

<b>Title</b>	<b>Australia's first official guide to cooling cities launched</b>
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Australia's first national guide designed to keep city dwellers cooler during hot weather by helping landscape architects, urban designers, planners, local authorities, government agencies and developers mitigate urban heat islands and microclimates created by cities, was launched today at the [CRC for Low Carbon Living's \(CRCLCL\) Cooling Cities National Forum](#).

UNSW's Dr Paul Osmond and CRLCL project leader, who led the research and industry team that compiled the *Guide to Urban Cooling Strategies* said it covered different [climate zones](#) that define cities across Australia.

"The range of urban landscapes that the Guide covers include dense inner cities, middle ring and outer suburbs with a focus on design intervention, including streetscapes, plazas, squares and malls," he said.

"The importance of design which embraces vegetation cover, particularly tree canopy; the use of shade to minimise heat; and the orientation of these elements are also key to cooling. Interventions may be active, such as misting systems and awnings, or passive, like street trees, green roofs, water bodies, cool roofs and facades.

"All these elements have an effect on urban temperatures. For example, radiant temperatures in urban parks with sufficient irrigation can be [2-4°C cooler](#) compared with adjacent unvegetated or built-up areas, while air temperature reduction may be up to 2°C according to a park's extent and the proportion of trees. This is known as the [park cool island](#) effect," explained Dr Osmond.

"The Guide also highlights the fact that street trees contribute to radiant and air temperature reduction by evapotranspiration and shading over buildings and street surfaces. A streetscape with heavy tree canopy can enjoy up to 15°C cooler surfaces and 1.5°C cooler air temperature compared with a street with no tree canopy and shade," he said.

Three dimensions contextualise the effectiveness of urban cooling strategies are used in the Guide: **urban form, climate type** and the **nature of intervention**. This matrix provides the Guide's framework in terms of process (methods) and product (the design outcomes).

Dr Osmond explained that urban climates are ultimately created from a balance between the heat of the sun and heat lost from walls, roofs and ground; by heat exchange via air movement between ground, buildings and atmosphere; and by heat generation within the city itself, for example from motor transport.

"[Global climate change](#) and the [urban heat island](#) phenomenon – where cities absorb and release more heat than the surrounding countryside – carry growing potential to make urban life at particular times and places an [exercise in low-grade misery](#). Studies across the world's major cities show that a systematic higher average temperature of 2°C to 12°C exists in highly-urbanised areas compared with their rural surroundings," Dr Osmond said.

"Improving liveability, health and wellbeing are critical challenges for our cities, especially in light of our rapidly changing climate. This guide will provide built environment professionals with evidence based design strategies

that can be directly applied to projects, no matter what scale, and ultimately help keep our cities cool," said Brett Pollard, Principal at industry partner in the project's HASSELL Studio.

CRCLCL CEO, Professor Deo Prasad AO, said the Guide was also a major milestone in the CRCLCL's work as it brings together data from a three-year Urban Microclimates project it has funded.

"This publication is unique, as it not only draws on our painstaking three year research along with global research, it cross-references to our [Microclimate and Urban Heat Island Decision-Support Tool project](#) and benefits from relevant research at the CRC for Water Sensitive Cities," said Professor Prasad.

"The Guide combines high quality research with the input of industry and government partners. Government and industry partners of the CRCLCL, such as HASSELL, AECOM and Office of Environment and Heritage (OEH) were instrumental in producing a Guide which reflects the needs of end-users.

"Our research is driven by the needs of end-users and I believe the *Guide to Urban Cooling Strategies* should be read by all those involved in creating built environments so they can plan and design for the future, to ensure generations to come will be living in cities that minimise the effects of climate change, particularly when extreme heat is an outcome," said Professor Prasad.

Roger Swinbourne, Technical Director at AECOM noted that as a multidisciplinary infrastructure firm, AECOM is proud to be an industry partner of the CRCLCL.

"We see the benefits of bringing academic rigour to the way we plan our public domain and how it can influence the way cities deliver open space," he said.

For an advanced copy of the guide and to arrange interviews please contact:

**CRC for Low Carbon Living** Sharon Kelly  
E: [s.kelly@lowcarbonlivingcrc.com.au](mailto:s.kelly@lowcarbonlivingcrc.com.au)  
M: +61 414 780 077

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## About the CRC for Low Carbon Living Ltd

The CRC for Low Carbon Living (CRCLCL) is a national research and innovation hub that supports Australian industry to be globally competitive in the low carbon built environment sector.

It brings together property, planning, engineering and policy organisations with leading Australian researchers to develop new social, technological and policy tools for reducing greenhouse gas emissions in the built environment.