.r.t. local conditions - E.g. robustness of receiving water body or factors of influence (nutrients spp.) - Characterize problem & identify response	- Implement monitoring protocols - Coordinated data collection & availability
Faced with the challenge of population, climate, environmental pressures we don’t know enough about our groundwater abstraction Impact of what’s going in & what’s coming out	- Data mine what we have - Review work currently in progress - Identify gaps - Public open space irrigation	

PERTH - Integrated monitoring and evaluation through better data sharing Total votes = 13 (State government (4); Local government (2); Private (4); Water Utility (0); NGO/Other 3)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Make monitoring meaningful • Get the most out of data collected Gather & collate data from different sources	• Collate existing data residing in different organisations, e.g. water quality • Make the data visual, e.g. interactive online map; info-graphics • Value & use the data collected • Share data more	• Personalised data, e.g. on water bill – how close your house is to ‘water-wise’ target use • Value & use the data collected • Share data more
Understanding the performance & effectiveness of interventions/treatments • → short & long term	• ATU’s → impact on groundwater and waterways • Water sensitive urban design: assess effectiveness • Cost benefit analysis of: 3. ATU’s vs. Retic (traditional vs. onsite) 4. Water sensitive urban design	• Provide & share data • Evaluating systems over the long term
Monitoring & Evaluation • Need to know how to monitor to demonstrate functionality & outcomes to review & modify practices	• Produce monitoring protocols • Benchmarks to compare monitoring results to • Guidance on how to interpret w.r.t. local conditions ○ E.g. robustness of receiving water body or factors of influence (nutrients spp.) • Characterize problem & identify response	• Implement monitoring protocols • Coordinated data collection & availability

PERTH – Coherent understanding of groundwater systems and interactions with surface water

Total votes = 13

- State government (4); Local government (2); Private (4); Water Utility (0); NGO/Other 3

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Faced with the challenge of population, climate, environmental pressures we don't know enough about our groundwater abstraction Impact of what's going in & what's coming out	• Data mine what we have • Review work currently in progress • Identify gaps • Public open space irrigation	
Hydrology investigations	• Subsoil mounding • Separations/fill • Groundwater/surface water interactions • Recharge & infiltration rates	• Sharing info so everyone is more aware
Lack of understanding of hydrology & nutrient pathways	• On-going investigation in particular for drinking water catchments • Impact of urban development • Measures to protect receiving environment • Science on separation of groundwater for urban development & fill requirements • Run-off co-efficients & infiltration rates & methodologies • Subsoil drainage modelling & mounding	• Provide data & information AND share!
Long term solutions to high groundwater & poor groundwater	• Provide science to fill the knowledge gaps to address the problem	

PERTH	Social Capital		
No.	Cluster	Total votes	Breakdown
a	Create networks for communication, capacity building and influencing	11	• State government 5 • Local government 2 • Private 3 • Water Utility 1 • NGO 0
b	Better translation of scientific knowledge into practice and policy outcomes	31	• State government:10 • Local government: 8 • Private: 6 • Water Utility: 3 • NGO: 2 • Research (non-CRC): 2
c	Build practitioner capacity through knowledge sharing demonstration and networks	18	• State government: 6 • Local government: 4 • Private: 4 • Water Utility: 2 • NGO: 1 • Research (non-CRC): 1
d	Support/build leadership capacity of individuals and organisations to lead change	12	• State government: 3 • Local government: 5 • Private: 4 • Water Utility: 0 • NGO: 0 • Research (non-CRC):
e	Improve water literacy beyond water savings to help drive change	21	• State government: 7 • Local government: 8 • Private: 3 • Water Utility: 3 • NGO: 0 • Research (non-CRC): 0

PERTH - <i>Create networks for communication, capacity building and influencing</i>		
Total votes = 11 (State government (5); Local government (2); Private (3); Water Utility (1); NGO 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Networks – communication is king	• Bring influential people together • Hold a conference	• Bring influential people together • Hold a conference
Bridging organization eg. New waterways • networks • professional capacity “building and training” “Water Sensitive” Day – celebrations / awards		

PERTH - <i>Better translation of scientific knowledge into practice and policy outcomes</i>		
Total votes = 31 (State government:10 ; Local government: 8; Private: 6; Water Utility: 3; NGO: 2; Research (non-CRC): 2)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Science influence • Provides the quantifiable benefits • Empowers public	• Provides research • Provides data – knowledge • Case studies	• Confidence in policy making & decision making • Case studies
How to transition from trusted science into policy?	• Reverse analysis successful policy & science • Collate	• Provide research outcomes • Feedback existing science/policy

PERTH - Build practitioner capacity through knowledge sharing demonstration and networks		
Total votes = 18 (State government (6); Local government (4); Private (4); Water Utility (2); NGO (1); Research (non-CRC) (1))		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Leadership & capacity building to generate institutional change	• Assist with leadership • Provide clear messaging • Provide information & evidence	• Embed capacity building into industry & local government • Building upon networks, sharing information • Cross-disciplinary
Address knowledge gaps through science • Research & influence to enable capacity building in long-term environmental impact on ground & surface water quality		
Demonstration sites – build capacity & learning		
Capacity building to address barriers to implementation & sharing knowledge	• Identify training requirements • Share results T1/T2	• Training & support

PERTH - Support/build leadership capacity of individuals and organisations to lead change		
Total votes = 12 (State government (3); Local government (5); Private (4); Water Utility (0); NGO/Other 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Leadership (see previous submission) It is so important we said it twice	• Providing solutions for leaders to use • Providing data	• Local champions as catalysts • Education of leaders • Government leadership for law/policy/governance
Leadership • Need political leadership different to organisational leadership (also a need)	• Independent advocacy Examples of community driving political leadership	

PERTH - Improve water literacy beyond water savings to help drive change Total votes = 21 (State government (7); Local government (8); Private (3); Water Utility (3); NGO: 0; Research (non-CRC): 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Engaging and educating the community on the importance of water	Translating the research being completed into understandable benefits by the community, i.e. Teaching Resource Kits	
Community Connection Need: Understanding <u>beyond</u> water saving. Community behavior & demands should reflect the total water cycle	- Articulate connection of liveability to water cycle & WSC messages - Identify how to respond to the Australian Water Literacy CRCWSC research - How do we change the areas where knowledge is low? - Provide info about the psychology of effective messaging to drive advocacy w.r.t. WSC specific messages - Does the carrot or stick work better? 'nudging'	- Water Corp has good water saving messaging - Coordination of key messaging, e.g. across Swan River Trust, Local Governments, Department of Water, Water Corp, etc. - Clear branding so community understand roles & responsibilities
Community Connection Education The community have the ability to drive change	- Help with the messaging - Contribute to education & water literacy - Provide the content & evidence - Especially younger generation	- Someone to take responsibility for education/communication (not just Water Corp) - Total water cycle management - Grey water - Use different communication methods & engagement methods
Ongoing community education - With meaningful messaging - Continuity of messaging from relevant agencies	Demystify the science to provide good, reliable information	

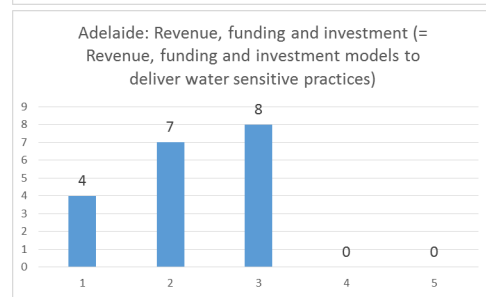
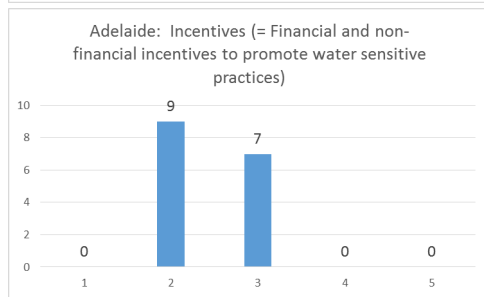
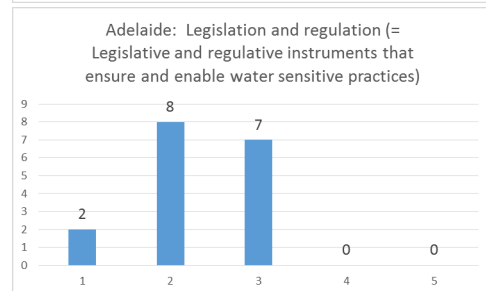
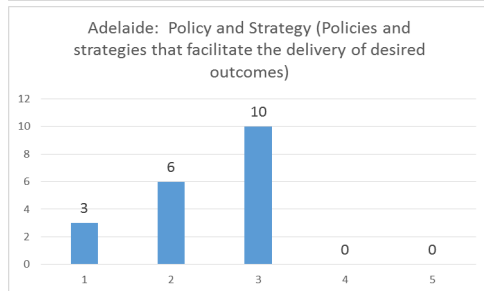
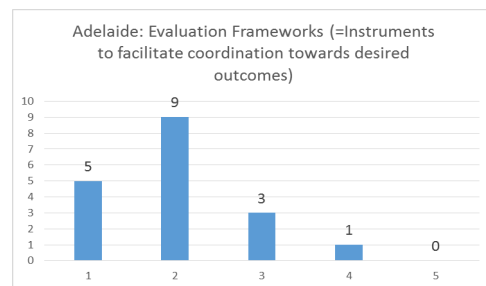
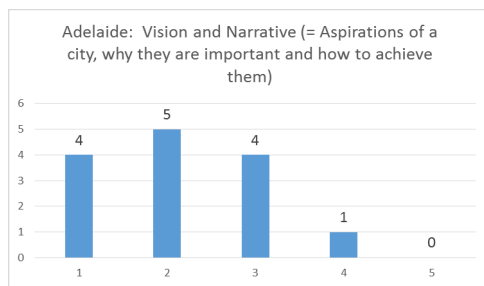


Adelaide, SA

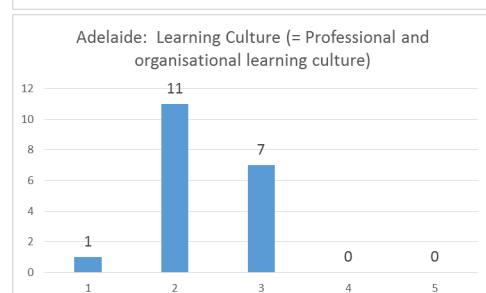
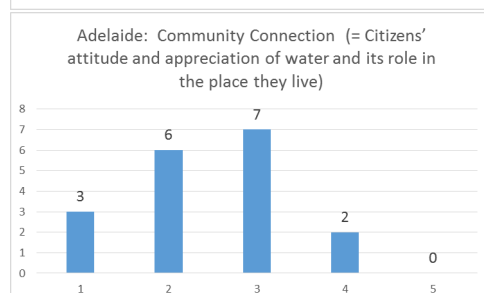
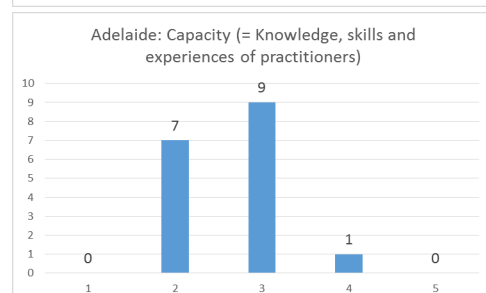
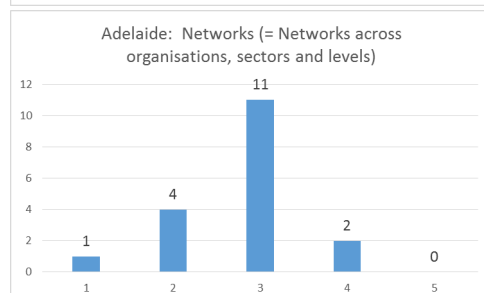
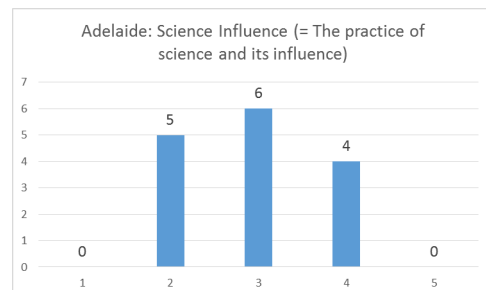
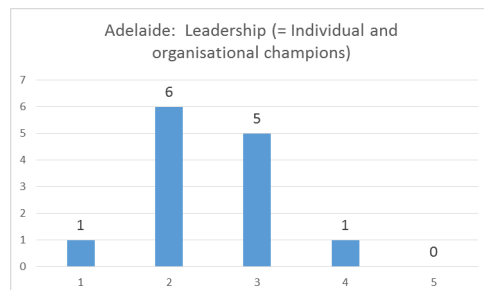
Voting results

Adelaide – transition pathways voting results (N = 19):

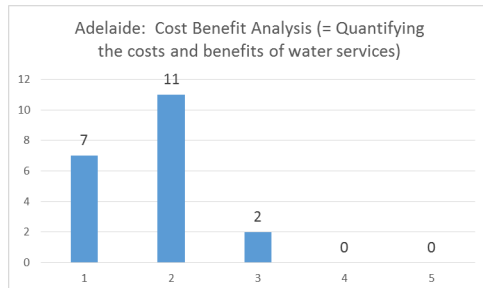
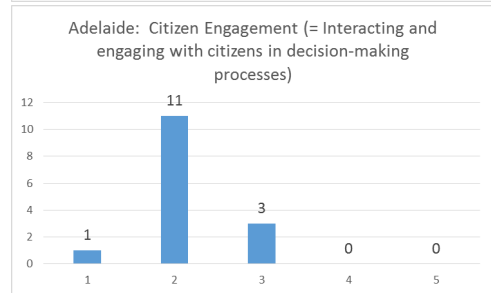
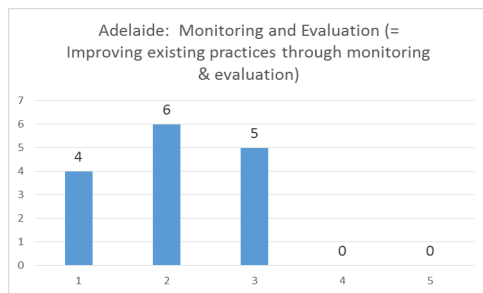
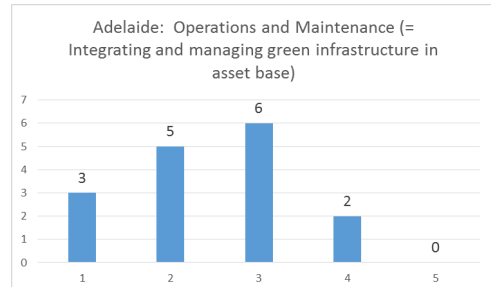
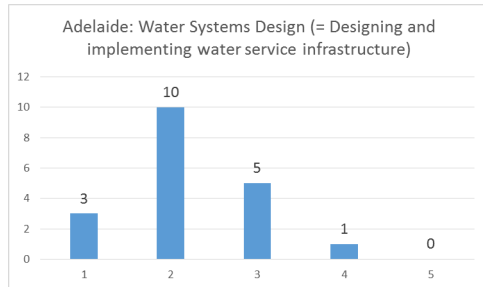
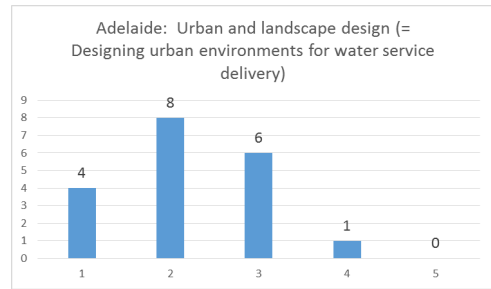
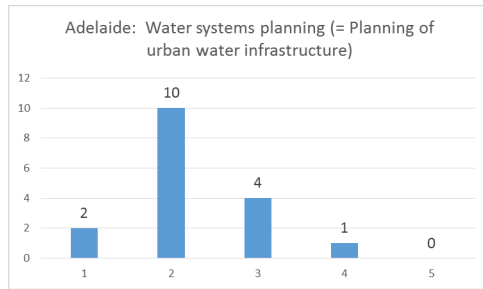
Enabling Structures:



Social Capital:



On Ground Practices:



Adelaide		Enabling Structures	
No.	Cluster	Total votes	Breakdown
a	Develop Shared vision and narrative for a WSC	15	• State government = 8 • Local government = 5 • Private = 1 • Water Utility = 1
b	Need to develop a governance coordination and collaboration across agencies and sectors	1	• State government = 0 • Local government = 1 • Private = 0 • Water Utility = 0
c	Establishing enabling economic framework	7	• State government = 6 • Local government = 1 • Private = 0 • Water Utility = 0
d	Understand the business case for the WSC (jobs & prosperity)	12	• State government = 5 • Local government = 5 • Private = 1 • Water Utility = 1
e	Create positive incentive mechanism to drive the change to a WSC Adelaide	9	• State government = 6 • Local government = 1 • Private = 1 • Water Utility = 1
f	Strengthen policy legislation and regulation to support transition to a WSC Adelaide	10	• State government = 5 • Local government = 5 • Private = 0 • Water Utility = 0

ADELAIDE - Develop Shared vision and narrative for a WSC (a)		
Total votes = 15 (State government = 8; Local government = 5; Private = 1; Water Utility = 1)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Shared vision for water sensitive greater Adelaide (as a Start)	• State?/regional/city visioning workshop • State?/regional/city transition plan • Synthesise diverse stakeholder objective – bundles	• Identify Stakeholders • Express own objective bundles • Participate!
A vision of narrative that is: • Unifying (not fragmented across issues) • Vision for social and ecological outcomes Provide traction for changes to legislations etc.	• Help to structure (evidence base) the vision and enable political buy-in • Advocacy – external perspective on need for change – national perspective • Address economic and social barriers – the business case	• Consistently promulgate the message • Lead by example – promote and use it operationally • Promote partnerships with big business to implement it eg. developers

ADELAIDE - Need to develop a governance coordination and collaboration across agencies and sectors (b)		
Total votes = 1 (State government = 0; Local government = 1; Private = 0; Water Utility = 00)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Establish enabling governance framework	• Examples from other jurisdictions • Draw together different portfolios • Frame political drivers for change	• State government – develop legislation and regulation • Coordinated catchment authorities

ADELAIDE - Establishing enabling economic framework (c)		
Total votes = 7 (State government = 6; Local government = 1; Private = 0; Water Utility = 00)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Establishing enabling economic framework	Nil	Nil

ADELAIDE - Understand the business case for the WSC (jobs & prosperity) (d)		
Total votes = 12 (State government = 5; Local government = 5; Private = 1; Water Utility = 10)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Incentives: WSUD industry to deliver jobs and new businesses Understand how WSC can drive prosperity? Opportunities from funds available instead of network argumentations	- Financial model of benefits - Future scenarios growth services are needed to provide a water sensitive cities	Nil

ADELAIDE - Create positive incentive mechanism to drive the change to a WSC Adelaide (e)		
Total votes = 9 (State government = 6 ; Local government = 1; Private = 1 Water Utility = 1)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Offsets and stormwater tradable credits -> a market as a driver for change Creating an economic driver for change	Library of offsets etc. that have national consistency	Nil

ADELAIDE - Strengthen policy legislation and regulation to support transition to a WSC) (f) Total votes = 10 (State government = 5; Local government = 5; Private = 0; Water Utility = 00)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Legislations: Building code and regs Create environment for economic instruments • Planning regs -> Offset schemes -> Development Act. • Water industry Act. -> regulation of utilities NRM Act. -> broader range of mechanisms to enable change -> Move from Ag. To urban	• Provide models for new regulations and methodologies to support discussion around CBA assessment • Active engagement with planning reforms currently underway • Create the evidence library but improve accessibility and its use	• Create demand for change support change champions in industry • Tap into the prevailing dialogue to link evidence to current narratives
SA WSUD policy embedded in regulation in a integrated way • Planning (planning strategy) / bill • Environment protection (EPP) • Health (public, health) Climate change response (carbon neutral CBD)	• Business case about all benefits beyond water quality outcomes • Examples of where it is being done better • Understand community Vales to design incentives • Liveability Index	• Ensure in state infrastructure projects • Champions • Need shared vision commitment to deliver

Adelaide		On-ground practices	
No.	Cluster	Total votes	Breakdown
a	Improve our understanding of O&M / lifecycle cost and consider these explicitly up front in planning new developments	5	• State government = 1 • Local government = 3 • Private = 1 • Water Utility = 0
b	Articulate benefits of a WSC to/across difference sectors	6	• State government = 4 • Local government = 1 • Private = 1 • Water Utility = 0
c	Change asset planning so that it considers, values and evaluates water sensitive outcomes	12	• State government = 6 • Local government = 5 • Private = 0 • Water Utility = 1
d	How to achieve WSC outcomes through integrated planning and design of water systems and the urban form	11	• State government = 6 • Local government = 4 • Private = 1 • Water Utility = 0
e	How to develop context specific solutions especially for smaller spaces and infill situations	11	• State government = 9 • Local government = 1 • Private = 1 • Water Utility = 0

ADELAIDE – Improve our understanding of O&M / lifecycle cost and consider these explicitly up front in planning new developments (a)		
Total votes = 5 (State government = 1; Local government = 3; Private = 1; Water Utility = 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Opportunities & maintenance: - Better understand O&M cost and requirements to lock them in up front in new developments - Get a more realistic understanding of life cycle cost / O&M costs.	G/L exist -> make them accessible - Fact Sheets - Capacity building To turn knowledge into practice which doesn't rely on individuals	Nil

ADELAIDE – Articulate benefits of a WSC to/across difference sectors (b)		
Total votes = 6 (State government = 4; Local government = 1; Private = 1; Water Utility = 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Cost benefit analysis: - Linking previous priorities 1 + 2 - Benefits across all sectors (one can pay for another's benefits)	Nil	Nil
Cost/benefit input metrics	- Database of non-market values - Maintenance / Lifecycle costs - Quantify reduced benefits on non-maintained systems	Provide un-maintained systems

ADELAIDE – Change asset planning so that it considers, values and evaluates water sensitive outcomes (c)

Total votes = 12 (State government = 6; Local government = 5; Private = 0; Water Utility = 1)

What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Monitoring for value achievement • Compliance • Technical applicability (fit for purpose) • Community acceptance • Learning • Maintenance	Smart monitoring (reduce cost) Conduit for peer to peer learning	Peer to peer learning
Monitoring and evaluation • Need to be in asset plans • Linkage and feedback of monitoring back into planning and maintenance • Actions evidence based strategy/policy and decision making • Good evaluation of current performance of assets • Focus on the outcome and the service experience (Outcome focus before solution)	Nil	Nil
• Need to include council and other agencies management systems so they consider WS options for asset renewals • Want these systems to become integrated across issues -> consider a range of outcomes • Asset management and rewards is not like-for-like and WS is not seem as “enhancement” • A more mature asset management system – Life cycle cost – Downstream benefits and costs – Extremities	• Show/demonstrate options to like-for-like and the benefits of options • Guidelines on asset options design guidelines that show how it is done • Business case that sells benefits to decision makers • Build life cycle costs and values /benefits of WS and traditional assets into decision frameworks	• Create discussions with the planners and decision makers: IPWEA as key organisation – Asset engineers – Finance teams – Design engineers – Councillors
Evaluation of performing – requirement for audit for implementation eg. Private development scale & state project scale	Nil	Nil

ADELAIDE – How to achieve WSC outcomes through integrated planning and design of water systems and the urban form (d)		
Total votes = 11 (State government = 6; Local government = 4; Private = 1; Water Utility = 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
- Water systems planning Plus urban and landscape design plus water system design - With a view to 1. Incorporate all water sources - Fit for purpose non-traditional uses for all water solutions.	Nil	Nil
Landscape character of WSC - Non-tangible benefits - Architecture - Aesthetes - Design principles	Could provide design guide	Nil

ADELAIDE – How to develop context specific solutions especially for smaller spaces and infill situations (e)		
Total votes = 11 (State government = 9; Local government = 1; Private = 1; Water Utility = 0)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Landscape and WSUD next to roads and footings - Limited building footprints (houses and roads) - How to fit WUSD in SMALL spaces	Proof of concept Design guide / stand	Case Studies

Adelaide		Social Capital	
No.	Cluster	Total votes	Breakdown
a	Identify and utilise leavers of influence at different org. and political scales	27	• State government = 17 • Local government = 8 • Private = 1 • Water Utility = 2
b	Create community groundswell through connections and WSC messaging!	21	• State government = 11 • Local government = 8 • Private = 1 • Water Utility = 1

ADELAIDE - <i>Identify and utilise leavers of influence at different org. and political scales (a)</i>		
Total votes = 27 (State government = 17; Local government = 8 ; Private = 1 ; Water Utility = 2)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Get engagement of developers specifically and their customers -> big scale Influencing property owners who want to develop on purchase new properties – small scale	• The business case to a developer • Capacity building of developer sector	• Engage UDIA (Local Chapter) • Reality TV show for WSC “Pimp my city”
Influence / department and ministers Coalition of minister to influence – northern Adelaide plane redevelopment	• Connect with Tony and ministers -> Big event • Collaboration with Goyder (low carbon Adelaide, Northern Adelaide plains • Event possibility: MAR community of practice National event • Water Security • Scenarios Tested	• Demonstration • Manage up within our own organisations
Networks and connections influence and brokering at a higher level (Ministers directors higher level management)	• Influence broker	Identify the connections
Better engage at executive level (top down) > shared vision at organisation level	Nil	Bring CRC to organisation at exec level To facilitate developed at shared vision

ADELAIDE – Create community grounds well through connections and WSC messaging! (b)		
Total votes = 21 (State government = 11; Local government = 8; Private = 1; Water Utility = 1)		
What are the most important things to achieve:	What can the CRCWSC do to lead/support those priorities:	What can industry do:
Community connection • Better demonstrate the value to the community • Community driven messages -> consistency • Community champions -> Mayors, business leaders etc.	• Craft messages / delivery “train the trainer” • Reconnect with federal government urban focus • Understand community connection / evaluation of water sensitive / green infrastructures	• Connect CRC with community champions / organisations
• Moving the community (citizens) • What’s in it for me? • Marketing and communicating the message • Tools for engaging the community • Identify the benefits	• Data and research to put into marketing and materials	• Context



CRC for
Water Sensitive Cities



Cooperative Research Centre for Water Sensitive Cities



Lvl 1, Bldg 74, 8 Scenic Blvd
Monash University, Clayton,
Victoria 3800, Australia



info@crcwsc.org.au



www.watersensitivecities.org.au