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AUSTRALIAN INSTITUTE OF LANDSCAPE ARCHITECTS (AILA)
SUBMISSION IN SUPPORT OF CLIMATE AND LANDSCAPE
SENSITIVE MANAGEMENT OF UTILITIES/ PROTECTING THE URBAN FOREST

Attn. Premier of NSW

The Hon. (Chris) Christopher John Minns MP

CC. Treasurer,
Assistant Treasurer and Minister for Financial Services,
Minister for Climate Change, Energy, the Environment & Heritage
Minister for Western Sydney, Education & Early Learning
Minister for Planning and Public Spaces
Minister for Local Government
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Building, Corrections, Better Regulation & Fair Trading
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Minister for Families & Communities; Disability Inclusion
Minister for Communications
Leader of the Opposition
Shadow Minister for Energy & Climate Change; Customer Service
& Digital
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Ausgrid
Managing Director, Country Energy
Pacific Power
CEO, Endeavour Energy
CEO, Essential Energy

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EXECUTIVE SUMMARY

Challenge: How do we conserve and reinforce the urban forest?

Tree conservation was the basis of the formation of the National Trust and the environmental conservation movement¹ in Australia, yet the environment and heritage of New South Wales are negatively impacted by energy, telecommunications, and road **infrastructure**. Protecting existing urban tree canopies, and increasing their area and vitality, are critical actions to reduce climate risk and harm to human health. Pressure



¹ [Correy, Allan, 1972 'Trees in streets rethought' for the Environment Committee RAI A NSW](#)



to increase housing density means now even more urban trees are destroyed, just when we need them most. Poor roadside tree management increases the economic and environmental waste, carbon emissions and distress to the people of NSW.

Solution: A coordinated approach.



International and interstate models demonstrate better outcomes that protect the urban forest through policy and design. These outcomes are linked to economic and health benefits for the environment, for residents and for visitors. A refreshing and impressive example is the Singapore Urban Development Authority and National Parks Board 'City in Nature' approach; long-term thinking, investing great civic pride in their trees, funding substantial protection, cable bundling & undergrounding, tree pruning and transplanting. Their arborists are highly regarded.

AILA proposes to lead a similar transformation in NSW;

1. **Landscape leadership:** AILA² is willing to lead the formation of a coalition towards the realisation of a broad, overarching strategy to coordinate judicious management of utilities near existing vegetation.
2. **Recognise and protect significant roadside trees:** All three levels of Government and Utility Agencies are encouraged to fund research towards listing and management plans.
3. **Strategic partnerships:** NSW Government and Utility providers are encouraged to double down efforts to reduce waste and emissions;
 - Retain and transform the urban forest through improved tree policy, management, bundled cabling and undergrounding (Australian Federal climate change fund Greening Our Cities,
 - Living Infrastructure Plan, NSW GreenGrid Metropolitan Greenspace Program)
 - Co-fund integrated upscaling of improved practices (Ausgrid)
 - Innovate to meet environmental targets (Endeavour Energy) and
 - Apply machine learning technology to strategic planning (Essential Energy)
4. **AILA can lead and facilitate innovative advances:** AILA has the capacity to;
 - Host forums to target funds: e.g. Climate Ready Australia - Alliance of Peaks
 - Propose new Australian Standards and update pruning regulation for climate and landscape heritage sensitivity
 - Guide work to embed best tree management practice in new DCPs, LEPs and SEPPs and
 - Regulate Registered Landscape Architect oversight of plans for tree management, cable bundling and undergrounding.

AILA is the organisation to work with you to research and guide a coordinated, transformative advancement of the urban forest. Investment in this well-considered strategy for urban infrastructure will conserve the forest we have, and integrate it with the urban and suburban environments, to create civic pride in the management of the landscape heritage of NSW and exceed environmental targets.



²Overview of AILA : AILA is a dynamic and respected peak organisation. AILA champions quality design for public open spaces, stronger communities and greater environmental stewardship. With our members, we anticipate and develop a leading position on issues of concern in landscape architecture. Alongside government and allied professions, we work to improve the design, planning and management of the natural and built environment.

³What is landscape heritage? It is the cultural, historical, and ecological significance of a particular landscape. It encompasses natural features, human-built structures, and the interplay between the two, reflecting the history, traditions, and values of a community. Landscape heritage is rarely preserved and must be conserved to maintain cultural continuity and promote an understanding of the past, fostering a sense of identity and connection to the land.

PREFACE

AILA pays respect to the traditional owners of the land to which this proposal relates.

The Australian Institute of Landscape Architects (AILA) is the peak national body for Landscape Architecture. The Australian Institute of Landscape Architects (AILA) leads a dynamic and respected profession: **creating great places to support healthy communities and a sustainable planet.**

A central purpose of the AILA (NSW) Landscape Heritage Committee is to inform, inspire and enrich the culture of the discipline of Landscape Architecture in Australia and particularly the identification and understanding of both natural and cultural landscapes in NSW together with the role of such knowledge in the processes of planning and design.

STATEMENT

AILA welcomed the [6th International Panel on Climate Change \(IPCC\) AR6 synthesis report in March 2023](#) and its compelling argument for the conservation and protection of existing trees. AILA holds Climate Positive Design as a key mission and value, declaring [a Climate and Biodiversity Loss Emergency](#) in August 2019, leading to the development of a [Carbon Positive Design Position Statement](#) and [guiding documents](#) released in October 2022. In conjunction with Standards Australia, From its 2019 Green Infrastructure Position Paper, AILA developed [Urban Green Infrastructure Planning and Decision Framework](#), continuing the work of AS5334-2103 *the National Climate Change Adaptation Standard for Settlement & Infrastructure*, containing the first nationally accepted definition of 'green infrastructure' as a sector. AILA advocates for initiatives like Living Infrastructure Plans, Greening our Cities and the Metropolitan Greenspace Program.

In tandem with the carbon and biodiversity goals, AILA values knowledge-diversity and inclusion. Inclusive design and management encompass all facets of human connection with the environment, including respecting Connection with Country², cultural landscape heritage value, relating to most existing trees in our urban and rural streetscapes. Where existing tree canopies

² Connecting with Country Framework, Government Architect Indigenous NSW.
<https://www.governmentarchitect.nsw.gov.au/projects/designing-with-country>



and maintenance of safety clearances around aerial cables are competing, the trees are often severely pruned to strip back its canopy resulting in severed, disfigured limbs. The result is abnormal growth, loss of visual appeal and declining health of these trees and increasing service and maintenance costs to the utility providers.

Our members are concerned that current street tree pruning practices are not aligned with worldwide efforts to store carbon, cool urban environments, and enhance landscape heritage. As designers and managers of the landscape, we see an opportunity to contribute to the improvement of this management practice. We are obligated to do so.



Figure 1. King George V Avenue of Memorial English Oaks CMP 2016 Conybeare Morrison International, Context Landscape Design & Earthscape Horticultural Services Context Photo: A Morton



Figure 2. Inner West Council LGA. Photo: I Mather (Left) Aggressive pruning, Goodhope St, Paddington. Photo H Armstrong (Right)



BACKGROUND

AILA notes the IPCC report concern over land clearing in NSW at a rate of 50 million trees per year. The Climate Emergency is increasingly now recognised by relevant authorities.

AILA is concerned with how this is being reconciled with current 'business as usual' (BAU) practices in the provision of energy, telecommunications and road infrastructure, such as excessive and injudicious tree pruning to protect safety clearances from overhead wires³. To meet the requirements of the *Standard ISSC3 : Nov 2016*, pruning results in widespread and major mutilation of tree form, with cumulative destructive impacts on the visual amenity and health of trees, the streetscape, the environment, the atmosphere and human health and wellbeing.

This conflict in establishing and maintaining meaningful mature street trees that can host large healthy canopies, which has become one of the best methods in tackling climate change, also undermines environmental initiatives. An example is the 'Green Neighbourhood[2]' program proposed by the NSW Government, to achieve a targeted 40% urban tree canopy coverage across the Greater Sydney metropolitan area by 2036. AILA considers this merits re-examining, as a priority.

The impacts can be considered in multiple ways;

1) Carbon emissions

- a) Injudicious pruning around overhead wires is contributing to carbon emissions by CO₂ release to the atmosphere of captured and stored CO₂.
- b) It is estimated that the inner-city tree population of Melbourne, Australia (~100,000 trees) had sequestered more than one million tonnes of carbon since they were planted⁴. Incremental effects of state-wide pruning must be measured and considered in efforts to systematically reduce carbon emissions.
- c) Existing and new trees are more efficient at capturing and storing carbon than geoengineering solutions like inverters.

2) Environmental effects

- a) Loss of canopy shade contributes to the urban heat island effect, impacting all species of life, including human health and quality of life;
- b) Injudicious pruning diminishes noise abatement functions of street trees significantly;
- c) Habitat loss may not be considered in pruning around energy and Telco (Telstra, NBN and Optus) cables;

³ Urban Tree Protection in Australia: Review of regulatory matters, Recommendation 6., p. 58-9

⁴ Moore (2009) in Beecham and Lucke, 2018, 'Street trees in paved urban environments : the benefits and challenges, in Treenet



- d) Repetitive, severe pruning/lopping degrades tree health through poor arboricultural practice resulting in compromised public safety (particularly in extreme weather conditions) poor form and stressing of trees, making them more subject to pests and diseases.

3) Economic effects

- a) Extensive and severe pruning comes at significant economic costs, worth re-examining;
- b) Extensive and severe pruning destroys the scenic beauty of places where scenery is an economic asset valued by local communities and contributes to tourism economies;
- c) Council budgets are stretched with repairs to recent fire and flood damage. AILA urges proactive seeking and securing of co-funding arrangements for Councils and Energy Utility Agencies with;
 - i) State and Federal authorities, and
 - ii) Public and private utility providers.

4) Psychological effects

- a) Poor pruning contributes to psychological distress, where loved avenues of trees are butchered and made dysfunctional
- b) Connection with Country principles and cultural landscape heritage are threatened by disrespectful and insensitive utility service design and management.
- c) Connection with nature, now recognised as a health benefit⁵, is no longer afforded by large established trees which are mutilated or replaced with small trees.

Council Limitations.

The Local Government Act empowers Councils to manage street trees but does not ensure protection, which depends on jurisdiction of the land it sits on; if visibility is adequate, if the tree is not in a road where *The Roads Act* has delegation to remove trees. Most trees are owned by Local Government yet State Government projects override Council control. Most Councils do not want to find another operator to upgrade their assets. Asset Protection Zones against bushfire apply in metropolitan areas, further limiting 'urban forest' conservation. Safety and cost to utilities trumps offsetting and different legislation guidelines.

A recent study by Gallagher Studio & Studio Zanardo for NSW DPIE to improve tree canopy outcomes, recommends reviewing the impacts of energy providers and empowering Council management of street trees under power lines, citing the adoption of this approach by the State

⁵ Feng X, Navakatikyan MA, Toms R, Astell-Burt T. 2023, 'Leafier Communities, Healthier Hearts: An Australian Cohort Study of 104,725 Adults Tracking Cardiovascular Events and Mortality Across 10 Years of Linked Health Data' *Heart Lung and Circulation*32(1):105-113 1 Jan



of Victoria as an example⁶. In Victoria, success may also be attributed to the observation that development assessment decision making is typically by Council selected qualified arborists as opposed to NSW where decisions determining development assessments are made occasionally by Tree Management Officers or, usually, by Council planners⁷. Other reasons for better outcomes elsewhere may be stronger protections afforded by Local Planning Schemes controls, such as those in Victoria; the Heritage Overlay, the Significant Landscape Overlay, Environmental Significance Overlay or the Vegetation Protection Overlay or a combination of these⁸.

A Street Tree Master Plan is merely a 'nice to have', not enforceable or regulated, and Significant Trees listed as registered objects are overridden by planning conditions that allow 'two for one' replacement.

The IPCC Report indicates this is no longer a sustainable approach as the time to mature negates the claimed benefit of replacing existing trees⁹. Councils must seek a higher level of legislative protection, case by case High Court overrides or redesign to avoid tree clearing. EP&A Act preservation orders have been weakened in section 9.5 and 10 and repealed in the SEPP. A DCP for the protection of street trees is needed.

In the renewable energy zone (REZ) sector, the tension between rapid, cost effective transition and social licence for large-scale transmission projects is considerable. To meet landholder and stakeholder expectations, best practice guidance at industry level is required.

SOLUTIONS

Initiatives that seek to address or prevent these impacts are emerging:

CASE STUDY 1: Singapore: City in Nature

In Singapore, since its independence in 1965, the former late Prime Minister Lee Kuan Yew had enforced, top-down, a "Garden City" concept for the country (incorporating both Ebenezer Howard's Garden City and Le Corbusier's La Ville Radieuse), inviting a contingent from the United Nations to come up with the first master plan for the country. In addition, the National Parks Board or NParks was set up as a government agency with a mandate to make this Garden City happen. The "Garden City" concept has since morphed into a "City in a Garden" and now it is a "City in Nature". With this top-down approach, utility cables were planned to be underground at the outset of the development of "New Towns", while existing cables were gradually being channelled underground.

⁶ GallagherStudio and StudioZanardo for NSW DPIE. 2021, Urban Tree Canopy Targets and Development Controls p.68

⁷ *Urban tree protection in Australia :Review of regulatory matters - A report for the South Australian Attorney Generals Department Planning and Land Use Services* .prepared by Belder, R.L., Delaporte, K. D., & S. Caddy- Retalic, May 2022. Appendix 7

⁸ *Landscapes of Cultural Heritage Significance: Assessment Guidelines*, Heritage Council of Victoria February 2015 2.4.4 p 31

⁹ Mark Lampard, Grid Modernisation leader, AECOM Aust & NZ. Renewable Energy Zones key to accelerating our energy transition, in 'Infrastructure', AECOM. (no date) <https://aecom.com/without-limits/article/renewable-energy-zones-key-to-accelerating-our-energy-transition/>



Policy to implement long-term thinking

Long-term urban planning for the greening of Singapore began around 1963¹⁰, with a top-down directive supported by government attracting UN expertise to planning teams and awarding scholarships to agencies for masters study. This led to National Parks (NParks) being the most highly regarded and powerful agency after Urban Development. With this foundation, strong conservation strategies, enshrined in Acts from the Singapore Statutes, emerged 30 years later. The key Acts were;

1. National Parks Board Act 1996: <https://sso.agc.gov.sg/Act/NPBA1996>
2. Parks and Trees Act 2005: <https://sso.agc.gov.sg/Act/PTA2005>

Part 3 of the former lists the functions and power of the National Parks Board, in particular with managing flora and fauna. The latter consists of statutes that are quite stringent in protecting existing trees. Of interest is Part 4, Conservation of Trees and Plants, Divisions 1 and 2, and Part 2 Planting areas, Public Open Spaces and Green Verges, Divisions 1 and 3.

For tree conservation areas, *"No cutting or damaging of tree having girth of more than one metre"* means that *"a person who contravenes subsection (1) or damages any tree mentioned in that subsection shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000."*

Heritage Roads are of a separate category and is more stringent. Refer to Part 4, Division 2, Section 17, "No cutting or damaging of tree or plant in heritage road green buffer"

"18.—(1) Subject to subsection (4), a person must not, except with the approval of the Commissioner granted under section 20 and in accordance with the terms and conditions of such approval, cut any tree or plant within a heritage road green buffer.

(2) A person who contravenes subsection (1) or damages any tree or plant within a heritage road green buffer shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000.

(3) In determining the amount of fine to be imposed on a person convicted of an offence under subsection (2), the court is to, in particular, have regard to any financial benefit which has accrued or appears likely to accrue to the person in consequence of the offence.

(4) No approval mentioned in subsection (1) is required where —

(a) the tree or plant is determined by the Commissioner as dying or dead; or

(b) the condition of the tree or plant constitutes an immediate threat to life or property."

'City in Nature' defining strategy – the Heritage Road Scheme

Established in 2001, the Heritage Road Scheme, has protected and managed extraordinarily breathtaking natural environments of mature trees, to form living tunnels of continuous verdant canopy over significant roads. These places, proudly described as having 'green ambiance', are

¹⁰ SG101, Thinking Long-term, Nexus <https://www.sg101.gov.sg/infrastructure/urban-planning/longterm/>



the result of dedicated care and growth generated by the Heritage Road Green Buffer provision in accordance with Singapore Parks and Trees Act 2005. Five such roads were gazetted in 2006¹¹.



Figure 3. Mandai Road, Singapore. Heritage carriageway constructed in 1855 is protected by a Heritage Road Green Buffer provision of the Parks & Trees Act 2005. National Parks, Singapore.

Australian Landscape Architecture firm, Context, led by Oi Choong, designed cultural heritage landscape projects for the Urban Development Authority and National Parks Board in Singapore for over a decade and had firsthand experience of their very thorough tree management and tree protection practices: *'Their focus on a landscape-led approach to all their development and public domain projects was most refreshing and impressive. A large part of this approach is to invest great civic pride in their trees, and that arborists are highly regarded.*

'On our Empress Place Esplanade Park enhancement project, NParks was willing to invest over \$3 million relocating just 5 mature rain trees (each weighing over 6 tonnes) affected by road widening.

This being said, tropical trees are more resilient to drastic pruning and transplanting than our native trees.

'Locally, (NSW State treasury, Greater Cities Commission and) local Councils should look to Waverley Council's approach of using a small amount of dedicated funds to underground wires and plant new street trees every year, street by street . After 20 years, the cumulative impact is transformative.^{12'}

Transformative policy, approaches and arboricare in Australia

In the Australian Capital Territory (ACT), Canberra's Urban Forest Strategy 2021-2045¹³ has been developed to align with the ACT Planning Strategy 2018, the ACT Climate Change Strategy 2019-2025 and the Living Infrastructure Plan. 2020 LiDAR has revealed Canberra's tree canopy cover is 22.5%¹⁴. To meet the 30% tree canopy target as part of the Living Infrastructure Plan, the *Urban Forest Act 2023* replaces the *Tree Protection Act 2005*, offering greater protection to trees at least 8 metres, rather than former minimum 12m height, or with a circumference of at least 1 metre, formerly 1.5 metres. Other measures are; to include protection of dead trees for habitat, the classification of trees on public land, to require canopy replacement when removing protected trees or, if not possible, payment in lieu, to require a tree management plan where trees are impacted by development, to hold bonds to ensure trees are not damaged during construction,

¹¹ Heritage Roads Scheme, National Parks, Singapore <https://www.nparks.gov.sg/gardens-parks-and-nature/heritage-roads>

¹² Oi Choong pers. comm

¹³ <https://www.cityservices.act.gov.au/trees-and-nature/trees/urban-forest-strategy>

¹⁴ <https://www.cityservices.act.gov.au/trees-and-nature/trees/canopy-cover>



to increase penalties for damaging protected trees, and to expand the ACT significant tree register. A Tree Advisory Panel¹⁵ assesses applications to undertake damaging activities, additions to, and removals from the register and advises the Conservator of Flora and Fauna on tree protection matters under the *Urban Forest Act 2023*. Videos about the tree register offer examples of significant trees nominated by citizens. A descendent of colonial settlers, Henry Hall and Mary Fisher, used the register to protect historic windbreaks of osage orange, planted around 1833, now surrounded by suburban development.



Figure 4. ACT tree register : Mark Stockall on 'Ancient Olives and Osage Oranges in Fraser'¹⁶.

The drafting of a similar Living Infrastructure Plan and new Urban Forest legislation in New South Wales must consider the benefits of protecting the existing urban forest canopy afforded by laying transmission cables underground or bundling them together to reduce the impact of safety clearance zones, and improved pruning methods, prior to proposing planting schemes and offsets. Existing trees can be better protected from damage and destruction with good practice arboriculture.

Attempts to underground existing power lines were explored by the NSW Government in the early 2000s, but support was not unanimous due to the high project cost, and difficulty quantifying benefits such as visual amenities. The Tribunal which assessed this proposal recommended a 'beneficiary pays approach' whereby 60% of the cost would be covered by the communities through local government charges, whilst also recommending 'local communities that place a relatively low value on local environment and amenity benefits such as views be able to opt out of the program[1]'. As a result, the majority of suburbs, particularly lower income suburbs, retained existing overhead power infrastructures.

Undergrounding should be implemented where possible, based on State Government assessments that are beginning to quantify the canopy, then measure the impact in all types of economic value (carbon, shade, visual amenity, health etc)¹⁷. At \$100,000/m², \$1M for an intersection, \$80,000 per span, the cost of undergrounding can be prohibitive for Councils, even if the financial benefit of trees is considered. Undergrounding is difficult to achieve due to the disruption to public and business use of the street and the sharing of road reserve service provision entails increased coordination of infrastructure, power and telcos, costing around \$150 000. Once complete, future root growth can cause further issues¹⁸. Despite the constraints, a successful

¹⁵ https://www.cityservices.act.gov.au/_data/assets/pdf_file/0004/1068673/TAP-Terms-Of-Reference.pdf

¹⁶ <https://www.youtube.com/watch?v=Elo0Sy2gyXI&t=90s>

¹⁷ Urban Green Infrastructure Handbook

¹⁸ Nature Positive Sydney Report Committee for Sydney February 2023 p.48.



undergrounding retrofit is demonstrated in Windsor where the heritage significance of the urban landscape is paramount.



Figure 5. Services are now underground in Windsor town centre.

Aerial bundling of cables (ABC) minimises the impacts of clearances on tree canopies and allows large scale trees to remain relatively intact, with greater areas of shade and volumes of cooling effect. Large trees are directionally pruned to safely coexist with aerial cables. Case studies exist to exemplify ABC in Woollahra and Rose Bay.



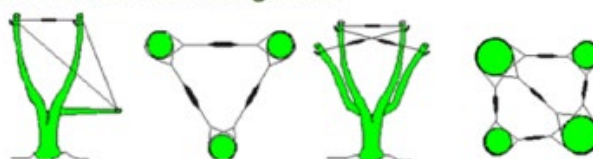
Figure 6. ABC in Woollahra. Photos: H. Armstrong

Mandatory tree management standards should be implemented. This might include: root mapping and remediation, using the Cobra method to brace weakened branches, and selective pruning. The Cobra method is a dynamic tree support system specially designed to be strong, gentle, flexible and shock-absorbing, resulting from scientific research.¹⁹ Maintenance of healthy trees could be strengthened by insect and weed control, fertilising and installing electronically monitored irrigation. The underlying question is : Who is responsible for the cost?

¹⁹ https://www.brisbanetreeexperts.com.au/uploads/cobra_us_brochure



Best Practice Tree Management



cobra - dynamic tree support system specially designed to be strong, gentle, flexible and shock-absorbing resulting from scientific research.

Figure 7. ABC and Cobra bracing of weakened branches, Saving Sydney's Trees²⁰

Analysis of carbon-sequestration and life-cycle in tree management can lead to innovative, well-funded programs. An idea developed in San Francisco²¹, through the Presidio Graduate School Urban Forest Wood Re-Use Study, recommends wood processed by felling limbs be made available for the production of arts and crafts, to align with broad sustainability goals for the city. In Victoria, the Melbourne Guild of Fine Woodworking applied this idea, by partnering with the City of Melbourne - Urban Forest Strategy, Knox and Hume Councils, Melbourne University and Royal Botanic Gardens, to enable the transformation of landmark trees into sculpture and finely crafted furniture²². Urban Tree Repurposing Guidelines developed for Greater Dandenong Council, Victoria are available to arborists and tree managers for best practice decision-making^{23 24}. Sales from Melbourne City's Highest and Best Use (HABU) timber repurposing programs contribute to the Urban Forest Fund for greening projects across the city. Both the Singaporean and Victorian strategies indicate that highly educated expertise, both top-down and bottom-up can be nourished within Government Agencies to drive, finance, and deliver effective urban greening outcomes.

Targeted grants, can be co-funded by all levels of government in partnership with Utilities, for each approach:

- a) undergrounding,
- b) bundling and
- c) tree management.

In the REZ sector, companies like AECOM are looking to partner with education institutions and industry-specific programs to solve resourcing challenges such as upscaling the number of people

²⁰ www.treestuff.com > Rope > Cabling & Winch

²¹ Authors: Dirrenberger, J., C. Dorsey, R. Miller & S. O'Claire

<https://www.presidio.edu/blog/a-walk-through-the-urban-forest-san-francisco-looks-to-pgs-for-guidance/> Presidio Graduate School see also : Presidian Spring 2014: Theory to Action

²² Australian Wood Review 2 May 2023: 'Waste Wanted : salvaged wood on sale' <https://www.woodreview.com.au/news/waste-wanted-salvaged-wood-on-sale>

²³ "Better Best Practice Note: Repurposing Felled Trees" https://www.loci.melbourne/data/documents/8BBPN-Repurposing-Trees-4pp-1Dec17_1.pdf

²⁴ Urban Tree re purposing guidelines design (A5935393), Urban Forest Consulting and Agroforestry Insight (Bambra Agroforestry Farm)



working on electrical infrastructure projects ²⁵. Education around carbon positive and heritage sensitive planning, cable bundling and management of trees could be integral to electrical transmission planning and education programs.

Providers are encouraged to engage and respond.

²⁵ Mark Lampard, Grid Modernisation leader, AECOM Aust & NZ. Renewable Energy Zones key to accelerating our energy transition, in 'Infrastructure', AECOM. (no date) <https://aecom.com/without-limits/article/renewable-energy-zones-key-to-accelerating-our-energy-transition/>



CASE STUDY 2: Ausgrid Funding Opportunities

Since 2000, Ausgrid has installed more than 1500km of low voltage ABC, making up just over 22% of the low voltage overhead network, at a tenth of the cost of undergrounding.

Pleasingly, in October 2022, Ausgrid recently announced a new intention to support Local Government Authorities by co-funding to undertake aerial bundling instead of mutilating trees. AILA congratulates Ausgrid for its objective to reduce urban heat and support climate resilience through its commitment of several million towards improving tree pruning through co-funding ABC programs.²⁶

In May 2022 Ausgrid internally approved a new initiative to utilise ABC for all future installation, extensions, and replacements of existing low voltage lines greater than one span.²⁷

In October 2022 –Ausgrid announced a \$20.8 million initiative, as part of its draft plan for 2024-29, to replace existing powerlines with ABC in 50% contributions to joint ventures with local government and 70% contributions to priority Councils.²⁸

Ausgrid has only recently applied to the Australian Energy Regulator for a co-funding scheme involving Aerial Bundled Cabling with Councils. This proposal is currently under assessment and, if approved, will commence for the funding period in 2024-2029.

This means that no initiatives have yet taken place. Councils have been informed that this is pending. Further consultation and co-design of how portions of the network will be targeted for ABC is yet to be determined in full. Overhead network that only hosts low-voltage wires are being targeted for the ABC program. Streets that host both High Voltage (11kV or higher) and low voltage won't be applicable for the scheme.

Ausgrid will continue to engage with Councils to have Councils commit to the ABC program. Under the proposed model, some Councils that have low urban canopy and a low proportion of ABC in their overhead network would be able to access priority funding, in which Ausgrid would contribute higher than 50%. Councils will supply their proof of approval to proceed, and financial capacity to proceed in the co-investment of ABC in targeted urban environments.

The funding model is approved by the regulator and Ausgrid are bound to uphold those expenditures and cost-sharing arrangements. Councils have up to 3 years to secure funding sources, either through their own funding approval processes, or perhaps through a grant funding source. Councils requiring additional support may aim to seek funding from the NSW Government, which has ambitious urban greening targets.

²⁶ Bolger, R. 2022 <https://www.abc.net.au/news/2022-10-18/pruning-street-trees-around-powerlines-ausgrid-compromise/101538168>

²⁷ Pers. comm with AILA Urban Design committee member.

²⁸ Nature Positive Sydney Report Committee for Sydney February 2023 p.48



CASE STUDY 3: Endeavour Energy's capacity to innovate to meet targets

Endeavour Energy has stated the following 8 objectives that relate to this submission:

- expanding its **low impact vegetation management**,
- **reducing waste** to landfill and
- identifying new revenue streams and **cost reduction to existing operations**,
- new Environmental Impact Assessment (**EIS**) **procedure** for all future contracts and projects,
- engaging in **more circulatory** supply chain,
- regenerating 50% **more habitat** by 2025 compared to 2021
- **diverting 90% all waste** from landfills by 2025
- developing a **net zero emission roadmap**
- 40% **emission reduction** by 2030

Co-funding of improved tree pruning practices, aerial bundling and undergrounding programs in New South Wales could achieve **more than half** of Endeavour Energy's 15 key milestones/achievement targets by;

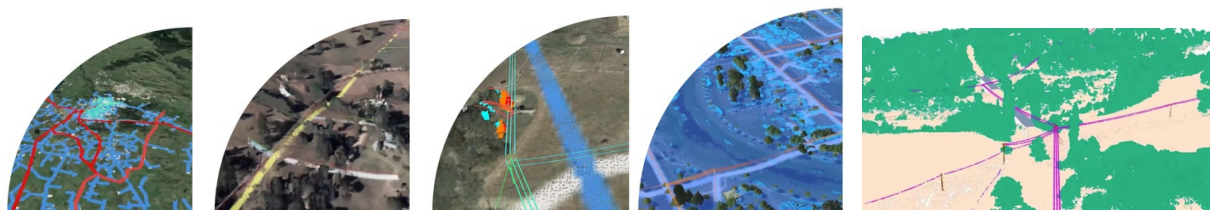
- reducing impacts to existing vegetation,
- reducing total pruning waste,
- reducing cost of servicing line clearances,
- improving process for Environmental Impact Assessment,
- retaining and protecting existing vegetation as a fundamental to circularity,
- retaining and protecting existing habitat, which eliminates the need to wait for the regenerative effects of offsets elsewhere,
- reducing the total waste generated by injudicious pruning
- reducing the emissions caused by plant and equipment; cherry pickers, pruning machinery, shred/chip/mulching processes, truck movements.
- retaining embedded energy in existing urban forest, while reducing carbon emitting maintenance of clearances



CASE STUDY 4: Essential Energy harnessing machine learning to interact with 3D models for improved outcomes

Essential Energy, in contrast, is beginning to contribute to reaching targets set by others, by strategically analysing risk management, resilience, and energy efficiency;

- Participating in NSW Government's Net Zero Plan Stage 1 2020-2030 pilot program
- Identifying and addressing key climate risks through modelling into 2050, 2070 and 2090
- Building climate resilience partnerships and futureproofing assets
- Building alternative energy solutions and more responsive energy/infrastructure recovery frameworks
- Facilitating net zero transitions through adoption of EV and optimising network grid
- Reducing line lost energy leading to indirect greenhouse emission
- Essential Energy have not yet set milestones or targets like Endeavour Energy but progress will be assessed again in 2029.
- Partnered with Neara to develop a three dimensional digital model of the network across 900,000 homes and businesses, used to optimise post 2019/20 Bushfire recovery²⁹;
 - *"The modelling provided significant benefits to the rebuilding of the electricity network across the South Coast of NSW following the 2019/2020 Bushfire Season. The devastating fires resulted in the need to rebuild more than 3,200 power poles and electrical infrastructure. However, rather than build the network as it was prior to the fires, the modelling allowed us to optimise the rebuild, taking into consideration ground clearances, efficiency gains, resilience opportunities and best outcomes for local communities."*³⁰



By applying the capability of their existing digital twin model, Essential Energy could strategically identify areas suitable for improved vegetation management, cable bundling and undergrounding. Again, the three approaches could be integrated in strategic planning by Essential Energy.

²⁹ Packham, C. 2023, How AI unlocked capacity across NSW's energy grid. *Australian Financial Review* February 22, 2023. <https://www.afr.com/companies/energy/how-ai-unlocked-capacity-across-nsw-s-energy-grid-20230222-p5cmkj>

³⁰ Essential Energy website



CASE STUDY 5: New Standards - Inner West Council, NSW

Inner West Council has a new Tree DCP on Exhibition which goes some way to address the issues in their jurisdiction.

While these two initiatives are commendable, local government limitations are reflected in a motion put by Councillor Scully to City of Sydney calling for State Government support and for other Utilities to implement similar co-funding programs across NSW³¹. **The current ad hoc improvement is a problem.** Ausgrid is only one of several providers and its program does not extend throughout Western Sydney. Vegetation Management Plans are split across asset classes. ***Two impactful solutions are offered: change the ISSC3 Standard and co-fund integrated upscaling of improved practices.***

A more comprehensive State-wide strategy, with targeted Federal and private utility provider support could be coordinated for all three approaches: tree pruning near utilities, aerial bundling programs and strategic plans for undergrounding. Funding could also be directed to mapping, to determine target areas and allocate a timeline. State Design Review Panels could be optimised in support of this coordinated approach and the role of State Significant overrides could be managed.

Opportunities to upscale

Further opportunities that incentivise and scale up strategies for climate change are Emissions Reduction Funds (ERF), with the aim to reduce emissions and waste for climate change. Protection of the existing tree canopy through innovative vegetation management technology and practices, such as bundling or undergrounding services programs may be eligible for these funding streams.

Refer to Appendix 1. for a list of potential funding sources, we have identified.

Additional Benefits of a well-funded, widespread, coordinated approach, based on data

Need to become a world leader in saving and growing trees for human health

Research in UK in the mid-2010s found a statistically significant association of lower mortality in areas with higher area density of natural environment³², Doctors for the Environment advocate for nature prescribing and in March 2023 published their report, Trees, the Forgotten Heroes of our Health³³ analysing the connection between conservation of trees and human health to make three main points:

- SAVING TREES: Australia need to raise awareness of its status as deforestation hotspot.
- GROWING TREES: Australia needs to urgently transition to being a world leader in reforestation and the protection of existing trees and forests.

³¹ Appendix 3: Notice of Motion by former Councillor Jess Scully, City of Sydney (CoS) to co-fund with Ausgrid, on 22 August 2022, 3 xii & xiii

³² Gidlow, C. J & others, 2016, Research note: Natural environments and prescribing in England, Landscape and Urban Planning, Volume 151, Pages 103-108,

³³ https://dea.org.au/wp-content/uploads/2023/03/WWF_DEA_Trees-Health-Report_FINAL_030323.pdf



- ACCESS FOR ALL: Effectively help to resolve major public health issues by ensuring increased access to trees for all. Inspire motivation to protect and restore by explaining values and benefits.

The report is a highly effective awareness raising tool for both the importance of trees and the conservation of natural forests. What the report does not do is provide practical mechanisms for the changes required, nor articulate how saving and growing trees and access for all might be achieved.

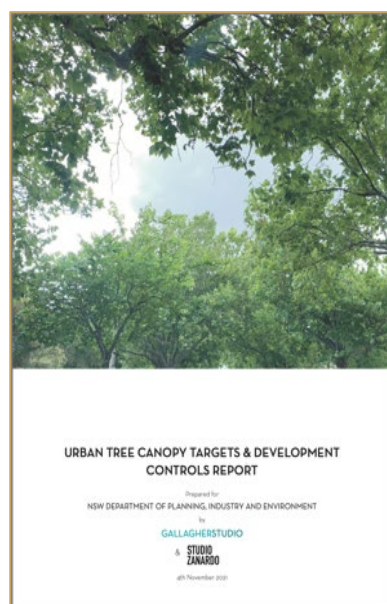
Landscape character

The Property Council of Australia recognises the threat of destruction of landscape character and civic space and recommends actions to prevent it. Distinctive landscape character, such as the Illawarra Shoalhaven, at risk of destruction by economic drivers, could be protected by;

- Transformative inter-regional City Partnerships
- Business cases and master plans for sports and entertainment precincts
- Long -term improvements and upgrades to key freight and commuter road infrastructure
- Detailed network plan and business case for rail links and a Fast Rail Strategy across the Greater Six Cities Region.
- Targeted delivery of affordable and diverse housing close to economic, retail and transport centres with a focus on key workers³⁴.

Effective Urban Tree Canopy as a Priority

The imperative to do something is underpinned by rigorous reports and improved data coordination. A DPIE Report, prepared by Dr Libby Gallagher and Dr Michael Zanardo and others, *Urban Tree Canopy Targets and Development Controls*³⁵, stipulates controls for new streets;



"an approach should be adopted that prioritises and values the delivery of effective tree canopy. Infrastructure and utilities policies should prioritise above ground and underground space for establishment and protection of effective urban tree canopy. All new streets should be designed to maximise soil volume. Services should be consolidated into a shared services trench and all new streets should be designed with underground power lines. "

³⁴ Property-Council-of-Australia-2023-NSW-Election-Platform Building NSW : Homes, Jobs and Our future p 38

³⁵ GallagherStudio and StudioZanardo for DPIE. 2021, Urban Tree Canopy Targets and Development Controls p.68



Data efficiencies are being developed to improve accessibility to accurate information at the greater metropolitan scale and avoid duplication of costs. The Greener Cities Program held a workshop in 2021 on urban forest strategies. Greening our City³⁶ explains that a uniform dataset for Greater Sydney paired with a canopy user interface, [2022 Tree Canopy Dataset](#)³⁷ released in October 2023, 'allows for greater consistency and equity in policy making'. AILA has requested to be informed about the further progress of the integrated mapping initiative³⁸. Steve Hartley, Executive Director for Resilience and Urban Sustainability has indicated that two canopy data acquisitions in 2024 and 2026 are planned. and the draft for testing is being evaluated by Landscape Architects ³⁹.

While this is commendable, Digital Restart funding indicates disproportionately low funding is allocated to Urban Forest related initiatives, which are only a fraction of Environmental spending. It allocates \$27 Million to [Environment](#) - for building resilience and biodiversity through Greening Neighbourhoods, Saving our Species and National Multi-hazard Service and the relevant part of [Customer-centric Government](#) - 'Tell Us Once' digitising of services (\$155 Million), compared to the 10 times larger allocations to [Regulatory Reform](#) (\$259 Million), [Patient Outcomes](#) - health e-records (\$254 Million).

Digital twin predictions presented in 2023 by McGregor Coxall, identify Australian road and pedestrian pavements as occupying 50% of the city and find they are directly related to climate risk and human health⁴⁰. The study supports the idea that trees are best located at road level in the drainage line, not raised to the level of the footpath pavement, for efficient use of existing hydrology for tree health, as explained by Adrian McGregor, in the seminar 'When the Shade hits the Pavement', supported by Citygreen and Western Sydney Regional Organisation of Councils ⁴¹ and further explored in the *Biourbanism* publication. While this idea is not new⁴² there is no clear, coordinated strategy for its implementation in Australia.

AILA is willing to lead the formation of a coalition towards the realisation of a broad, overarching strategy to coordinate judicious management of utilities near existing vegetation. This goal is in the interest of reducing carbon emissions, protecting environmental values of providing shade, noise abatement and habitat, protecting scenic value and promoting psychological wellbeing.

Objectives may include state level Government taking responsibility to look after public assets and manage data collection and mapping of canopy, heat island, and heritage data, in an integrated way, to inform prioritisation.

³⁶ Smith, B. 2022 Team spotlight: The Greener City Branch, Digital.NSW, 26 July <https://www.digital.nsw.gov.au/article/team-spotlight-greener-city-branch>

³⁷ <https://www.dpie.nsw.gov.au/our-work/programs-and-initiatives/urban-greening/tree-canopy-data>

³⁸ <https://www.dpie.nsw.gov.au/our-work/programs-and-initiatives/urban-greening/grant-programs/2022-greening-our-city-grant>, Email to Jessica Roach, Senior Policy Officer Jessica.Roach@dpie.nsw.gov.au

³⁹ <https://www.digital.nsw.gov.au/funding/digital-restart-fund/2021-2022-review/digital-restart-fund-insights>

⁴⁰ <https://citygreen.com/adrian-mcgregor/> at around 28 mins

⁴¹ McGregor, A. 2023, Campbeltown model, Digital Twin project, in *Biourbanism*

⁴² Beecham, S & Lucke, T. 2018. Street trees in paved urban environments: The benefits and challenges, Treenet, Australia



RECOMMENDATIONS

AILA commends Ausgrid's announcement of a \$20.8 million kickstart to a bundling program.

Existing street trees near cables are now broadly recognised as assets for tourism attraction, real estate value and climate adaptation and mitigation, providing habitat to all species including psychological benefits to people. To support Ausgrid's compromise, and for the greater protection of existing trees from incremental damage and more integrated best practice tree and utility management, ***AILA NSW proposes the following actions:***

- 1) Federal, State and Local **Government in partnership with Utilities such as Ausgrid to support a proposal to bundle ALL overhead wires in Greater Metropolitan Sydney and major regional cities and towns.** AILA joins City of Sydney's call to the Premier of NSW to contribute \$8 million to co-fund program over the next 5 years to help roll it out across the state with bipartisan support.
- 2) Significant roadside plantings, Commemorative Avenues and Remembrance Drive in NSW must be systematically protected from adverse tree pruning as recognised landscape heritage (Various Council heritage listings, Monument Australia, Australian Garden History Society, Treenet) - **AILA proposes Federal, State and Local Government plus Utility Agencies fund NSW wide research of commemorative and locally listed roadside significant trees, and prepare and secure heritage listings and appropriate management plans for their ongoing care.**
- 3) Local Government to promote and demonstrate embedding of good practice in appropriate Development Control Plans (DCPs) and Local Environmental Plans (LEPs): along the lines of the unrealised new Design and Place State Environmental Planning Policy (SEPP); preparation and use of Canopy Management Plans, proactive tree replacement policies. **These policies and plans must be informed by a Prioritisation Plan; a coordinated, cohesive program based on integrated data; heritage studies and current research on future climate scenarios, appropriate tree species, soil needs etc.**

An Appendix (2) provides a list of local Council tree protection officers, including examples of current tree registers and tools, to inform and facilitate an integrated approach.



Figure 8. Rosemont Avenue, Woollahra. Photo: CoreLogic



CONCLUSION

Landscape architects are acutely aware of all aspects of trees in urban conditions. This means they are ultimately the best qualified discipline to lead and facilitate advances in regulation, policy and design for better outcomes for landscape heritage impacted by energy, telecommunications and road infrastructure, including to:

- target forums to dedicate financial support
- arrange a ministerial response
- propose new Australian Standards
- guide work to embed best tree management practice in new DCPs, LEPs and SEPPs
- regulate Registered Landscape Architect oversight of plans for bundling, undergrounding, and
- updating of pruning regulation for climate and landscape heritage sensitivity.

AILA looks forward to hearing from you, and to working with you to advance these solutions.

Sincerely yours,

David Moir
AILA NSW PRESIDENT

SUBMISSION TEAM

This submission has been prepared by a working group of AILA NSW Landscape Heritage Group members and experts, Professor Emeritus Helen Armstrong AM, Matthew Taylor, Oi Choong, Dr Libby Gallagher, Gwilym Griffiths, Rui Liu, Ingrid Mather, Abdul Rahim and Leigh Trevitt.

AILA champions quality design for public open spaces, stronger communities and greater environmental stewardship. We provide our members with training, recognition and a community of practice to share knowledge, ideas and action. With our members, we anticipate and develop a leading position on issues of concern in landscape architecture. Alongside government and allied professions, we work to improve the design, planning and management of the natural and built environment.



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AS5334-2103 *the National Climate Change Adaptation Standard for Settlement & Infrastructure: A risk based approach*– the first nationally accepted definition of 'green infrastructure' as a sector and the precedent document for the UGI Handbook

ISSC3 *Guide for the Management of Vegetation in the Vicinity of Electricity Assets*
Issue Date: November 2016

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AILA Green Infrastructure Position Statement

<https://www.aila.org.au/common/Uploaded%20files/AILA/Resource%20library/Green%20Infrastructure%20Position%20Statement.pdf>

AILA Carbon Positive Design Position Statement:

<https://www.aila.org.au/common/Uploaded%20files/AILA/Resource%20library/Climate%20Positive%20Design/Climate%20Positive%20Design%20Position%20Statement.pdf>

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In progress: AILA NSW Advocacy, Paper on Green Infrastructure and Living Systems – led by Ingrid Mather



Appendix 1 FUNDING OPPORTUNITIES

1. Federal And State/Territory National Partnership Agreement Disaster Reduction Fund

Link to: <https://wsroc.com.au/projects/project-turn-down-the-heat/greater-sydney-heat-taskforce>

2022-2024 round funded \$1.3m to establish the Greater Sydney Heat Taskforce, aimed to address the lack of coordination arrangements to measure, mitigate or manage heat impacts.

Leadership across government, industry and community, are coordinating four projects, span governance, policy, data and people. The respective outcomes are

- 1.1. Heat Smart city. Plan
- 1.2. Cool Suburbs NSW
- 1.3. Heat Risk Methodology
- 1.4. Heatwave Management Guide

Partners include: Bureau of Meteorology, Nepean Blue Mountains PHN, Western Sydney LHD, South Western Sydney LHD, Nepean Blue Mountains LHD, Western Sydney University, Sydney University, UNSW, Blue Mountains City Council, Blacktown City Council, Cumberland City Council, Liverpool City Council, Hawkesbury City Council, Resilient Sydney, Lendlease, Green Building Council, NSW AMA, Western Sydney Community Forum, Sweltering Cities and Doctors for the Environment.

Key objectives are:

- People know their risk and how to manage it.
- Infrastructure is designed to function in hotter conditions.
- Homes and suburbs support life safety and cost of living.
- Programs are in place to help the vulnerable.

The leadership taskforce established for the GSHT could be consulted for gaps in this program, limits to scaling the outcomes and insights for future funding opportunities. For example, the Sweltering Cities, one of the partner organisations, was approached to offer insights on the topic of supporting more Utility Provider and Government co-funding of improvements to tree pruning, cable bundling and undergrounding of wires near existing trees. A representative responded.

they were not aware of any specific material they have on this subject but thanked us for reaching out, intends to get back in touch if any relevant information comes to light. AILA was invited AILA and participated in the pre-Summer 2023/4 briefing for their volunteers via zoom on August 31st . AILA commends the Sweltering cities cooperative group on their varied and many approaches to data collection and strategies for reducing heat effects. However, the bus stop survey could also look at proximal tree canopy and impacts of pruning or removal for aerial cables as part of this valuable research. Find more about it [here](#).



Another contact is Dr Kim Loo Doctors for the Environment who has presented at the WSROC/ Penrith city council/ Citygreen co-funded seminar, Where Shade hits the Pavement with AILA. Other relevant speakers at this event were AILA Fellow, David Martin, speaking about the Standards Australia Green Infrastructure Handbook and Gwilym Griffiths, expert in Street Tree Planning and management and co-author of this paper.

AILA has entered into a partnership agreement with Shade Smart and could be actively collaborating on these initiatives, and more importantly at the table at leadership level across all issues relating to disaster prevention and conservation of green infrastructure as a priority with economic and health benefits.

Next rounds could be applied for with an emphasis on co-funding to upscale the preparedness for extreme urban heat, focused on improvements to pruning, bundling and cabling.

The application could identify the benefits of improved pruning, cabling, undergrounding cables in terms of disaster reduction.

2. Federal Government Emissions Reduction Fund (ERF) Business Grants

Link to : <https://business.gov.au/grants-and-programs/emissions-reduction-fund>

The Emissions Reduction Fund provides businesses with the opportunity to earn Australian carbon credit units for every tonne of carbon dioxide equivalent a business stores or avoids emitting through adopting new practices and technologies.

Increasing Resilience to Climate Change (IRCC) program has been established to encourage:

- Implementation of actions to address identified climate risks
- Regional consideration of climate change impacts in decision making
- Implementation of climate change adaptation actions beyond business as usual projects and programs
- Enhanced adaptive capacity.

Applications may be made at any time. Businesses wanting to reduce their carbon emission can generate Australian carbon credit units (ACCUs) by cutting the amount of greenhouse gases they create and to undertake activities that store carbon. This can be through projects involving:

- new technology
- upgrading equipment
- changing business practices to improve productivity or energy use
- changing the way vegetation is managed to store more carbon.



Participants in the scheme can earn Australian carbon credit units (ACCUs) for every tonne of carbon dioxide equivalent they store or avoid emitting. ACCUs can be sold and can generate participants an income.

Participation in the Emissions Reduction Fund is open to individuals, sole traders, companies, local, state and territory government bodies and trusts.

Emissions Reduction Fund projects must:

- be new
- go beyond business-as-usual activities
- not be required by law
- not be receiving financial support from specified government programs, such as the New South Wales and Victorian energy efficiency schemes
- follow an approved method, which sets out the rules for running the project and estimating emissions reductions

Other Emissions Reduction Funds opportunities were identified;

3. Unilever's Climate & Nature Fund

Link to: <https://www.unilever.com/climate-and-nature.html>

Link to the open innovation submission portal :

<https://oiportal.yet2.com/?wantID=2020Su&wantTitle=Sustainability>

Launched in 2020, Unilever's Climate & Nature Fund is a commitment to invest €1 billion by 2030 in meaningful climate, nature, and resource efficiency projects, to transform the way our products are made and reach end of life.

4. Microsoft's Climate Innovation Fund

Link to: <https://www.microsoft.com/en-us/corporate-responsibility/sustainability/climate-innovation-fund>

Investing \$1 billion in new technologies and innovative sustainability solutions. Primarily investing in climate solutions that have been developed and need capital to scale in the market.

5. Amazon's Climate Pledge Fund

Link to: <https://sustainability.aboutamazon.com/about/the-climate-pledge/the-climate-pledge-fund>

Investing \$2 billion to support the development of sustainable and decarbonising technologies and services that will enable Amazon and other companies to meet Climate Pledge goals. The Climate Pledge Fund is a corporate venture capital.



6. Australian Federal Government Climate Change Fund : Greening Our Cities

7. Review of NSW Department of Planning & Environment Urban Greening Grant Programs

The Greening our City grants support local councils and their partners to enhance urban tree canopy and green cover by co-funding tree planting and demonstration projects across Greater Sydney. **Aimed to achieve the former Premier's Priority** that focusses on improving liveability in Greater Sydney by planting one million trees by 2022, **a shift in emphasis to respond to the IPCC recommendation to preserve existing trees is now warranted.**

<https://www.dpie.nsw.gov.au/our-work/programs-and-initiatives/urban-greening/grant-programs>

8. Sydney Region Development Fund : Metropolitan Greenspace Program (MGP)

The program was established in 1983 to invest in links between Sydney's bushland, parks, centres and waterways and to promote public use and enjoyment of these spaces. It has been adapted over time to meet current priorities. Funding is from the Sydney Region Development Fund, which the Office of Strategic Lands administers. Since 1990 over \$56 million has been provided to more than 681 projects.

In Greater Sydney and the Central Coast, the Metropolitan Greenspace Program helps deliver the vision of a Green Grid that crisscrosses the region, allowing residents to connect to a network of open space, natural areas and recreational facilities.

The Green Grid will promote a healthier urban environment and improve access to spaces for recreation and exercise. <https://www.planning.nsw.gov.au/plans-for-your-area/infrastructure-funding/metropolitan-greenspace-program>

9. Local Government and NSW Department of Planning & Environment: Increasing Resilience to Climate Change Grants

This partnership program between LGNSW and the NSW Department of Planning, Industry and Environment (DPIE) provides funding to address climate change risks and assist NSW councils be better able to plan for, and respond to, heatwaves, storms, floods, drought, and bushfires. https://lgnsw.org.au/Public/Public/Policy/IRCC-2/IRCC_grants.aspx

Contact: Denise Anderson, Senior Policy Officer – Environment denise.anderson@lgnsw.org.au

10. NSW Climate Change Fund

The Climate Change Fund is a critical part of a commitment to decisive leadership on climate change. It is established under Part 6A of the Energy and Utilities Administration Act 1987. Through Climate Change Fund programs, the NSW Government supports communities, businesses and governments to reduce emissions and adapt to the impacts of climate change. Its programs continue to help families and businesses save energy and money, and help communities adapt to a changing climate.

11. High Emitting Industries Fund (HEI)



The Net Zero Industry and Innovation Program is the NSW Government's plan to support and partner with industry to reduce emissions and help NSW businesses prosper in a low carbon world. High emitting industries (HEI) is a key focus area of the program. To help these industries shift to net zero and deliver significant emissions reduction by 2030, funding assistance for decarbonisation projects will be provided .

Contact : emissionsreduction@environment.nsw.gov.au
<https://netzeronsw.smartygrants.com.au/HEI2022R1>



Appendix 2:

NSW Councils known to have significant tree registers/ orders (STR/STO)/ tree listings on their local environmental plan (LEP) schedules / urban forest policies:

Albury, TPO at <http://www.alburycity.nsw.gov.au/www/html/637-trees.asp>

contact Leah Warburton, Community Arborist(Tues. Wed), 6023 8197, lwarburton@alburycity.nsw.gov.au
Ashfield, TPO at <http://www.ashfield.nsw.gov.au/page/trees.html>

contact Ron Sim or Robert Burke, 9716 1800, rons@ashfield.nsw.gov.au

Blacktown City, Manager, Open Space Maintenance, Simon Harrison, simon.harrison@blacktown.nsw.gov.au

Blue Mountains, TPO at <http://www.bmcc.nsw.gov.au/sustainableliving/treemanagement>

Contact Robert Greenwood, 4780 5616, rgreenwood@bmcc.nsw.gov.au

Burwood, contact Joe Lilley, 9911 9888, 0408 462 854 Joe.Lilley@burwood.nsw.gov.au, TPO is

at [http://www.burwood.nsw.gov.au/verve/resources/Tree Preservation Order TPO Policy - Adopted by Council 18 October 2011 - Team Responsible - Landscape Urban Design.pdf](http://www.burwood.nsw.gov.au/verve/resources/Tree%20Preservation%20Order%20TPO%20Policy%20Adopted%20by%20Council%2018%20October%202011%20-%20Team%20Responsible%20-%20Landscape%20Urban%20Design.pdf)

Camden (1993 STR – Landarc), recommended (tree) planting list is

at http://www.camden.nsw.gov.au/page/recommended_planting_list.html

Contact Peter Mann, 4654 7806, peter.mann@camden.nsw.gov.au

Canada Bay City Council, contact Rob Stevenson, Bushcare Coordinator, 0011

6383 (2014), 0409 742 835, robert.stevenson@canadabay.nsw.gov.au

Darin Wills, Urban Forester, Darin.Wills@canadabay.nsw.gov.au, M: 0432 409 184, p: 9911 6418

Canterbury-Bankstown Council, TPO at <https://www.cbccity.nsw.gov.au/resident/trees-garden-home/pruning-removing-trees>

Clarence Valley, LEP has some tree and avenue

listings. https://www.clarence.nsw.gov.au/cp_themes/metro/page.asp?c=500

Council has two Urban Tree Management Strategies for Grafton & Yamba, both online

at https://www.clarence.nsw.gov.au/cp_themes/metro/page.asp?p=DOC-JKW-62-56-37 and https://www.clarence.nsw.gov.au/cp_themes/metro/page.asp?p=DOC-JKW-62-56-37

Cumberland, TMO is at <http://www.holroyd.nsw.gov.au/your-development/trees/>

contact Ross Grove, 9840 9660, ross.grove@holroyd.nsw.gov.au

Fairfield, TPO is at <http://www.fairfieldcity.nsw.gov.au/default.asp?iNavCatId=2183&iSubCatId=2186>

Contact Graham Hall, 9692 0941, hallct@ozemail.com.au

Georges River, at <http://www.georgesriver.nsw.gov.au/Environment/Trees-and-Biodiversity/Tree-Management/Tree-Planting>

Gosford, STR is at <http://www.gosford.nsw.gov.au/environment/trees>

contact Rowena Miers, 4325 8365, rowena.miers@gosford.nsw.gov.au

Hornsby, TPO is at www.hornsby.nsw.gov.au/services/trees

contact Marianna Kucic, 9847 6727, hsc@hornsby.nsw.gov.au

Hunters Hill, STR and TPO are at http://www.huntershill.nsw.gov.au/Page/Page.aspx?Page_Id=100 contact Steve Kourepis, 9879 9411, demanager@huntershill.nsw.gov.au

or Greg Patch, 9797 8684, fax 9809 7338

Inner Western Council, contact Elizabeth Richardson, 9367 9377, elizabethr@imc.nsw.gov.au have no TPO or

STR but protect trees via LEP and DCP 2013. On Callan Park Conservation Area (Rozelle/Lilyfield)

controls are frozen to the 2000 LEP and then-active TPO, requiring consent.

Ku-ring Gai, TPO is at http://www.kmc.nsw.gov.au/Plans_and_regulations/Environment/Trees

contact Paul Dignam, 9424 0794, dignam@kmc.nsw.gov.au

Lake Macquarie, contact Scott Penman, 49210450, spenman@lakemac.nsw.gov.au (works

two days per week, best contact time: early/late in the day), and www.lakemac.nsw.gov.au

Lane Cove, contact Stephanie Bashford, 9911 3612, lccouncil@lanecove.nsw.gov.au, TPO is

at <http://www.lanecove.nsw.gov.au/Council%20Services/Tree%20Management/Private%20Trees/Tree%20Preservation%20Order/TreePreservationOrder.htm>



Leichhardt, (a few on LEP), TPO is at <http://www.leichhardt.nsw.gov.au/Planning---Development/Trees-on-Private-Property> contact Bruce Lay, lay.heritage@gmail.com or Christopher Reeves (m-w), 9367 9392, chrisr@lmc.nsw.gov.au

Liverpool, TPO is at <http://www.liverpool.nsw.gov.au/environment/trees>
contact Nick Bolton, 9821 9112, n.bolton@liverpool.nsw.gov.au

Mid-Western Regional Council (Mudgee) has an STR, at <http://www.midwestern.nsw.gov.au/Our-Council/Policies--Strategies-2/Tree-Removal-and-Pruning-Public-Places-Policy/>
contact 6378 2850, e: council@mudgee.nsw.gov.au

Mosman

has an Urban Forest Policy and tree protection order,
at <http://www.mosman.nsw.gov.au/environment/trees>
contact Linda Kelly, 9978 4041, l.kelly@mosman.nsw.gov.au

North

Sydney (1994 STR – Landarc, LEP listings), <http://www.northsydney.nsw.gov.au/www/html/6755-why-we-value-our-urban-trees.asp>
contact Lucinda Varley (m-w), 9936 8100, vakluc@northsydney.nsw.gov.au or
Libby Maher (thu.-fri.) 9936 8370 mahlib@northsydney.nsw.gov.au

Northern

Beaches Council (Manly-Warringah-Pittwater) has a tree protection order,
at http://www.warringah.nsw.gov.au/environment/trees_pres_order.aspx and <http://www.northernbeaches.nsw.gov.au/>
contact Kathryn Parker, 9942 2746, kathryn.parker@warringah.nsw.gov.au

Orange have a 7/2012 street tree master plan

at <http://www.orange.nsw.gov.au/site/index.cfm?display=308405>
did a survey of significant landscape features which included the public identifying
significant trees in the district, online at: www.orangesignificantscapes.com.au

Parramatta, TPO is at http://www.parracity.nsw.gov.au/live/my_home/plants_and_animals/trees

Street Tree Plan is at contact tree protection officer, Robert Sutton, 9806 5728, fax 9806 5929, rsutton@parracity.nsw.gov.au, or Jason Dalglish, jdalglish@parracity.nsw.gov.au

Penrith, have a tree preservation order, see <http://www.penrithcity.nsw.gov.au/index.asp?id=606>
undertook a landscape character assessment, online

at <http://www.penrithcity.nsw.gov.au/index.asp?id=3609>
contact Terry Agar, 4732 7753, fax 4732 7879, taagar@penrithcity.nsw.gov.au

Port

Stephens, draft STR, few public trees on LEP, at www.portstephens.nsw.gov.au
contact Matthew Borsato, 4980 0247, e: matthew.borsato@portstephens.nsw.gov.au

Randwick,

draft STR, at www.randwick.nsw.gov.au contact
Lorraine Simpson, 9399 0978, e: lorraine.simpson@randwick.nsw.gov.au

Ryde City

undertook a natural heritage study of the LGA in the mid 2000s, adopted an
Urban Forest Policy in 8/2012; and updated their DCP 2010 about Tree
Preservation with regard to trees on heritage sites, at www.ryde.nsw.gov.au

Strathfield,

(1995 STR – Landarc) at www.strathfield.nsw.gov.au, contact Mark Pepping, 9746 0431 or David
Hazeldeine, 9748 9999, strath@peg.pegasus.oz.au

Sutherland,

see http://www.sutherlandshire.nsw.gov.au/My_Place/Trees
contact Mike Fursland, 9710 0181, mfursland@ssc.nsw.gov.au or Don Truman, 9635 0966

Sydney,

(2005 5 volume STR – Landarc, draft LEP listings), has an urban forest policy,
contact Manager, Urban Forest: Karen Sweeney, 9265 9333, <http://www.cityofsydney.nsw.gov.au/live/trees/tree->



[policies](#) or ksweeney@cityofsydney.nsw.gov.au or
Susan Lymbery, slymbery@cityofsydney.nsw.gov.au

Tamworth

Regional, see <http://www.tamworth.nsw.gov.au/Environment/Environmental-Protection/Trees-and-Vegetation-Protection/Trees-and-Vegetation-Protection/default.aspx>
contact Genevieve Harrison, 6767 5533, g.harrison@tamworth.nsw.gov.au

Walgett,

contact Graham Hall, 9692 0941, hallct@ozemail.com.au

Waverley,

contact John Hilliard 0415 374162, or Ines Schmitz, 9369 8072, InesS@waverley.nsw.gov.au

Willoughby, Natural

Heritage Register (2002) by LandArc, contact Elizabeth Fink, 9777
7678, elizabeth.fink@willoughby.nsw.gov.au

Wingecarribee

has a Shire-wide TPO in LEP2010 clause 5.9 covers tree and vegetation
protection and DCPs give more detail. See <http://www.wsc.nsw.gov.au/tree-preservation-controls> or
heritage contact Sarah Farnese, sarah.farnese@wsc.nsw.gov.au p: 4868 0830
Tree & vegetation management officer, Charlene Ferguson, charlene.ferguson@wsc.nsw.gov.au ,
p: 4868 0515, m. 0427 911 661

Wollondilly,

Aboriginal scar tree management plan, at www.wollondilly.nsw.gov.au
contact Peter Wright, 4677 1192, peter.wright@wollondilly.nsw.gov.au

Woollahra

TPO <http://www.woollahra.nsw.gov.au/services/trees> (1991 Sig. Tree Register by Landarc contact
David Gray, 9391 7084, david.gray@woollahra.nsw.gov.au.
Other contacts are Tessa Pentony, A/Manager, Open Space & Trees, 9391 7180 and
Kristy Wellfare, Strategic Heritage Officer, 9391 7925.



Appendix 3:

Notice of Motion by former Councillor Jess Scully, City of Sydney (CoS) to co-fund with Ausgrid. p.1 of 2 .

Council

22 August 2022

Item 12.2

Notices of Motion

Co-Funding for Aerial Bundled Cables (ABCs) with Councils

By Councillor Scully

It is resolved that Council submit the following motion for consideration at the next Local Government NSW Annual Conference:

It is resolved that:

(A) Local Government NSW note:

- (i) the NSW Government is aiming to plant five million trees across Greater Sydney by 2030 to help achieve its goal of increasing canopy cover to 40 per cent;
- (ii) increasing the tree canopy in our local parks, streets and neighbourhoods will provide much needed shade and shelter from heat, improve our air and water quality, improve health and wellbeing and build our resilience to climate change;
- (iii) street trees provide the most urban cooling benefit, as they shade hard surfaces like buildings and asphalt;
- (iv) electricity distributors only consider small trees suitable for planting under powerlines. Pruning to ensure safe clearances by electricity distributors can often significantly reduce the urban canopy;
- (v) when overhead low voltage bare wire cables are upgraded to insulated cable known as aerial bundled cable (ABC), trees can grow closer to the wires and can be directionally pruned around the wires, allowing for larger trees and greater canopy cover;
- (vi) local residents regularly express concern regarding the heavy pruning of street trees by contractors as overhead bare wire cables cannot come within close proximity of tree canopy;
- (vii) currently if a council wants to upgrade the network from bare wire to an aerial bundled cable, it would need to hire an Accredited Service Provider and would bear the full cost of the upgrade;
- (viii) in preparing for its Draft Plan 2024-29, Ausgrid consulted with Councils through various working groups. At the vegetation management and resilience groups, several councils asked for more aerial bundled cabling;
- (ix) Ausgrid is proposing working with Councils to co-fund upgrades to ABC, as part of a broader climate resilience program;



Notice of Motion by former Councillor Jess Scully, City of Sydney (CoS) to co-fund with Ausgrid.
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Council

22 August 2022

- (x) the proposal includes a priority funding program for councils with low urban canopy cover and low proportions of ABC in their overhead network. Priority councils would receive a 70 per cent funding contribution from Ausgrid. It also includes a non-priority program which provides 50 per cent co-funding contribution;
 - (xi) - support from councils for the program in their Draft Plan 2024-29, in support of a budget allocation for fund which would see Ausgrid allocating \$12.2 million to work with local governments to deliver more aerial bundled cable;
 - (xii) local governments and residents across NSW would benefit if both Essential Energy and Endeavour Energy, the network operators for Greater Sydney and parts of regional NSW, were to implement similar co-funding programs for councils; and
 - (xiii) many councils may still find the costs of these upgrades prohibitive, and the NSW Government could support councils with funding for their contributions, which would enable the NSW Government to achieve their canopy cover goal of 40 per cent; and
- (B) Local Government NSW:
- (i) ask NSW councils to support the co-funding proposal;
 - (ii) write to Essential Energy and Endeavour Energy to encourage implementation of similar programs across Greater Sydney; and
 - (iii) write to the NSW Department of Planning and Environment for funding to support councils with their contribution towards the program.

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