CRC for
Water Sensitive Cities

Cooperative Research Centre for Water Sensitive Cities

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Strategic Plan
2014/15–2016/17

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An Australian Government Initiative

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Who we are

The CRC for Water Sensitive Cities (CRCWSC) was established in July 2012, an Australian Government initiative to foster end-user driven research collaboration between research institutions and industry/government participants.

The Australian government has made the creation of liveable, sustainable and productive cities a national priority and identified reform of urban water systems as a key goal. The CRCWSC was established to change the way we build our cities by valuing the contribution water makes to economic growth and development, our quality of life and to the ecosystems of which cities are a part.

In our vision, future cities and towns, and their regions, will be sustainable, resilient, productive and liveable.

Our pre-eminent research, analytical and advocacy capabilities and cross-sector partnerships, enable us to do this by:

- developing knowledge across a broad range of relevant domains
- synthesising the knowledge gained into powerful tools and communications that meet the needs of government, industry and the community
- influencing the key players who shape and manage our cities to adopt water sensitive solutions

Water sensitive cities are sustainable, resilient, productive and liveable. They efficiently use the diversity of water resources available within them; enhance and protect the health of urban waterways and wetlands; and, mitigate against flood risk and damage. They also create public spaces that harvest, clean and recycle water, increase biodiversity and reduce urban heat island effects.

Our work is organised in four thematic programs, supported by effective governance and administration

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Why we exist

We exist to meet the challenges of three critical drivers affecting Australian cities and towns: population growth and changes in lifestyle and values; climate change and climatic variability; and economic conditions.

Our work is to harness the opportunity for integrated urban water cycle management to addressing these issues.

These drivers are relevant to both Australian cities and many urban centres around the world.

Global and Regional Drivers	Climate Change & Climatic Variability	Population Growth and Urbanisation	Economic and Institutional Conditions
Consequences	More extreme weather events of droughts and floods, heat waves Sea level rise and extensive inundation, rising groundwater table and saline intrusion	Increasing urbanisation, greater concerns to preserve and protect amenity & ecosystems Increased urban density and changing planning, design and community services imperatives	Stressed national & state budgets; reduced capacity to fund infrastructure; inefficient and fragmented governance rules Change in: economic structure; location and nature of employment and assets; community expectations and aspirations
Impacts on our cities	Reduced water security Increased flood vulnerability More degraded and stressed natural systems Increased exposure of communities to urban heat and heat island effect Reduced level of service of water infrastructure and expensive infrastructure augmentation Competition for space and pressure on green spaces and associated amenity Increased vulnerability on liveability and economy in cities and towns		

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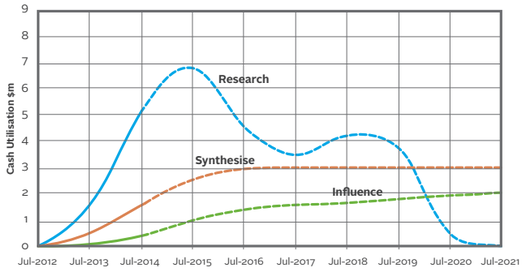
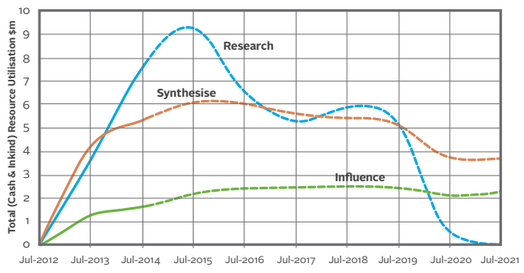
Our Programs

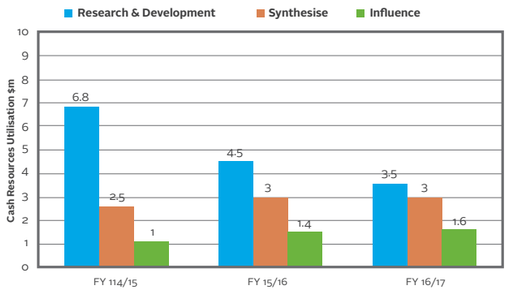
Program	Program A: Society	Program B: Water Sensitive Urbanism	Program C: Future Technologies	Program D: Adoption Pathways
Strategic focus questions	How do culture, institutions and human systems affect adoption of ideas?	How will changes in our natural environment impact on and be affected by different ways of planning and building our cities?	What technologies and information are needed to support delivery of water sensitive cities?	What are the range and appropriate mix of CRC interventions to translate concepts and research outputs into practice?
Research domains	the social sciences and humanities (particularly economics) as facilitators for change	spatial planning, terrestrial and aquatic ecologies, hydrology, hydrogeology, climatology, city planning and architecture	technologies and information systems	capacity development, education, demonstration, science-policy partnerships, learning and evaluation
Critical long term outcomes sought	• The rules (regulatory environment) in which our cities are developed and planned supports WSC principles •The investment and decision making (business case) processes for urban development and water management adopt WSC principles • Communities are engaged by water and urban planning sectors in the development of strategies for the delivery of services	• The practices (tools and techniques) used by urban planning, architecture, water management practitioners to create the physical, social and biological form of cities implement WSC best practice	• Water cycle technologies are available with associated guidelines for their design plus operational and asset management • WSC best practice in delivery of urban water services	• WSC principles and approaches recognised in all national and state policy and growth plans • Industry leads the on-ground implementation of WSC interventions underpinned by rigorous industry standards • Government and industry has access to a world class workforce with the capacity and capability to develop and implement WSCs • Water utilities and/or private operators have the capacity, and are willing, to operate WSC infrastructure and technologies
Indicators of success	• Legislation, policy, institutional arrangements and regulations that reflect and embed WSC principles • Tools available to quantify the economic and financial benefits of a water sensitive city • Value propositions for different community segments • Number of community level WSC strategies in place	• WSC tools are being used and adapted by industry practitioners • Publications of successful case studies adopting the WSC approach to urban planning and design • WSC development projects implemented successfully	• Technologies are being used and adapted by industry practitioners • WSC standards adopted across Australia and internationally	• WSC Index is in place to measure transition progress of cities and towns • WSC is embedded in relevant national and state policy frameworks • Capacity and capability levels of WSC related workforce • Urban renewal and development projects incorporating WSC interventions • The design and operation of WSC infrastructure and technologies become an export industry
3-year Indicators of success	• CRCWSC governance and risk allocation frameworks trialled in policy development by key stakeholder organisations in a number of demonstration projects • Practitioners and organisations have commenced to use the economic valuation tools, information and guidelines produced by the CRCWSC to guide WSC investment decisions • Identified, tested and evaluated the most effective behaviour change mechanisms and strategies to accelerate community WSC literacy and desired water sensitive behaviours • CRCWSC planning and envisioning methodologies adopted by key stakeholder organisations to foster co-development of WSC strategies	• Conceptual models developed and used to validate the utility and applicability of water sensitive urbanism • A range of developing tools trialled by industry practitioners, and stakeholders have validated their underlying conceptual models • Contested science and policy areas for water sensitive urbanism identified and solution pathways in-place	• Early adoption of biofilter design, operation and maintenance guidelines • Wide awareness and early adoption of the database for stormwater characteristics • Wide awareness and early adoption by some regulatory agencies of the developed validation framework for passive stormwater harvesting • Data mining algorithms have been applied in smart metering systems by water utilities	• Suitable case studies, including the use of WSC tools have been identified and their dissemination is underway • CRC outputs from 1st tranche of projects are being widely disseminated and commencing to influence policy and decision-making processes •A wide range of formal and informal capacity building programs are established with strong participation by government and industry • Commencement of 1st application of WSC Index rating of cities and towns • Successful delivery of urban renewal and development project research synthesis case studies
3-year total budget allocation (FY14/15 to FY16/17)	Research & Development (Programs A, B & C) Budget Allocation • Cash ~ $14.8million • In-kind ~$6.4million			Adoption Pathways (Program D) and associated Research Synthesis & Stakeholder Influencing Budget Allocation • Cash ~ $12.5million • In-kind ~ $12.2million

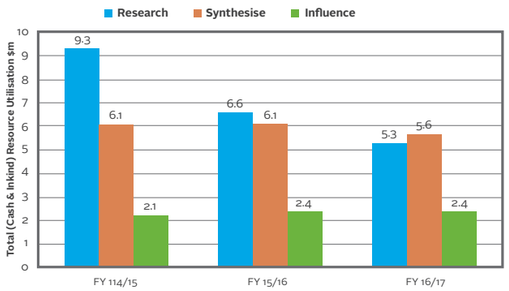
Resources Utilisation

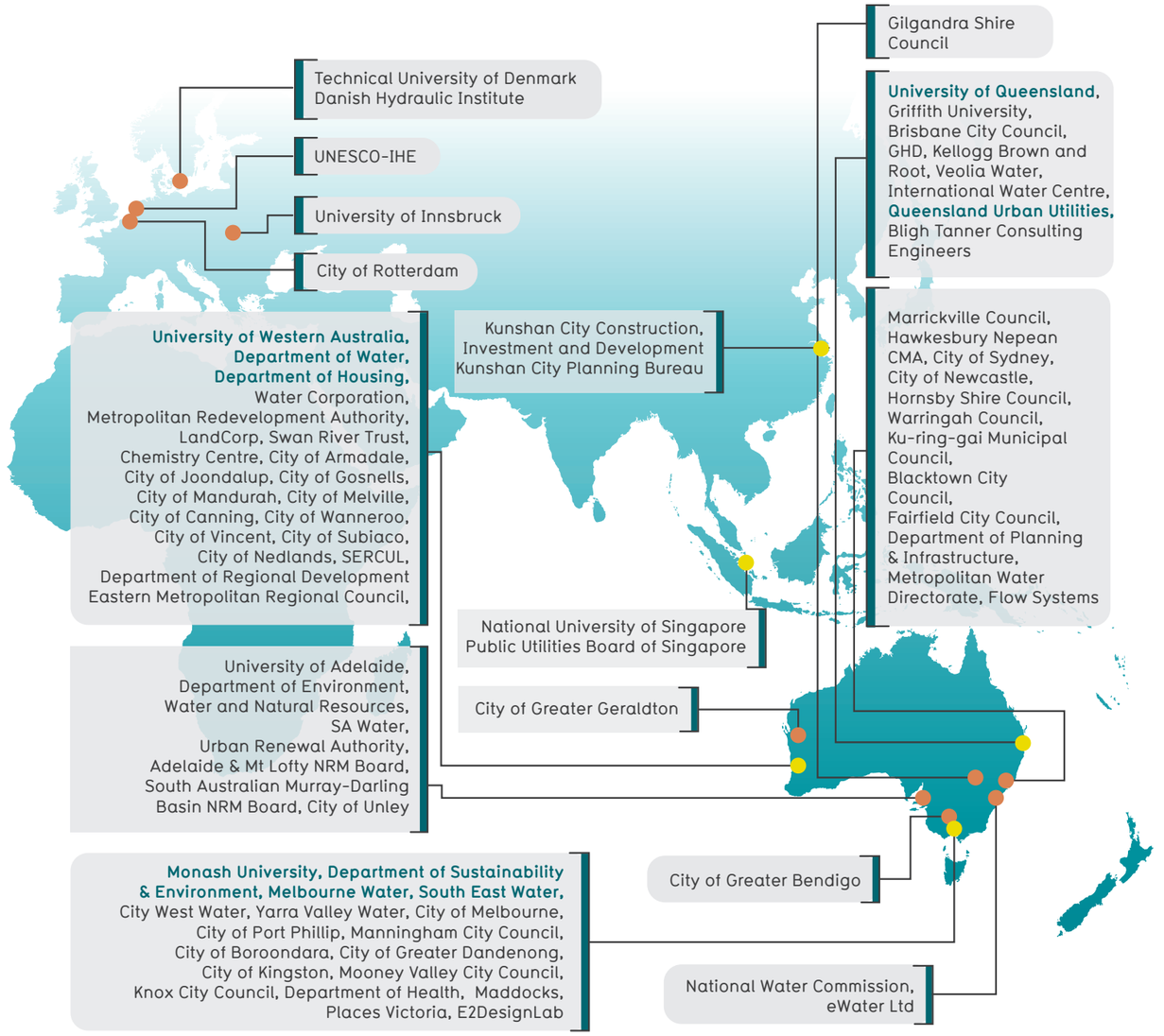
FY14/15 to FY16/17











82 Participants

32 Local Governments
16 State Government Departments/Agencies
11 Research Organisations
8 Water Utilities
5 Land Development Organisations
7 Private Companies
1 Federal Government Agency
1 Community Group
1 Training/Capacity Building Organisations

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Researchers in action

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