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NAGA CASE STUDY

Moreland City Council: Urban Heat Island Action Plan

What is the Urban Heat Island Action Plan?

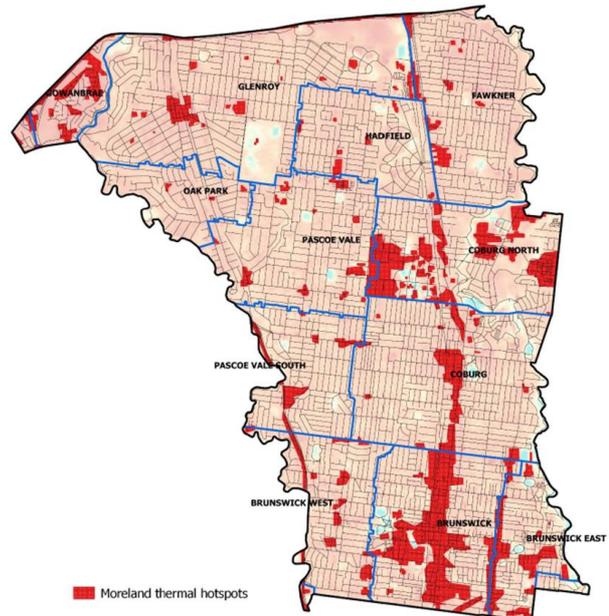
Moreland City Council is taking actions that reduce the serious risks to people and infrastructure posed by heatwaves and hot days. Council is currently developing an Urban Heat Island Action Plan to help prepare Moreland for a hotter future. The action plan will include municipality-wide strategies to reduce overall temperatures and projects targeting specific locations.

The draft Action Plan overlays satellite thermal imaging and social vulnerability indicators (e.g. 0-4 year olds, older lone persons, SEIFA disadvantage etc.) to help understand the Moreland context and determine priority areas for action. The draft identifies actions that Council is already doing or can leverage further to respond to UHIE including:

- Street tree planting program
- Water sensitive urban design projects in public spaces
- Improving irrigation of open space including stormwater harvesting projects
- Working to encourage a shift away from fossil fuel powered vehicles
- Building more resilient Council buildings

The draft Action Plan also identifies new opportunities relating to green infrastructure such as cool roofs and advocacy opportunities to prioritise heat

mitigation strategies with all levels of government, business and community.



Map: Thermal hotspots for the City of Moreland

Why did you do it? What prompted it?

Reducing and responding to the Urban Heat Island Effect (UHIE) – a phenomenon where the urban area is considerably warmer compared to surrounding suburbs and rural areas – is a rapidly emerging priority for Moreland City Council. Moreland's highly urbanised environment experiences a high



UHIE due to its many dense, dark and solid surfaces that absorb heat, as well as concentrated human activity.

In 2014 Monash University researchers produced an UHIE vulnerability map for Melbourne. Glenroy and Coburg are in the list of Melbourne suburbs (including Sunshine, St Albans, Preston, Reservoir, Clayton and Dandenong) most at risk due to a combination of extreme heat and social vulnerability. Risk factors in the study included lack of tree cover, housing types and age, health and socio-economic status of the population.

The *Zero Carbon Evolution (ZCE) - Getting on Track to a carbon neutral Moreland* was endorsed by Council in June 2014. ZCE included an action to “Develop a Moreland Urban Heat Island Action Plan 2015/16-2025/26” that includes:

- Identification of priority areas for heat accumulation and resident vulnerability
- Selection of appropriate vegetation to maximise canopy cover and urban greenery
- Integration of Water Sensitive Urban Design principles into street tree plantings
- A strategic approach to increasing vegetation on private and public land.

How does it align to existing policy?

In preparing this draft Action Plan, Council Officers from across the organization have worked together to identify existing Council strategies and projects that address the Urban Heat Island Effect (UHIE). Best practice approaches in Australia and abroad were also investigated. Work was also undertaken with research institutions, which included a detailed analysis of thermal heat maps of the municipality to

help determine gaps and priority areas for action.

The draft Action Plan focuses on addressing infrastructure responses to address the issue i.e. buildings, vegetation and Water Sensitive Urban Design (WSUD) to directly reduce heat absorbing materials. Community heat wave emergency initiatives are not contained in the Action Plan as they more specifically addressed in Council’s adopted Heatwave Plan and Emergency Management Plan.

How was it developed?

The first draft UHIE Action Plan was presented to the Moreland Executive Group (MEG) on 24 November 2015 and to Council’s Information and Discussion meeting on 7 December 2015. Since that time the ESD Unit has held further internal workshops and discussions with a range of internal and external stakeholders to review the draft, finalise key actions and respond to issues raised by MEG and Councillors. External stakeholders consulted include MEFL and the Northern Alliance for Greenhouse Action.

Work has also been completed with Monash University’s Cooperative Research Centre (CRC) for Water Sensitive Cities, which assisted with developing Council thermal heat mapping, technical inputs into the plan and peer review. Council Officers have also collaborated with RMIT’s Landscape Architecture Department ‘Living Canopy’ Design Studio Program which explored the re-introduction of green infrastructure and urban green space into Moreland’s hottest areas. This resulted in the Living Canopy Showcase in October 2015 where Council staff could come and see student visions for a greener, cooler, more liveable Moreland.



Sustainable Moreland Advisory Group (SMAG) discussed ideas and actions for the draft UHIE Action Plan in October 2015. Council Officers have also been engaging with the community at the Fawkner festival, the Coburg night markets and the Peppertree Place community event in November 2015. These events have been an opportunity to discuss the development of the draft Action Plan along with other environmental sustainability initiatives as such as the WaterSmart Moreland program, Positive Charge, the Street Tree Planting program, urban agriculture and the waste and recycling programs.

A community workshop was hosted in March 2016 to invite community ideas and feedback on the Draft Action Plan. The Draft Action Plan will also be promoted via the Council webpage with an on-line response option. Face to face and telephone options will also be available to the community.

Financing and budget issues

The Draft UHIE does not commit Council to new unfunded projects. Under a rate capped environment, Council will be highly reliant upon external grant funding to implement a number of actions. Section 7 of the Action Plan outlines 37 key projects to be implemented over a 15 year period; 15 of these projects are already funded under existing project budgets or through staff time, however there are 22 unfunded projects ideally implemented in the first 10 years that will rely on new and external funding in excess of \$2.5 million (Note: grant funding opportunities are highly unpredictable however this figure is based on current indications of potential sources). The Plan identifies projects where UHIE can be incorporated for example including WSUD in Dawson Street and Dunnes Lane

streetscape upgrades. The ESD (C71) Policy now in place will also support the implementation of UHIE through shading, landscaping and irrigation in private infrastructure. Many actions adjust Council's existing work to better address the UHIE and are funded under current strategies policies and programs. The Plan outlines that further additional funding will be sought via external grants for other 'unfunded' projects. The UHIE Action Plan will be an excellent base to develop funding applications and explore opportunities with identified partners when opportunities arise.

A number of actions are unfunded as summarised as follows:

- Actions for establishing baseline data and developing and setting targets for addressing the UHIE including, street tree inventory, canopy cover mapping and urban heat mapping.
- New planning controls and local laws for better protection of trees in private properties.
- Tree planting along priority waterways.
- Development of an irrigation policy.
- Works to increase cooling capacity in streets, Council car parks and activity centres.
- WSUD maintenance.
- Works to roll out 40km/hr zones to allow more street tree planting.
- Car parking design and pilot to optimise cooling capacity in car parks.
- Community engagement fact sheets and materials.

Business cases and/or external grants, partnerships and in kind support are required to support implementation of these unfunded actions. Council Officers will prepare feasibility studies and funding applications on Council's behalf in order to realise these potential actions.



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How will it be implemented and by who?

Final UHIE Action Plan to be presented to Council in April 2016 followed by formal endorsement in June 2016.

The ESD team will continue to work with cross Council project stakeholders to develop and prepare external funding applications to support implementation of key actions within the UHIE Action Plan.

Contact for further information

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