4.1 Broad community benefits from water-related services - To stimulate beneficial outcomes for the public beyond those attained through water-related essential services.

Objectives	Rating Scale	Guiding questions	Suggested data collection sources	Facilitator guiding questions and notes
Cost benefit analysis To stimulate beneficial outcomes across other sectors beyond those attained through water-related essential services.	1. No, or virtually no, **benefits** for the community are made through water-related services (beyond benefits associated with essential services). 2. **Few benefits** for the community are made through water-related services (beyond benefits associated with essential services), **those identified** remain **difficult to quantify** and are generally not included as part of a business case. 3. **Minor benefits** for the community are made through water-related services (beyond benefits associated with essential services) and **most identified are described but remain difficult to quantify** and incorporate into business cases. There is active planning and intent to deliver these benefits. 4. **Some benefits** for the community are made through water-related services (beyond benefits associated with essential services) and **some can be quantified** and are considered in a business case. There is active planning and intent to deliver these benefits. 5. **Many benefits** for the community are made through water-related services (beyond benefits associated with essential services) and are **readily quantified** and are **consistently incorporated into a business case**. There is active planning and intent to deliver these benefits and the practices are mainstreamed.	What other sectors (e.g. Health, Transport, Energy, etc.) benefits from water related activities (beyond essential services which include supply, sanitation and drainage)? What efforts have been made at quantification? Do business cases for water system investments include quantification of benefits to other sectors such as health or energy? What examples are there of novel water infrastructure that have saved money with respect to augmenting conventional infrastructure?	Water authorities and Government reports, strategic plans Business cases that take into account externalities	**Hierarchy** • No benefits • Few benefits and largely incidental • Minor benefits and they are generally described but not quantified. • Some benefits are quantified and are often considered in business cases and investment planning. • Many additional benefits are quantified and consistently considered in investment planning. **Examples** Physical benefits for the community: local thermal comfort benefits; pollutant reduction benefits (i.e. nutrient load reductions), potential energy-savings from reduced use of air conditioning because of green infrastructure, cost-savings gained from avoided flooding; cost-savings gained from avoided hospital admissions; increased productivity gained from avoided sick leaves, impacts of water quality decline on fisheries, increased property market values **Definitions** **Common Q and A's / Notes** This is for water services delivering broad benefits to the community. Economic and business benefits are captured in Indicator 4.4. **Must mention**

4.2 Low GHG emission in water sector - To reduce the levels of GHG emissions and maximise the use of alternatives to high carbon emitting energy sources to supply water infrastructure.

Objectives	Rating Scale	Guiding questions	Suggested data collection sources	Facilitator guiding questions and notes
Water system design To maximise the use of alternatives to high carbon emitting energy sources to supply water infrastructure.	1. **High** levels of GHG emissions (high energy usage from high carbon emitting sources) in the water sector relative to international and national standards, targets or averages **(e.g. > 300 net tonnes of CO_2 equivalents per 1,000 connected properties)**. Alternative energy sources are **not considered**. 2. **Fairly high** levels of GHG emissions (high energy usage from high carbon emitting sources) in the water sector relative to international and national standards, targets or averages **(e.g. 200-300 net tonnes of CO_2 equivalents per 1,000 connected properties)**. Alternative energy sources are **considered but rarely used**. 3. **Fair levels** of GHG emissions (using alternatives to high carbon emitting energy sources) in the water sector relative to international and national standards, targets or averages **(e.g. 100-200 net tonnes of CO_2 equivalents per 1,000 connected properties)**. Alternative energy sources **typically supply some new infrastructure**. 4. **Low levels** of GHG emissions (using alternatives to high carbon emitting energy sources) in the water sector relative to international and national standards, targets or averages **(e.g. < 100 net tonnes of CO_2 equivalents per 1,000 connected properties)**. Alternative energy sources **typically supply new infrastructure** and demonstration projects used to provide proof-of-concept for novel ideas and innovation in technology. 5. **Very low levels** of GHG emissions (using alternatives to high carbon emitting energy sources) in the water sector relative to international and national standards, targets or averages **(e.g. Zero net tonnes of CO_2 equivalents per 1,000 connected properties)**. Alternative energy sources are **common across all new infrastructure,** and progressive upgrade of existing infrastructure occurs.	**Water system design** What is the source of energy used to supply major infrastructure within the water sector? What are the levels of emissions compared to the international and national standards, targets and averages? -	Reporting by water authorities on GHG emissions Council energy targets and KPI reporting on energy use (from a water perspective)	**Hierarchy** • High GHG emissions • Fairly high GHG emissions, alternative energy sources considered • Fair levels of GHG emissions, alternative energy sources utilised for some new infrastructure • Low levels of GHG emissions, alternative energy sources utilised for most new infrastructure • Very low levels of GHG emissions, alternative energy sources utilised for new infrastructure and retrofitted for existing infrastructure **Examples** **Definitions** **Common Q and A's / Notes** This indicator measure is based on data collected in Australia. If data is not available, consider the energy intensiveness of the local water system and how it sources that energy (e.g. use of alternative energy, gravity vs pump fed, use of desalination). This indicator includes energy for pumping requirements associated with drainage, alternative water and mains water supply, water quality treatment for supply and sewerage. Offsets are included as long as they fund new production of alternative energy supplies with a direct link and not just take it from other consumers. For example, desalination plants, which are established with low GHG renewable energy sources such as wind farms. This rating should be confirmed by the water authority, council or other agency pre or post benchmarking workshop (assumes council energy requirements for pumping stormwater is relatively minor). **Must mention**

4.3 Low end-user potable water demand - To support the valuing of water as a scarce resource

Objectives	Rating Scale	Guiding questions	Suggested data collection sources	Facilitator guiding questions and notes
Water system planning To support low end-user potable water demand relative to the local scarcity or abundance of water.	1. **High** end-user potable water demand relative to the local scarcity or abundance of water. No consideration given to water efficient practices and behaviours across residential, industrial and commercial sectors. **Demands (total residential, industrial and commercial)** on **drinking water supplies** are **greater than 350 litres/person/day**. 2. **Fairly high** end-user potable water demand relative to the local scarcity or abundance of water. Little consideration given to water efficient practices and behaviours across residential, industrial and commercial sectors. **Demands (total residential, industrial and commercial)** on **drinking water supplies** are **between 300 litres/person/day and 350 litres/person/day**. 3. **Fair** end-user potable water demand relative to the local scarcity or abundance of water. Some water efficient practices and behaviours across residential, industrial and commercial sectors. **Demands (total residential, industrial and commercial)** on **drinking water supplies** are **between 250 litres/person/day and 300 litres/person/day**. 4. **Low** end-user potable water demand relative to the local scarcity or abundance of water. Reasonably consistent water efficient practices and behaviours across residential, industrial and commercial sectors. Water efficiency programs targeting households and business are widespread and effective. **Demands (total residential, industrial and commercial)** on **drinking water supplies** are b**etween 200 litres/person/day and 250 litres/person/day**. 5. **Very low** end-user potable water demand relative to the local scarcity or abundance of water. Very consistent water efficient practices and behaviours across residential, industrial and commercial sectors. Water efficiency programs targeting households and business are widespread and effective. Water efficient behaviours are embedded in community and business. **Demands (total residential, industrial and commercial)** on **drinking water supplies** are **less than 200 litres/person/day**.	**Water system planning** What is the potable water demand? What is the population? What regulation and/or policy exist for water efficient practices? What regulation and/or policies exist for alternate water supplies for non-potable demands? What research data exists about the attitudes and behaviours related to water use? Is water considered a valuable and scarce resource? Do we build water efficient houses and gardens?	Total annual potable water supply for, and population of the, geographic region being benchmarked.	**Hierarchy** • High water demand relative to local availability • Fairly high water demand relative to local availability • Fair water demand relative to local availability. Some water efficient practices • Low water demand relative to local availability. Water efficient practices and efficiency programs • Very low water demand relative to local availability. Water efficient practices, behaviours and programs are present **Examples** **Water efficient practices and behaviours:** water efficient fixtures and appliances (e.g. dual flush toilets and low flow showerheads), taking shorter showers, capturing greywater for garden watering **Definitions** **Common Q and A's / Notes** Quantitative data may need to be confirmed by the water authority, council or other agency pre- or post-benchmarking workshop. **Must mention**

4.4 Water-related economic and commercial opportunities - To stimulate investment in new business opportunities through innovation in the water sector.

Objectives	Rating Scale	Guiding questions	Suggested data collection sources	Facilitator guiding questions and notes
Revenue, funding & investment To stimulate investment in new business opportunities through innovation in the water sector.	1. Water management creates no, or virtually **no business opportunities**. 2. **Some business opportunity** is created by water system services but Is largely incidental to business as usual. 3. **A noticeable amount of business opportunity** is created by water system services. While it is mostly driven by the need to improve efficiency and service standards for business as usual activities, there is some exploration of ways to enhance commercial opportunities for water businesses and their commercial partners. 4. **A noticeable amount of business opportunity** is created by water system services and there is significant investment and collaboration between government and business to enhance commercial opportunities. 5. **A significant amount of business opportunity** is created by water system services and the city is recognized as a leading source of innovation and advanced service provision to other cities.	**Revenue, funding & investment** What sort of business opportunities are there? E.g. opportunities for green infrastructure entrepreneurs, technology providers, peri-urban agriculture, employment or profits from resource recovery. What businesses have been established to provide water related green infrastructure, technologies and services? E.g. consulting, tech providers, maintenance, contractors, professionals What is the scale and number of these businesses, the size of the workforce and the money made? How many job opportunities have been created by a water sensitive approach?	Expenditure on opportunities for green infrastructure entrepreneurs, technology providers, peri-urban agriculture, employment or profits from resource recovery Business directories, Chamber of Commerce, etc. for listed companies, business type and their financial reporting	**Hierarchy** • Virtually no business opportunities • Limited business opportunities derived from water system services and if present largely incidental to BAU • Some business opportunities but largely driven by the need to improve efficiency and service standards for business as usual activities • Some business opportunities but increasing collaboration to enhance commercial activity • The City recognised as a leading provider of commercial water system related services **Examples** Business opportunities: green infrastructure entrepreneurs (beyond rainwater tank suppliers), technology providers, service providers (nursery, consultants, monitoring and reporting, etc.), software developers, employment or profits from resource recovery. Support for recreation and tourism based businesses **Definitions** **Common Q and A's / Notes** **Must mention**

4.5 Maximised resource recovery - To maximise resource recovery through innovative water system design.

Objectives	Rating Scale	Guiding questions	Suggested data collection sources	Facilitator guiding questions and notes
Water system design To maximise resource recovery through innovative water system design.	1. **No** resource recovery occurs. All recoverable **resources are wasted**. 2. **Low levels** of resource recovery. Resource **recovery is considered** but remains **incidental** and **limited** to specific recoverable resources, such as recycled water. 3. **Fair levels** of recovery of **one or two recoverable resources** 4. **Fairly high levels** of resource recovery of a **number of recoverable resources** occurs. **New infrastructure** and **demonstration projects** used to provide proof-of-concept for novel ideas and innovation in technology. 5. **High levels** of resource recovery across **most recoverable resources**. Practices are common across all **new infrastructure**, and **progressive upgrade of existing** infrastructure occurs.	**Water system design** What resources can (potentially) be recovered? How much is recovered and at which facilities? Consider reuse of resources for food production	Websites of water authorities, statutory bodies Water authorities annual reports Operational documentation to know what and how much is being recovered	**Hierarchy** • No resource recovery • Limited recovery and mostly recycled water • Fair levels of resource recovery for one or two resources • Increasing levels and range of resource recovery • Investment in innovation **Examples** Examples of recoverable resources: wastewater, biogas, nutrients, metals, salts, fertilisers, waste heat Treating stormwater using WSUD is not considered resource recovery for nutrients (unless plants are harvested and removed from the system) **Definitions** **Common Q and A's** **Must mention**