



Special issue: Cooling in a low carbon world Volume 37, issue 4, July / August 2009

Many post-war buildings, especially commercial buildings were designed for air-conditioning and would overheat without it. This has been exacerbated by the need to adapt to the increasing outdoor temperatures anticipated from climate change. Low carbon solutions are now needed to prevent buildings and people from overheating. Passive cooling systems are increasingly important but one challenge will be to ensure that any active solutions can be run with minimal, preferably low-carbon, energy.

There is increasing recognition that solutions are more than technical fixes and must involve legislative frameworks, standards, occupant satisfaction and the practical/professional aspects of design and performance. This special issue has a range of papers which address this problem holistically: redefining the problem of overheating and thus changing design criteria and standards; overcoming perverse outcomes from building regulations and energy ratings certificates through an alternative method for assessing performance; establishing the current and potential future environment impacts of room air-conditioners; minimizing the need for active cooling by understanding how occupants use controls and windows to improve their comfort; optimizing performance through the use of commissioning trials to monitor operation and solve problems; evaluating low carbon ground-sourced cooling performance and occupant comfort.

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