

Cooling Communities

Report Summary

DESCRIPTION

Global warming is leading to longer, hotter and more frequent heatwaves across Victoria. These conditions are compounded in dense built up areas through the Urban Heat Island Effect (UHIE). This extreme heat can cause and exacerbate a range of serious health issues.

This project, which was undertaken by Moreland Energy Foundation (MEFL) and Moreland City Council retrofitted ten social housing properties in Moreland to improve understanding of the actions required to mitigate UHIE impacts.

Social housing residents are particularly at risk from heat stress as they are more likely to live in poorly designed or maintained properties and have chronic health conditions. They also may spend more time in their properties than residents renting privately or owner occupiers.

The study found that whilst no heatwaves were experienced in Melbourne during the study period, in January 2017 heatwave conditions were recorded inside one of the properties. For several properties in a recently constructed apartment block, internal temperatures failed to drop below 27 degrees Celsius over a five-day period.

Failure to provide adequate protection from heat was not limited to the apartments, with residents in single-storey homes also experiencing discomfort. These properties however had more retrofit options than the apartments.

Key barriers to wider roll out of retrofits are a lack of funding and limited understanding of UHIE and its impacts on residents' health.

Several of the social housing properties in the study posed real threats to residents' health and wellbeing during extended hot spells. With heatwaves set to become more common, occupant exposure to heat stress is likely to be exacerbated in the future unless urgent action is taken to deliver large scale retrofit programs and improve building regulations and building design.

KEY RECOMMENDATIONS

STATE GOVERNMENT:

- » Develop an agreed metric to evaluate heat risk reflecting the absence of air-conditioning during blackouts for inclusion in building and planning policies.
- » Provide funding options for social housing providers to deliver retrofits.
- » Undertake detailed thermal image mapping of urban areas to identify UHIE hotspots.

LOCAL COUNCILS:

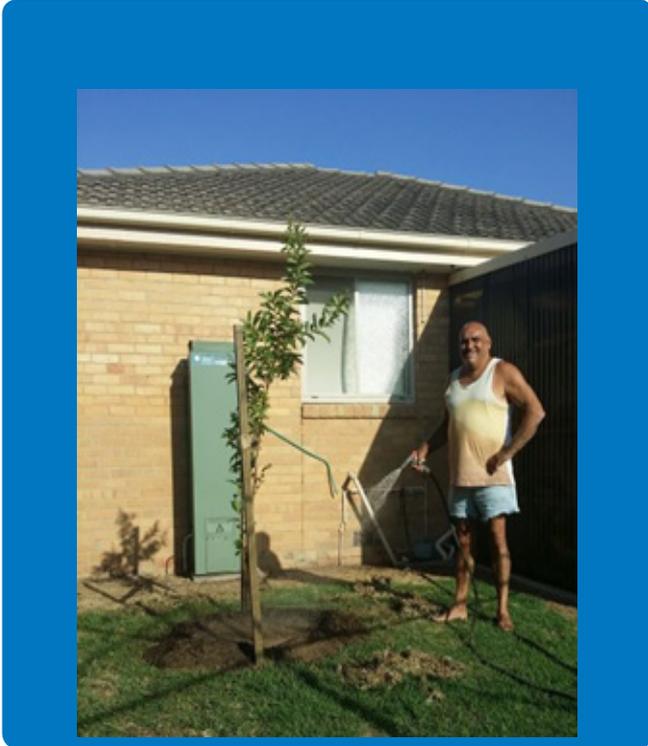
- » Publish data on UHIE hot spots and work with stakeholders to target resources in priority areas.

SOCIAL HOUSING PROVIDERS:

- » Assess thermal performance of their portfolio and prioritise properties for retrofitting.
- » Prioritise building fabric upgrades and natural cooling retrofit options.

ALL

- » Ensure new homes provide adequate protection from UHIE without reliance on air-conditioning.



FRANK

Frank is in his 60s and has lived in his Hadfield home with his brother for 33 years. He lives with a cardiovascular medical condition after suffering a heart attack 20 years ago.

He had been looking for ways to cool his property down, reporting that “it’s been a hotbox since 1983. It’s unbearable here.”

Upgrades to Frank’s property included draught-proofing and insulation, 12 trees and 30 shrubs, a 2,000lt rainwater tank to offset the costs of additional watering, a ceiling fan, a split system air-conditioner and a 2.08kW solar array to help offset the cost of the additional cooling.

Frank is now a happy man “Now I can sleep at night. Before I was tossing and turning all night.”

Whilst he finds the air conditioning has made the biggest difference to his health he is “amazed how much difference simple things [like draught-proofing] make.” He’s also looking forward to when the trees grow and he can sit out in the garden during summer again.

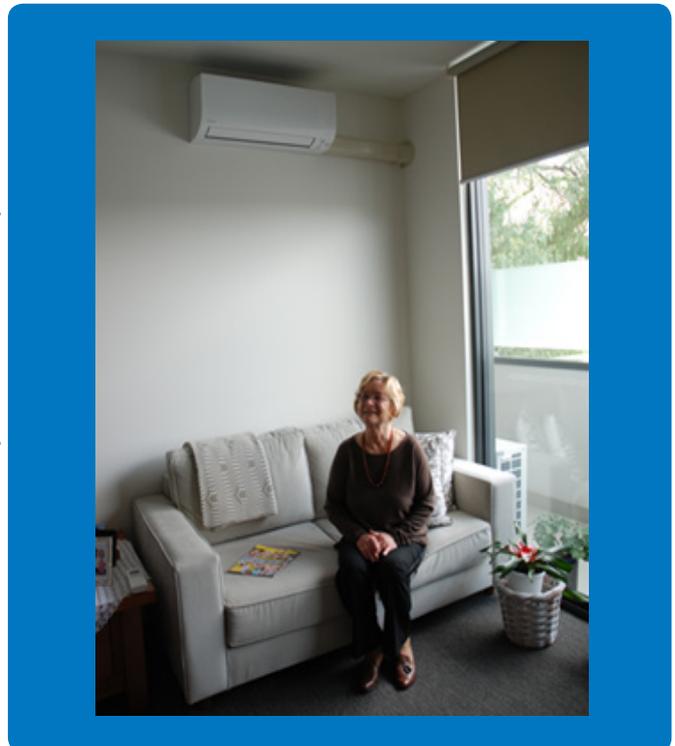
JULIA

Julia is in her 60s and has lived in her Pascoe Vale home for 2 years. Whilst she loves her home she has struggled with the heat over summer. The apartment does not have any opportunities for natural ventilation, as the windows do not open and the concrete and metal construction retains the heat long after external temperatures drop.

The hot nights exacerbate her existing cardiovascular and renal health issues. Prior to the retrofit she slept in the lounge or moved out to live with family during hot periods. She had purchased a portable evaporative cooling unit but found this to be ineffective to reduce humidity.

Upgrade options for Julia’s property were limited due to the apartment design and included a ceiling fan and split system air-conditioning. She had been looking for an affordable private rental with air-conditioning because the heat was so unbearable for her. Now she wants to stay in the apartment forever and that “the rest of her life is happy.”

Julia reports that since the upgrades she is “happy for everything, but first of all my health. Thank you, thank you.”



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