

SUBJECT: NOM 23/07/19 - REPORT ON NOTICE OF MOTION - URBAN HEAT ISLAND RESEARCH PROJECT

REPORT BY: INFRASTRUCTURE AND PROPERTY

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DIRECTOR COMMENT

City of Newcastle (CN) recognised the implications of the Urban Heat Island (UHI) effect when we adopted one of the first Australian Local Government Urban Forest Policies (UFP) in 2008. The UFP and associated background paper triggered the development of our Development Control Plan (DCP) and associated Technical Manual, Standard Drawings, Street Tree Selection Manual, Citywide Maintenance Manual – Trees, and Tree Asset Management Planning.

Recent street garden initiatives, urban forest plantings and replacement planting efforts will continue to build our capacity towards achieving sustainable canopy, which is an important factor in making our city liveable and mitigating UHI effects.

CN continues to work in this space and is collaborating with University of Newcastle's Smart Tree project. CN has also been working in a 'living laboratory' partnership with University of Western Sydney's 'Where Should All the Trees Go?' program.

CN is using the recent planting of Macquarie Street in Wallsend as the first local 'living laboratory' site in the City. This project will follow the performance of a range of tree species over the coming six years and their suitability to change climate regimes.

The living laboratory is just one initiative of the 2020 Vision research group that includes Universities, CSIRO and commercial partners, delivering collaborative research and documentation of the extent, performance and requirements to improve future greening outcomes for Australia's cities.

Further to the on-ground research, the 2020 Vision group have been undertaking a review of various states across Australia, using thermal imaging and demographic data to develop urban heat island and urban heat continent mapping, as well as vulnerability rating scores for city centres, including Newcastle.

RECOMMENDATION

That Council:

- 1 Notes that the NSW Government recognises air temperatures in cities are expected to increase in the future as a result of climate change and increasing urbanisation.

CITY OF NEWCASTLE

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- 2 Recognises the research conducted by Adapt NSW which indicates that cities create their own microclimates by influencing the surrounding atmosphere and interacting with climate process, and that the most striking characteristic of an urban microclimate is the 1 Urban Heat Island (UHI) effect which sees urban areas become significantly warmer than surrounding areas where there is less green cover and more hard surfaces which absorb, store and radiate heat.
- 3 Notes that City of Newcastle (CN) officers are currently partnering with the University of Newcastle (UoN) on a smart city research program examining the urban heat island effect and possible interventions across Newcastle; and that officers have also participated in a 'living laboratory' partnership with University of Western Sydney's 'Where Should All the Trees Go?' program.
- 4 Notes that CN officers are continuing to work to achieve positive outcomes for the city by delivering on the objectives of the UFP and background paper to build our capacity towards achieving sustainable canopy which is an important factor in making our city liveable and mitigating effects from UHI effect.
- 5 Receives a Councillor workshop on the delivery of the UFP and the background paper, and an update on the work that is being undertaken in collaboration with UoN and University of Western Sydney on UHI.
- 6 Facilitates a public forum on the current research and projects being undertaken by UoN and University of Western Sydney on UHI effect, the impact of UHI on cities across Australia, and outlining possible actions that cities such as Newcastle may be able to take to mitigate urban warming.