

Greening, urban heat and health impacts



**PORT PHILLIP
EMERGENCY
CLIMATE
ACTION
NETWORK**

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**The triple planetary crisis –
climate change, nature and
biodiversity loss and
pollution and waste –
threatens all life forms,
disproportionately
affecting the poor.**

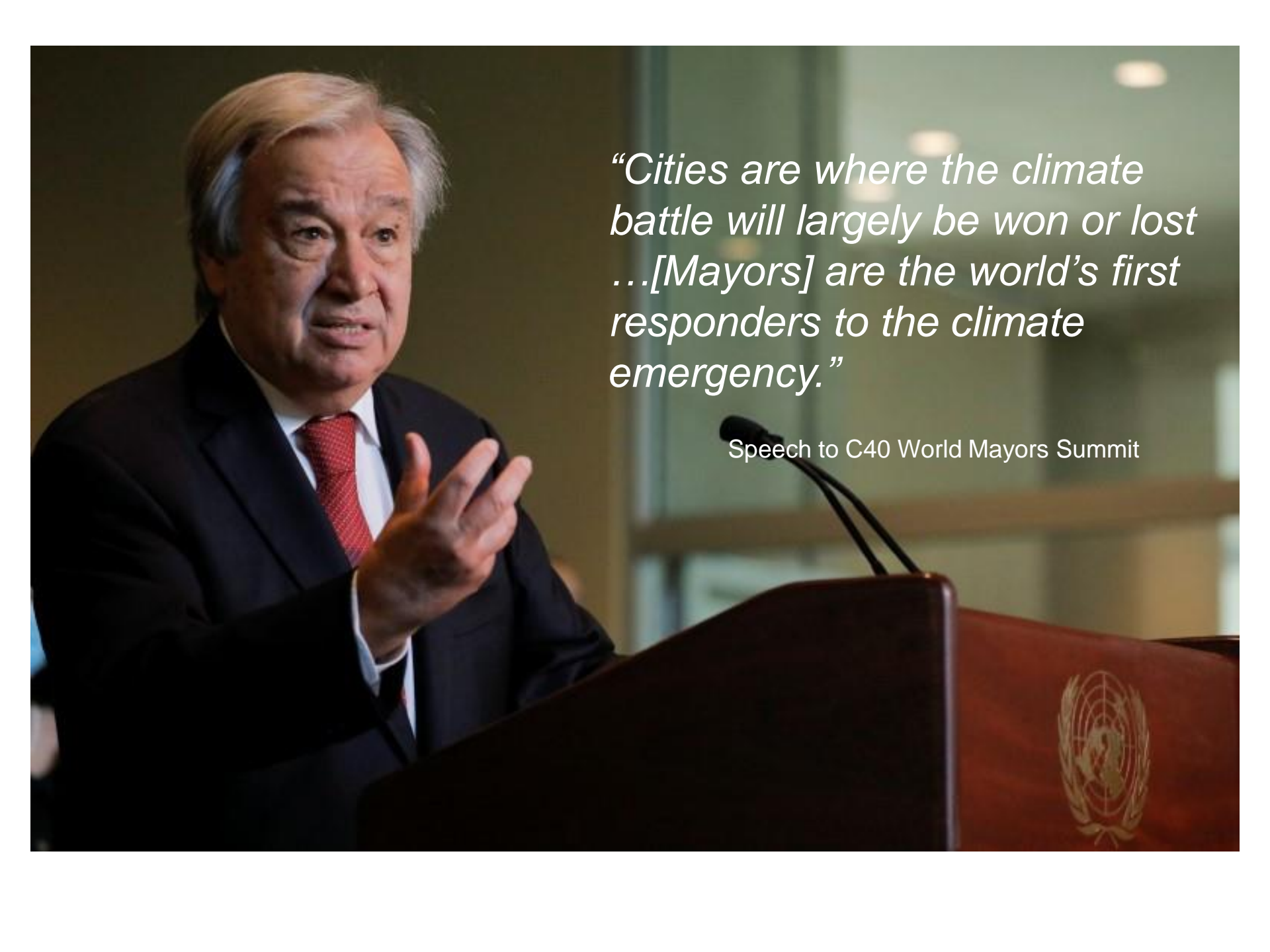
2023 Annual Report

UN Secretary-General António Guterres



Human Rights Council



A photograph of António Guterres, the 9th Secretary-General of the United Nations, speaking at a podium. He is wearing a dark suit, a white shirt, and a red patterned tie. He is gesturing with his right hand. The podium is dark wood and features the United Nations emblem on the right side. A microphone is positioned in front of him. The background is a blurred indoor setting with warm lighting.

“Cities are where the climate battle will largely be won or lost ...[Mayors] are the world’s first responders to the climate emergency.”

Speech to C40 World Mayors Summit



Melbourne's hottest areas house most at-risk residents



Rachael Dexter

February 14, 2024 – 5.00am



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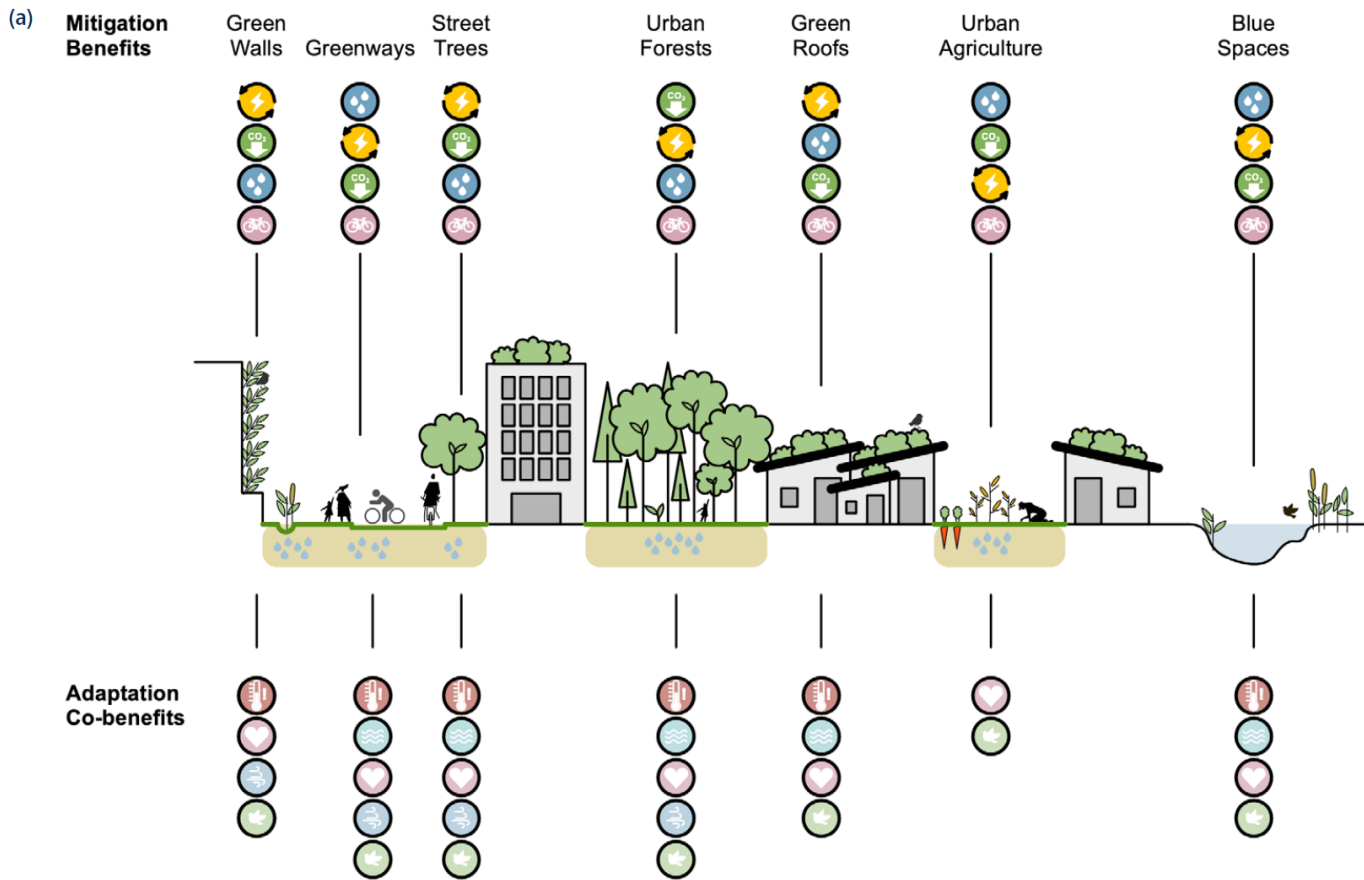
4 min

Melbourne's poorest and most at-risk residents are far more likely to live in the hottest parts of the city with sprawling housing estates, black roofs, fewer trees and more industrial sites.

“We are systematically developing inequitable cities in terms of resilience to heat and heat is the biggest killer of people in our cities in Australia, in terms of natural disasters.”

Intergovernmental Panel on Climate Change, Sixth (latest) Assessment Report, 2022: new and stronger evidence for importance of urban greening in mitigation and adaptation

- **Urban systems are critical** for achieving deep emissions reductions and advancing climate resilient development
- **Urban greening using trees and other vegetation** [to] **provide local cooling** [must be] an important **priority for cities looking to mitigate climate change**
- Considering climate change impacts and risks in the design and planning of urban infrastructure is **critical for resilience and enhancing human well-being** [and has] **multiple co-benefits**
- City and local governments [are] key actors facilitating climate change adaptation ... **Community-based action is also critical.**



IPCC, 2022
Key mitigation benefits and adaptation co-benefits of urban green and blue infrastructure

Key Mitigation Benefits

- Sequester and Store Carbon
- Reduce Building Energy Use
- Reduce Municipal Water Use
- Facilitate Active Mobility

Key Adaptation Co-benefits

- Reduce Heat Stress
- Mitigate Flooding
- Improve Health
- Improve Air Quality
- Promote Biodiversity

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“Given the inevitable rises in global and local temperatures over the coming decades, identifying effective prevention and response measures that can be implemented, particularly in low-resource settings, has never been more important.”

See [Series](#) page 709

Perspectives

Climate disasters and global social medicine
See page 658

Articles

Tedizistamib in relapsed or refractory multiple myeloma
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Articles

Vaccination of children against typhoid fever
See page 675

Articles

Non-optimal temperature and daily mortality
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Series

Heat and health
See pages 698 and 709

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Editorial

Health in a world of extreme heat



“...Because extreme heat has greater effects on the health of people in urban environments, green spaces are crucial for cooling in cities, but also provide co-benefits: they reduce exposure to air and noise pollution, relieve stress, provide a setting for social interaction and physical activity, and sequester carbon...”

Urban heat island effect



Thermal mapping



Source: DELWP *Your Council and Climate Change: Understanding the risks and learning to adapt.*

Greening and health co-benefits



Recent studies suggest (eg):

- Residential proximity to greenness is associated with a lower risk of cardiovascular disease (CVD) and all-cause mortality
- Residential green space in childhood is associated with lower risk of psychiatric disorders from adolescence into adulthood
- Urban greening could lower the odds of loneliness by up to 26% among adults in general and may lower the odds of loneliness by 52% among adults who live alone.
- Green space accessibility helped buffer declined mental health during the COVID-19 pandemic

Local Government: Climate Change Roles and Responsibilities under Victorian legislation

- **Local Government Act 2020**

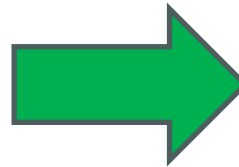
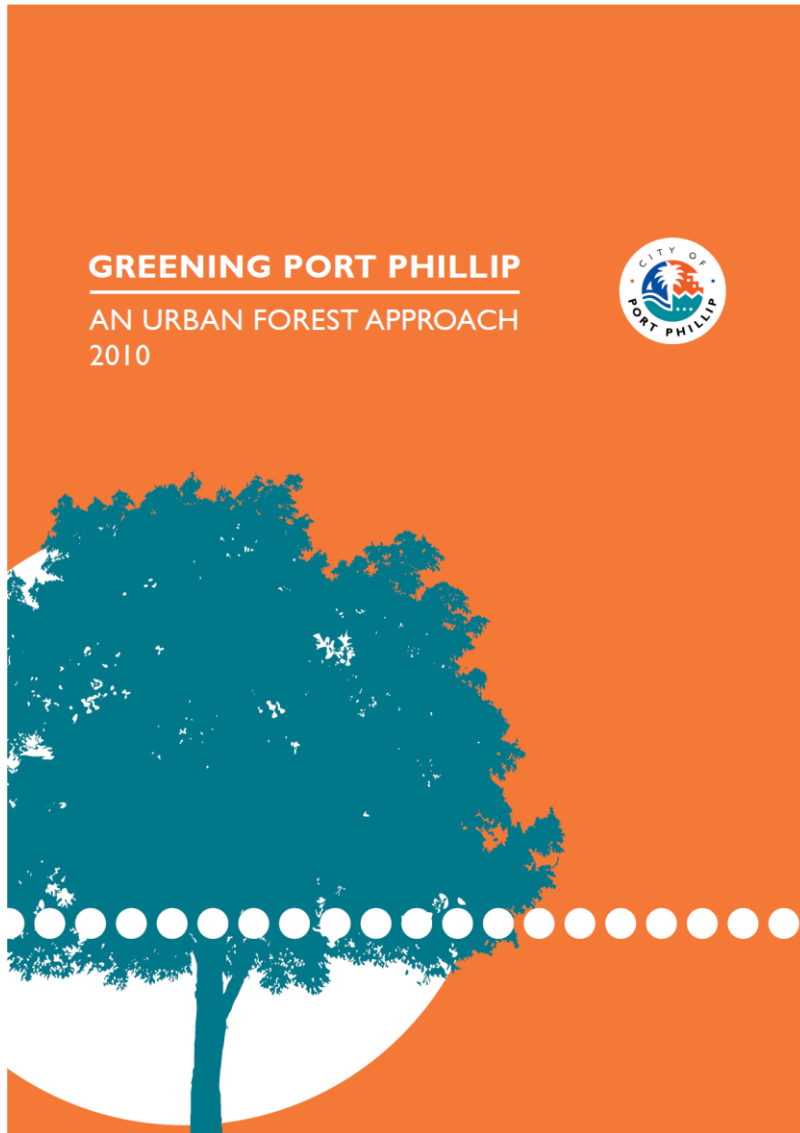
“Councils are required to promote the economic, social and environmental sustainability of the municipal district, including mitigation and planning for climate change risks.”

- **Victorian Climate Change Act 2017**

- **The Victorian Planning System**

- **Public Health and Wellbeing Act 2008: Municipal Public Health and Wellbeing Plans**

Approved by Council, 21.8.24



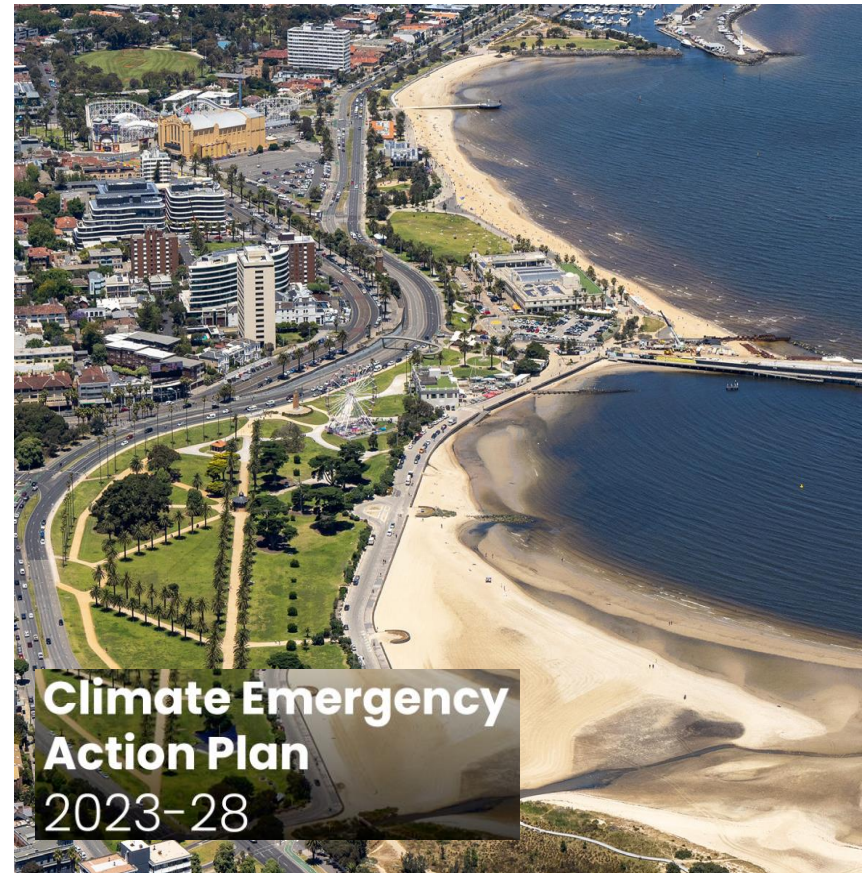
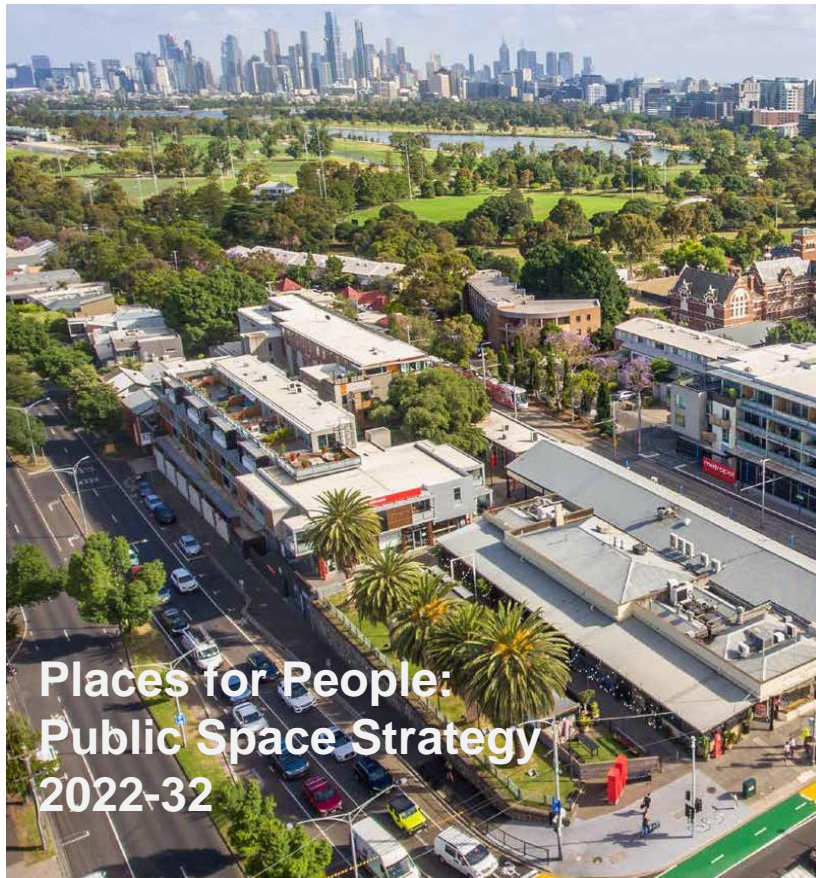
Part of a suite of related strategies...



ACT and ADAPT

Five priority areas:

1. A water sensitive city
2. A greener, cooler and more liveable city
3. A city with lower greenhouse gas emissions
4. A city that is adapting and resilient to climate change
5. A sustained reduction in waste.



What is the urban forest?

All the trees and plants on public and private land throughout the city. Collectively, these green spaces enhance the sustainability and liveability of the City of Port Phillip.



Front and back gardens



Balconies, green roofs and walls



Community gardens and plots



Street trees



Boulevards



Trees in parks and reserves



Activity centres



Biodiversity links



Street gardening



Cultural sites



Heritage sites



Iconic planting



Foreshore and hinterland



Schools



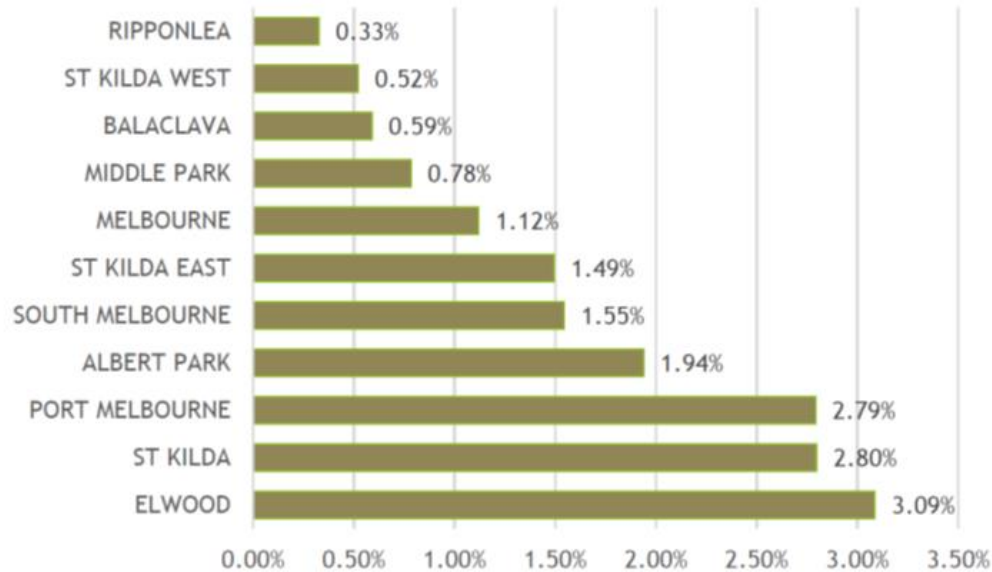
State Government land (rail, roads etc)



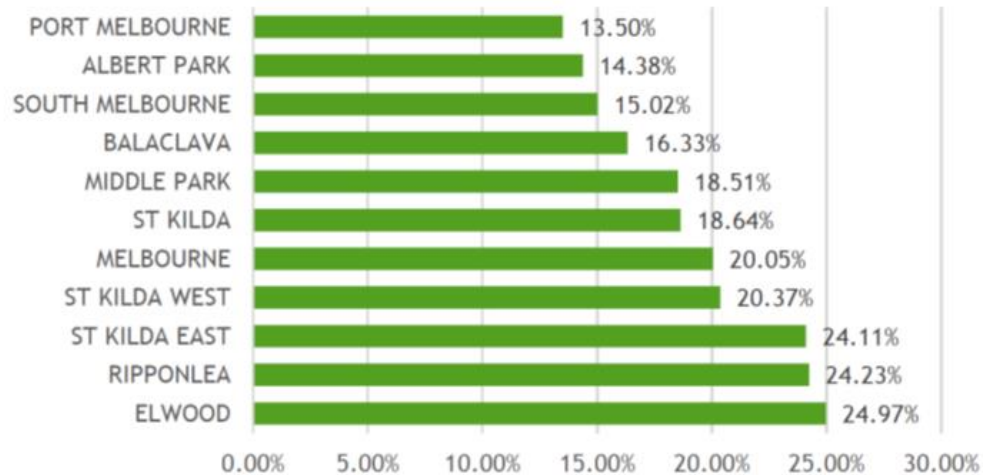
New developments

Canopy distribution across PP

Contribution to Total Canopy



Canopy Cover



Player Piano Data Analytics, May 2023

From 2010 Greening Strategy to 2024 UFS

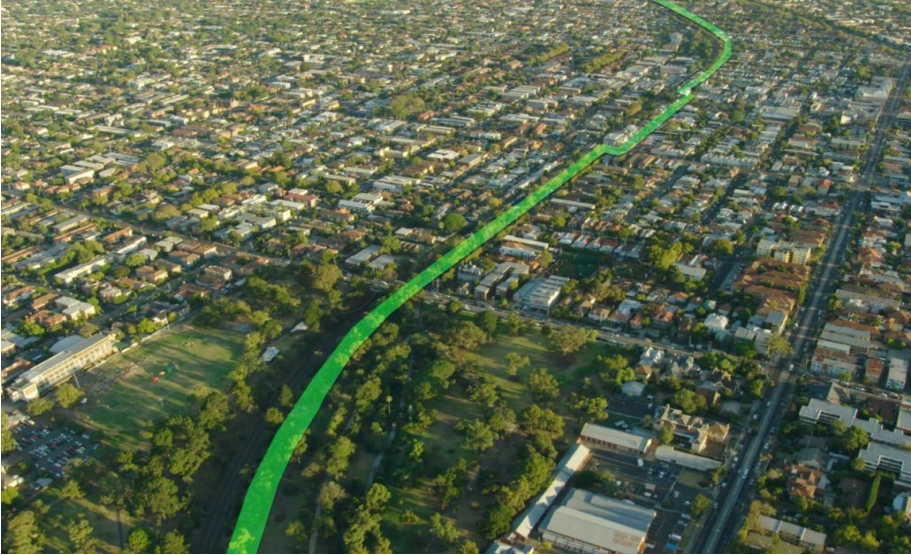
Mixed results - examples

- Small decline in canopy cover
- Main boulevards tree maintenance contract handed back to State government
- Many trees lost - currently > 800 empty tree plots
- Poor process on nature strip guidelines, but ultimately good outcome
- No progress on precinct planning
- Limited priority given to areas of highest need, social equity
- Target setting problematic
- Some positive steps e.g. Bothwell St Woody Meadow, Cruickshank Street Reserve
- Move towards better data for tree asset management, using tree species more suited to hotter and drier climates
- Good technical studies commissioned to inform UFS
- Recent progress on funding for acquisitions for public open space
- Generally good consultative and engagement processes, but officers limited by resource constraints

GREEN LINE

PROPOSAL

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- Proposal for a linear park that follows the route of the Sandringham rail corridor from Birrarung to Gardenvale Station
- Would connect existing public open space and walking paths and rehabilitate underutilised spaces – from Yarra River to the Elsternwick Nature Reserve
- Responds to long term deficiency in open space eg adjacent areas in City of Port Phillip: ~5% public open space
- After 3 years, Council deferred action and commissioned feasibility study

PECAN Community Forum (March 2024): Urban Heat or Cool Green: Shaping Port Phillip's Future Tree Canopy (with Port Phillip EcoCentre)



RESOLUTION

We call on Council to:

- Adopt a strong Urban Forest Strategy
- Fund and resource the Urban Forest Strategy to achieve 30% canopy cover by 2040
- Ensure equitable tree planting prioritisation based on tree canopy, socio-economic disadvantage, population density, urban heat island impacts, and access to public open space
- Increase protection for trees on private property, and require new developments to have open space, setbacks, deep soil zones and canopy trees.
- Seek to meet targets for tree species biodiversity

KEY ISSUES ADDRESSED IN APPROVED UFS

- Monitoring and targets
- Commitment to precinct greening plans
- Improved tree management process
- Significant tree register planned
- Diversity in plantings and biodiversity to be addressed
- Intention to plant 1,500 trees and 50,000 biodiverse vegetation annually
- \$7m in adopted budget for 2024/25 allocated to greening
- Increased emphasis on prioritisation of equitable greening
- Additional targets to be set following development of precinct plans
- Baseline data to be improved

MONITORING AND TARGETS: Increase Canopy Cover

Measure	Baseline (2022)	Target Short-term (2029)	Target Long-term (2038)
Percentage canopy cover - overall	17.17%	18%^	TBC #
Percentage canopy cover - streets (27% of all land)	25.53%	26%^	30%
Percentage canopy - private land (49% of all land)	12.45%	No reduction	No reduction
Percentage canopy cover - public space (17% of all land)	29.0%	30%^	40% canopy cover, no net loss of canopy at any individual park or reserve.
Percentage of neighbourhoods with improved canopy cover	From 2022 baseline	Increased from Baseline	Increased from 2033
Number of new canopy trees planted by Council per annum (annual measure)	800	1500*	TBC #
Number of street tree plots that are vacant (annual measure)	Establish in 2024 and set targets	Decreased from Baseline	Decreased from 2033

^ Initial canopy growth is slow as new trees take time to establish and grow.

*Tree planting numbers to be tested for potential extension after yr2.

Targets will be set alongside the development of the Urban Forest Precinct Plans

MONITORING AND TARGETS (cont'd)

Cooler and greener city

Measure	Baseline	Target Short-term (2029)	Target Long-term (2039)
% of high heat vulnerability SA1 areas with cooling and greening interventions	Port Philip has 9 high heat vulnerability (level 4 and 5) SA1 areas	100% of high heat vulnerability areas have an intervention	Re-baseline in 2029
Deliver permeable surfaces through Council's (capital/ footpath) program (report annually)	Record meters squared for future target development	De-pave 19,000sqm of non-permeable surfaces	To be set in line with Act & Adapt

Community engagement

Measure	Baseline	Target Short-term (2029)	Target Medium-term (2034)	Target Long-term (2039)
Case studies of urban forest initiatives by residential home owners and renters, developers, and community groups	Develop case studies	Continue to report	Continue to report	Continue to report
Number and type of community greening activities supported by Council	Set baseline in 2024	Continue to report	Continue to report	Continue to report

Agenda for a new Council

- 1,500 trees per year won't achieve the canopy targets.
- Canopy maturity takes between 10-15 years to achieve - plantings must be front loaded over the next 3-4 years and focused on areas of highest need
- Need to select faster growing species consistent with the biodiversity requirements
- Funding and staffing will need to be substantially increased to enable increased planting numbers each year, develop the precinct plans etc
- Current maintenance contract "not fit for purpose": still has two years to run - will need review
- The Port Phillip Planning Scheme will need to be amended to incorporate changes recommended by consultant's report on trees on private land
- Review and act on Green Line (value of integrated network of green spaces)
- Far better alignment across the various relevant strategies needed – whole of Council, whole of system approach; community engagement critical
- All of the above and more will require urgent attention by a new Council

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Explainer

From tree planting to 'sponge cities': why nature-based solutions are crucial to fighting the climate crisis

Nature could hold the key to protecting humanity as the planet heats, but scientists say it is still an underused option



Villagers join university students planting saplings as part of a mangrove replanting programme in Indonesia. Photograph: Chaideer Mahyuddin/AFP/Getty Images

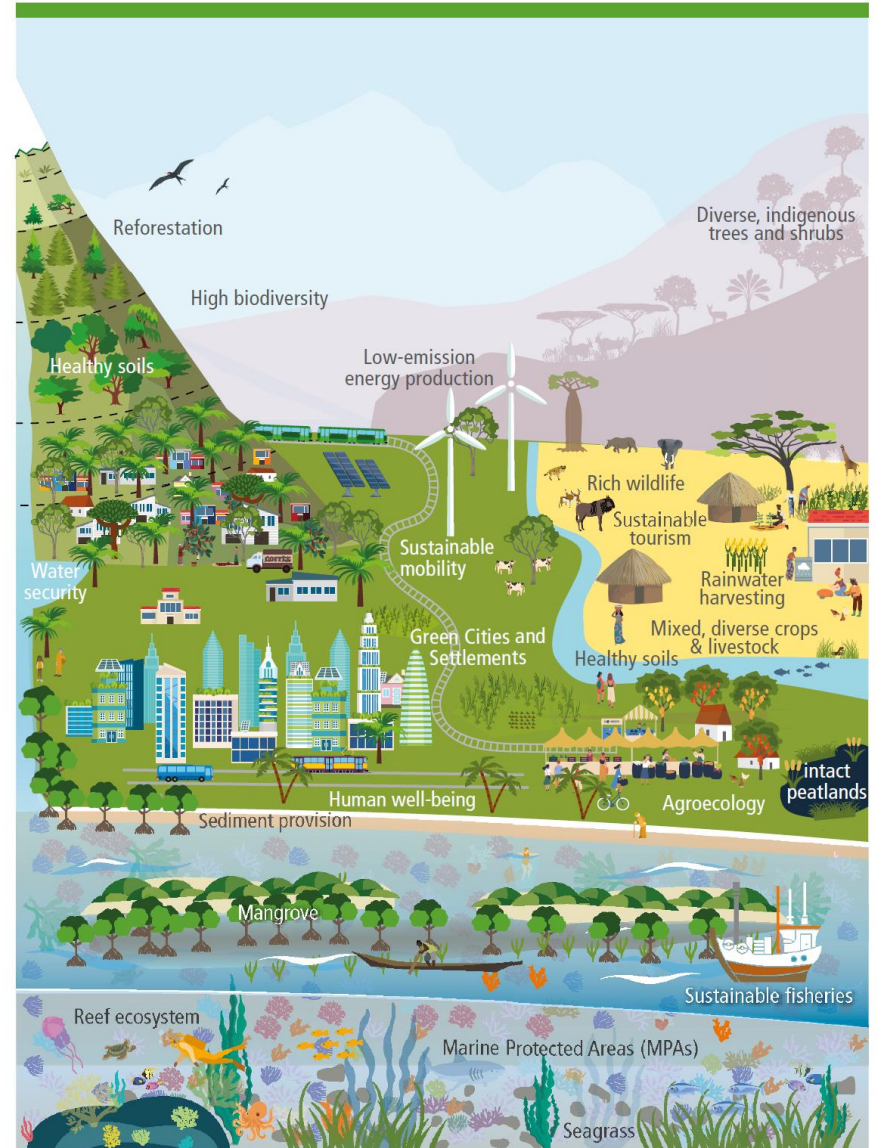
The city of the future is a green city

Ecosystem health influences prospects for climate resilient development

(a) Human activities that degrade ecosystems also drive global warming and negatively impact nature and people



(b) Human activities that protect, conserve and restore ecosystems contribute to climate resilient development





“...By transforming how we view nature, we can recognize its true value. By reflecting this value in policies, plans and economic systems, we can channel investments into activities that restore nature and are rewarded for it. By recognizing nature as an indispensable ally, we can unleash human ingenuity in the service of sustainability and secure our own health and well-being alongside that of the planet....”