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COOLmob submission to City of Darwin Smart City Strategy

COOLmob began in 2002 as part of the national Cool Communities project, which was a partnership between community groups, environmental organisations and the Australian Government.

COOLmob is the sustainable living initiative of the Environment Centre NT (ECNT) with a mission **“to help and inspire our community to live sustainable and reduce their greenhouse gas emissions.”**

COOLmob’s Role is to engage and keep the community interested in positive action. This in the past has been achieved by developing behaviour change strategies, conducting home energy audits, partnering with governments, industry bodies, community groups, businesses, schools and experts to advocate for the removal of sustainable living barriers in the top end and provide accurate information to the community.

COOLmob welcomes this opportunity to contribute to the development of the City of Darwin Smart City Strategy. To encapsulate the true potential of a ‘smart city’, Darwin City needs to be strongly based upon ambitious greenhouse gas emission reductions in order to mitigate climate change effects which are already being experienced in the Territory. This Strategy needs to prepare Darwin and its people, economy and the environment for a warmer future.

Links to City of Darwin Strategies, Plans and Partnerships

City of Darwin Climate Action Plan

City of Darwin Cities Power Partnership

City of Darwin Energy Strategy

- All aspects of the Strategy should be grounded in the principles identified in Council’s existing and relevant strategies and plans, including the City of Darwin Climate Action Plan, City of Darwin Cities Power Partnership and the City of Darwin Energy Strategy
- City of Darwin Council states in its Climate Action Plan that it “is committed to the challenge of reducing its climate change footprint through the development of this Climate Change Action Plan 2011-2020 which aims to develop and strengthen partnerships as well as reducing GHG emissions to meet mitigation and adaptation actions¹”. This commitment should be the foundation of any innovations or capital works projects identified in the Smart City Strategy.
- The Smart City Strategy’s *Guiding Principles* outlined on page 5 should themselves be heavily shaped by City of Darwin’s Climate Change Action Plan to ensure decisions and developments are innovative and achieving goals outlined to reduce the city’s greenhouse gas emissions. As the Smart City Strategy is a forward planning document it is vital that decisions made now are able to deliver in a climate where temperatures and energy prices are rising.

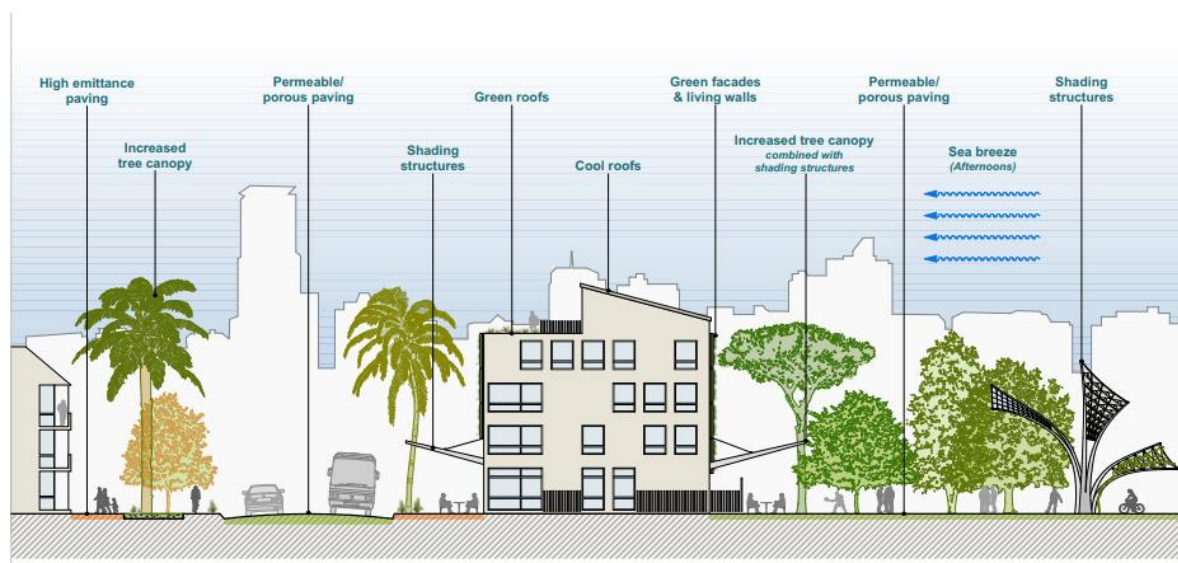
¹ [CoD Climate Change Action Plan](#)

- Every building has an impact on the environment. Buildings use 40% of the world’s energy, emit 40% of the world’s carbon emissions, and use 20% of the world’s available drinking water². *Priority Infrastructure Projects* should be built with a goal of being zero carbon or at the very least outperforming the insufficient State and National minimum energy and thermal performance standards for tropical climates such as Darwin. City of Darwin could do as City of Melbourne has done, and collaborate with industry to accelerate emission reductions from buildings across the city. The Green Building Council of Australia’s Carbon Positive Roadmap aligns building performance with the Paris Climate Agreement, and sets an objective for new commercial buildings to achieve carbon neutrality by 2030, and existing commercial buildings to achieve carbon neutrality by 2050³.
- According to the Council’s Climate Action Plan, in 2009, 55% of City of Darwin’s greenhouse gas emissions were from electricity, with an increased tonnage from previous years. If City of Darwin are to achieve their reduction goals, all future plans and strategies need to be developed to ensure they are contributing to a decreased emissions.

Strategic Pillars

- **Enabling sustainable and smart environmental management:** COOLmob recommends that City of Darwin look to assist the Environment Centre NT and COOLmob in partnering with Charles Darwin University to create a climate innovation hub where research is undertaken to assist other, mostly poor jurisdictions in the tropical band to adapt and mitigate climate change risk. Research undertaken from this partnership could be used by City of Darwin to ensure Darwin remains liveable as we head into a time where higher temperatures will become more frequent and severe. COOLmob also recommends that City of Darwin use examples from other tropical cities around the world, such as Singapore, as well as local knowledge and research on cooling cities and heat islands to ensure. There are a range of options this Strategy could implement to mitigate the urban island heat island effect. City of Darwin Council could use the CRC Low

COOLING STRATEGIES DURING SUMMER



² <https://www.nabers.gov.au/about/what-nabers>

³ <https://www.melbourne.vic.gov.au/sitecollectiondocuments/climate-change-mitigation-strategy-2050.pdf>

Carbon Living Guide to Urban Cooling Strategies⁴ which was developed as practical guidance for built environment professionals and regulatory agencies seeking to optimise development projects to moderate urban microclimates and mitigate urban heat island effects in major urban centres across a range of climates in Australia. Above is an image of cooling strategies taken from the Darwin section of the CRC Low Carbon Living Challenge Guide.

- **Creating inclusive, smart, healthy, liveable communities that attract new residents:** COOLmob recommends that City of Darwin should focus on building the capacity of industry, businesses, multi-unit dwellings through education and opportunities to become more energy efficient and low carbon orientated. Through a commercial energy auditing program, COOLmob can assist large and small businesses and multi-unit dwellings in Darwin including commercial buildings, retail stores with understanding their current energy consumption and provide detailed strategies to move to more efficient operations. This will increase efficiency, decrease running costs, decrease GHG emissions and increase community awareness and education. This is directly aligned with the actions identified in the Council's Climate Action Plan.
- Additionally, City of Darwin Council could partner with COOLmob to deliver a program similar to [CitySwitch](#). CitySwitch helps office-based businesses to improve their energy and waste efficiency. The program, assists commercial office tenants around Australia to enhance energy efficiency and reduce costs; manage energy price increases and mitigate business risks; work towards a carbon positive future; reduce waste and improve the health and productivity of employees.
- COOLmob agrees that designing solutions to challenges faced by City of Darwin via the human centred design (HCD) approach can be very successful. In regards to challenges resulting from climate change, like hotter temperatures impacting on the comfort of the home. One example of this could be HCD assisting in the development of Council and Government funded programs which increase education and assist with retrofit or solar panel installations, leaving the resident more informed, with a more suitable home and with lower power bills.
- **Delivering an agile, innovative and collaborative council:** With NT Government lacking strong policy around certain areas of city cooling and low carbon living, COOLmob recommends that Council boldly become a leader in this space as one of Australia's only tropical city Councils. Data collection via the smart systems being introduced under this Strategy will have an amazing capacity to monitor multiple data points including temperatures and emissions, which can be used to drive Council led programs and innovative business opportunities to cool the city. Council can draw on research found in the *'Using smart technologies for climate change adaptation in Western Sydney: A CAPS Research Report'*⁵, which looks at the wider application of Internet of Things (IoT) sensors and related data capture and information management tools be used to support the needs of citizens impacted by urban heat islands (UHI) and extreme weather events.
- Charles Darwin University is seeking to establish a research and knowledge hub bringing together researchers and applied experts to develop sustainable solutions to climate change. This knowledge can be exported to our South East Asian neighbours, who also urgently need this knowledge to respond to climate change impacts.

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http://www.lowcarbonlivingcrc.com.au/sites/all/files/publications_file_attachments/rp2024_guide_to_urban_cooling_strategies_2017_web.pdf

⁵ https://www.westernsydney.edu.au/_data/assets/pdf_file/0003/1480323/CAPS_Research_Final.pdf

Rollout phase

- **Smart street lighting:** To ensure delivery of Council's Cities Power Partnership goals, all street lighting should be LED and energy efficient as possible. It would also be beneficial to Council's emissions reduction targets to consider powering street lighting by renewable energy sources, as they make up roughly 50% of Council's energy consumption.
- **Smart City Platform / Open Data Platform:** The data from these platform needs to be easily available for residents and local businesses to understand and identify how much energy is being used and how much greenhouse gas is being emitted. These should be viewable against Council's targets and show an increase or decrease. It would be expected that City of Darwin would partner with business, industry, community and Charles Darwin University to use these data platforms to solve challenges & create business opportunities.
- **Energy monitoring:** Council needs to develop specific asset emission reduction goals and make the monitoring of the goals easily identifiable to the public. This educates the community and businesses to take similar actions on their properties.

Imagine the potential

- Darwin could become a thought leader on sustainable tropical design / heat mitigation and COOLmob sees themselves as a local organisation equipped with the knowledge, experience and community trust to assist in deliver of these projects.
- COOLmob could create a partnership with Council focusing on the emissions generated from multi-unit dwellings (MUDs), and through providing rebates and or grants, such a program could encourage MUDs to take action such as installing solar, or retrofitting, to reduce their greenhouse gas emissions.
- COOLmob could assist the Council is creating a program which rates the efficiency of buildings and properties. This scorecard could be similar to that which is being created in Victoria, which requires landlords to ensure properties meet appropriate standards to increase energy efficiency and reduce climate pollution.
- COOLmob could partner with Council to develop a business engagement strategy that educates and incentivises businesses to incorporate emission reduction pathways into their corporate strategies. Local Councils and Territory Governments could fund rebates or no interest loans to create opportunity. Similar programs have proven very successful in Australia such as the Sustainable Melbourne Fund.