



ACT CLIMATE CHANGE COUNCIL: CLIMATE CHANGE STRATEGY ADVICE

This document highlights some of the opportunities for the natural, social, economic and built environment sector, along with the health, energy and transport sector to support the ACT's goal of a just transition to net zero emissions. Beyond the existing strategy, identifying and capitalising on the links between how our region is planned, designed and delivered, with community quality of life and sense of well-being will be critical to achieve a transition which will leave no one behind.

Acknowledgment of Country

The ACT Climate Change Council wishes to acknowledge the Ngunnawal people as traditional custodians of the land and recognises any other people or families with connection to the lands of the ACT and region.

The Council wishes to acknowledge and respect their continuing culture and the contribution they make to the life of this city and this region.

This document intends to inspire extended dialogue on the following main themes.

1. REVITALISE CLIMATE CHANGE ADAPTATION ACTION

- a. Embed equity into implementation of all policies and programmes.
- b. Enhance biodiversity outcomes for a changing climate, including through more effective fire management strategies
- c. Enhanced green-blue space provision to reduce flood risk, urban heat island effect and encourage social cohesion.
- d. Install a network of measurement stations to provide long term and real-time feedback on weather conditions being experienced by ACT residents.
- e. Develop action plans for climate driven emergencies that also complement increased disaster-risk reduction activities
- f. Construct climate-adapted built and transport infrastructure
- g. Identify, measure and evaluate the health and well-being co-benefits of policy options leveraging the ACT Well-being Framework
- h. Increased investment in active, and public transport to encourage mode shift

2. STRENGTHEN EXISTING MITIGATION ACTIONS

- a. Assess appropriateness and performance of the ACT's emission-reduction targets.
- b. Incentivise and implement energy efficiency and electrification for high-density residential and commercial buildings, and advance de-gasification of ACT government buildings and more broadly

3. ACTIVELY ENGAGE DIVERSE COMMUNITY VOICES

- a. Work with non-English-speaking communities, new migrants and community organisations to improve development of inclusive climate action
- b. Increase the involvement of, and communication with, youth and schools.
- c. Support the development of business-led climate action.

4. INCLUSIVE LEADERSHIP AND GOVERNANCE

- a. Implement a Scope 3 emissions reduction plan for ACT Government
- b. Establish a cross- Directorate body to identify, develop and support implementation of comprehensive and integrated climate change responses, including through cross-border sharing of knowledge and resources



REVITALISE CLIMATE CHANGE ADAPTATION ACTION

A. EMBED EQUITY INTO IMPLEMENTATION OF ALL POLICIES AND PROGRAMMES

Climate actions already taken by ACT government focus on, and measure the equity of policies and programmes, but the need for this focus will only increase. Climate extremes in the ACT and globally will disproportionately impact populations that are socially, materially and economically disadvantaged (hereafter referred to as ‘priority populations’). Embedding equity in implementation should start with a broader understanding of inequities beyond income-related disparities. This will ensure that program design and delivery can be targeted to priority populations that suffer compounding disadvantage (e.g. newly arrived refugees or migrants may not know about or be eligible for referral systems into energy efficiency programs; disabled people and their carers may be disproportionately affected by heatwaves).

B. IMPROVE BIODIVERSITY OUTCOMES

There should be active management of the ACT’s “natural areas” to reduce the impact of disasters. In relation to fire management in the ACT, in particular, there is scope for the following:

- a. **Support for Cultural Burning.** Acknowledge cultural burning as a legitimate practice and empower Ngannawal Peoples as the local traditional owners, to lead landscape management efforts on Ngannawal Country.
- b. **Urban-Forest Interface Management.** Prioritise asset protection and human safety through assessment of innovative approaches, such as mechanical biomass removal for biochar production.
- c. **Forest and Grassland Management.** Develop comprehensive strategies to reduce the likelihood of large fires (e.g. ecological thinning, rapid response systems and restocking initiatives, and mosaic-style land management to maximise growth-stage diversity).
- d. **Public Education.** Promote public awareness and understanding of fire ecology and of fire and smoke risks and adaptive responses to foster community capacity and cooperation in fire management efforts.

C. ENHANCE BLUE-GREEN SPACE CONSIDERATIONS

Development and enhancement of blue and green infrastructure (i.e. waterways, lakes, parks and reserves) offer a wide range of benefits including improved cooling and mitigation of the urban heat island effect and the ecosystems services such as water quality improvement and flood management. However, such infrastructure is also essential for human recreation, welfare and equity and health and well-being. New high density dwelling areas, such as Belconnen and the Northbourne corridor appear to have been developed without any provision for additional greenspace for the recreation of residents or the mitigation of urban heat island effects. An improved planning strategy is needed to address this deficiency. Working with Ngannawal Peoples to mitigate flood risk in natural waterways is essential.

D. INSTALL A NETWORK OF MEASUREMENT STATIONS

These stations should cover temperature/humidity (for urban heat island monitoring), pollutants (for assessment of positive impacts from electrification, measurement of smoke levels during bushfire events) and CO₂. Climate change is creating a range of new challenges and opportunities for air quality in the ACT. Urban heat island (UHI) effects manifest most strongly in overnight temperatures in urban areas, but these are weakly monitored, and the last UHI assessment (that

this author is aware of) was via satellite (and of limited insight as a result). Furthermore, it should be expected that increased use of EVs (and other Government transport policy initiatives) will produce some air-quality benefits near main roads, which would be beneficial to monitor. In addition, the Black Summer bushfires showed that the network of PM2.5/PM10 measurement sensors in Canberra is insufficient to provide air-quality information in a timely manner to enable action by sensitive individuals. Such sensors have become relatively cheap, so establishment of a network with live reporting is not necessarily a particularly expensive exercise.

E. DEVELOP ACTION PLANS FOR CLIMATE EMERGENCIES

Monitoring and early warning systems have value when they are linked to previously established, co-designed, context-sensitive action plans. After each event, an evaluation/review of the effectiveness of these combined systems needs to take place and any changes implemented.

The ACT Government can strengthen climate adaptation and community engagement through participatory development of local climate plans that integrate with early-warning systems, incorporate nature-based solutions and heatwave preparedness programs. As communities use and value natural spaces differently, it is critical that diverse voices inform planning and implementation and that climate adaptation is integrated with programs to reduce disaster risk.

F CONSTRUCT CLIMATE ADAPTED INFRASTRUCTURE

- a. **Infrastructure for future climate.** As the climate changes, the nature and scale of stressors on the ACT infrastructure – roads, public transport, water supply, sewerage and power supply - will change. Infrastructure must be designed and updated to cope with future climate scenarios of generally increased heat and possibly humidity as well as extreme weather events (heatwaves, droughts, storms, wind and floods), extreme weather events. Well-known building approaches that incorporate elements of passive-house design can reduce impacts of temperature extremes and smoke, increase resident comfort and enhance health and productivity outcomes. Other building approaches can reduce risks from climate-related hazards. However, the ACT is not implementing these approaches to the extent that may be desirable. Information, training, regulation and demonstration may be needed to increase adoption by the building industry and increase demand by consumers.
- b. **Plan for the end of the gas network.** An inevitable consequence of the degasification of buildings is that the gas network will ultimately become uneconomic to operate. As this end-point approaches, it is likely that fixed connection costs will rise, which will impact inequitably upon renters and the lower income groups. A realistic plan for the managed shutdown of the gas network needs to be developed to ensure a smooth and just transition.

G IDENTIFY, MEASURE AND EVALUATE THE HEALTH AND WELL-BEING CO-BENEFITS OF POLICY OPTIONS LEVERAGING THE ACT WELL-BEING FRAMEWORK

Policy responses that integrate health into climate mitigation and adaptation targets not only minimise potential serious adverse health effects but also improve health outcomes as (unintended) co-benefits. Actively identifying, measuring and evaluating the health and wellbeing co-benefits of policy options will offer significant value by incentivising more ambitious and cost-effective climate action; support the effective prioritisation of resources, including through targeted interventions for priority populations who may experience greater co-benefits; and facilitate improved assessment of short and long-term climate and health equity, including consideration of co-benefits that are sustained or accrue over the life-course.

Co-benefits have often not been adequately considered in policy decision-making and implemented policy is rarely evaluated for health and wellbeing co-benefits. ACT specific research with policy experts however, identified co-benefits as an increasingly valued consideration of policy development and evaluation. Critical activities to enable the routine identification, measurement and evaluation of health and wellbeing co-benefits for policy and program require:

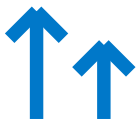
- a. Improved data quality and reporting.** This includes addressing cross-directorate availability and accessibility. Governance structure that explicitly allows for data sharing across Directorates will enable this.
- b. More evidence on the health and wellbeing co-benefits.** Statistics on how much an intervention can be expected to result in a co-benefit (e.g., how much an energy efficiency intervention reduces respiratory hospitalisations) are critical to effectively quantify and estimate the monetary value of a programs' co-benefits and are currently limited due to a lack of 'real-world' policy evaluation. The ACT Well-Being Framework offers a prime opportunity to include co-benefit through (already measured) indicators into all program designs.
- c. A systematic methodology to ensure subsequent uptake** in the identification, measurement, and evaluation of co-benefits. This requires inter-directorate education on how to utilise and adapt systematic methods to policy or program-specific contexts and data availability constraints (what to measure, how to measure and for whom).

–. INCREASED INVESTMENT IN ACTIVE AND PUBLIC TRANSPORT TO ENCOURAGE MODE SHIFT

a. Cycling infrastructure for future climate. As the climate changes, encouraging people to use active transport must be accompanied by increased investment in cycling infrastructure that is built for the future. To minimise heat stress in cyclists, increased greenery and shade along bike paths as has been done in Singapore should be considered. In Los Angeles, higher sun reflecting surfaces to reduce heat from concrete has been used in the construction of bike paths. In winter, in countries like Germany and Australia, regular winter maintenance of bike paths (subjective safety) was an important factor in getting cyclists on the road.

b. Increase safety aspects of using active transport. Better lighting along bike paths are an easily implementable investment for ACT government to encourage active transport. These can include 'cozy lighting' with luminescent paths. In addition, by fixing black spots and completing networks by incorporating bus lines with bike paths (re-allocate funding from roads to cycle path quality) active transport can become a viable first choice for commuters. Clear, well maintained and safe bicycle paths will also offer better access for people on mobility scooters.

b. Develop and implement incentives to use public transport. Simple incentives can include a scheme for when Canberra residents turn 18yrs old, they have free public transport for a year to encourage a mode shift. For example, in Austria through the Climate Tickets program, when people turned 18, they receive one year of public transport for free by being issued a free 'climate ticket'. This creates a culture of public transport ahead of people obtaining their car license. In the ACT, such a scheme. These can also be trialed earlier (to coincide with road ready exams) to encourage a mind (and mode!) shift before they buy a car.



STRENGTHEN EXISTING MITIGATION ACTIONS

A. ASSESS APPROPRIATENESS AND PERFORMANCE OF EMISSIONS REDUCTION TARGETS, AND INTERIM TARGETS

When ACT legislated its net zero by 2045 emission-reduction target, this was a global leadership position, roughly consistent with keeping with the 1.5°C goal. However, this target is no longer consistent with that goal and nor is it at the forefront of climate ambition. In assessing the appropriateness of interim and overall targets, there are considerations of meeting the overall temperature goal, equity, manageability, implementation, and cost and co-benefits which can be revisited by the ACT CCC.

B. INCENTIVISE AND IMPLEMENT ENERGY EFFICIENCY AND ELECTRIFICATION FOR HIGH-DENSITY RESIDENTIAL AND COMMERCIAL BUILDINGS, AND ADVANCE DE-GASIFICATION MORE BROADLY

- a. **Increased availability of public chargers.** The general availability of charging stations in locations like shopping centres, car parks and on the street is still poor and inadequate to support EV owners who may not have EV charging infrastructure at home (including renters and apartment dwellers). Type 2 (7kW) chargers provide adequate capacity for casual use and the support of EV drivers who cannot charge at home. These can be installed at street level or at destination level; furthermore, when managed *enmasse*, such chargers provide a discretionary load that can be managed to the benefit of the national grid.
- b. **Require provision of Type 2 (7kW) chargers in all new apartment car parks.** Type 2 chargers should be provided to a significant proportion of car parking spaces in new apartment buildings, with infrastructure for such chargers being provided so enable eventual provision of chargers to all car parking spaces.
- c. **Prohibit or otherwise prevent strata managers from banning of EV charging from enclosed car parks.** Several strata buildings have, or are claimed to have, banned EV charging (even at 10A) from car parks due to fears of fire danger. However, such measures are not based on credible empirical evidence, as identified in work conducted for the Australian Building Codes Board (which is working towards requirement for EV charging in buildings' car parks). See [ABCB EV Guidance Document June 2023.pdf](#)
- d. **Develop and implement a degasification strategy for high-density dwelling areas.** Existing high-density dwellings are challenging to degasify, both technically and institutionally. A strategy is required to address the needs for this sector. This may include: (a) The provision of centralised infrastructure serving multiple buildings in some cases, as often rooftop space is limited, or (b) The use of strong incentives or regulations to require upgrades, to motivate action by body corporates.
- e. **Ban gas from new commercial buildings.** It has already been established that all-electric commercial buildings are practical, and although the NCC does not yet mandate this, it is heading in that direction. To stay ahead of the market, the ACT should require all new commercial construction to be all-electric, via DA conditions. This approach to degasification could be extended more broadly.
- f. **Impose ahead-of-the-curve restrictions on high greenhouse gas intensity refrigerant use in commercial cooling and refrigeration equipment.** Refrigerant emissions policy is determined and implemented at a national level and consists of an overall market-based

mechanism plus limitations on refrigerant GHG intensity for certain forms of residential air-conditioners. There is potential for the ACT to enforce (via DA requirements) additional restrictions, particularly focused on the commercial refrigeration and cooling sectors, where low GHG refrigerant options are more widespread. It is noted that emissions reductions achieved by such mechanisms may not be able to be measured and reported in the ACT Greenhouse Gas inventory without the introduction of new measurement methods. Implement light-roof policies for residential buildings to reduce urban heat island effects.

- g. Incorporate construction embodied emission requirements into DA requirements.** NABERS has launched NABERS Embodied Carbon which provides a standardized and simplified method for the measurement of embodied carbon in construction, applicable to most building types. It is recommended that DA requirements should be expanded to include, initially, reporting of the achieved NABERS Embodied Carbon rating for new construction, with a view to introducing minimum rating requirements in the future.
- h. Develop and implement incentives via land tax rebates, penalties or similar for landlords to upgrade energy efficiency, install PV and degasify rental properties.** A sliding scale of incentives and penalties should be developed and based on the presence of features, noting that PV and degasification are easier to measure than energy efficiency (but care would be required to ensure that a property that has had its gas heating removed has a suitable electric replacement).
- i. Advance the degasification of ACT government buildings.** ACT Government still operates a number of gas-intensive facilities. The degasification of these should be brought forward.
- j. Develop rates-based financing to enable landlords to improve energy efficiency, install PV and transition from gas in rental properties.** The capital cost of these measures is a significant barrier for landlords, who receive none of the direct benefits of these investments. In combination with other measures that encourage (via stick or carrot) such investment, a system that allows the capital cost of upgrades to be financed on the rates (or land tax) bill for the property carries significant potential to motivate investment in this area, to the benefit of tenants and the environment alike.
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- l. Develop low emission buildings (in both construction and operation).** There are well-established approaches and materials (often linked to passive-house approaches) that can massively reduce building energy consumption in both hot and cold periods enhancing health and productivity outcomes whilst also reducing operational costs. There are also approaches to reduce the substantial emissions generated in building construction. Innovations in low carbon-embodied buildings can be demonstrated in the ACT and helped to commercialise. Support for these approaches could reduce immediate and future costs, establish the ACT as an innovation hub and generate a range of co-benefits.
- m. Work towards increasing the supply of the trades needed for the energy transition such as electricians and plumbers.** Acceleration of electrification of the ACT will require increasing numbers of trades including electrical and plumbing/gas fitting. Having to engage two separate tradespeople to say replace a gas heater with a heat-pump slows down the change-over and increases costs. Supporting the option of joint licensing of tradespeople could facilitate the transition.

- n. Implement light-roof policies for residential buildings to reduce urban heat island effects.** Light coloured roofs can reduce cooling requirements for buildings (albeit at the cost of increased heating requirements) and reduce urban heat island effects.
- o. Reward ultra-low emission buildings.** Consider the provision of incentives for the construction of beyond-code homes such as Passive House. This has the potential to develop industry skills and delivery capacity for better homes.



ACTIVELY ENGAGE DIVERSE COMMUNITY VOICES

A. WORK WITH NON-ENGLISH SPEAKING COMMUNITIES AND COMMUNITY ORGANISATIONS TO IMPROVE COMMUNICATION OF THE ACT CLIMATE STRATEGY

During the past two terms of the ACTCCC, the issue of poor information and communication in relation to non-English-speaking communities has come up several times. It is essential that these communities are not left out from effective climate adaptation or the energy transition. Regular invitations to the Ministerial Advisory Council for Multiculturalism to better understand Canberra's culturally and linguistically diverse communities would be a useful first step. In addition, building on all relationships with traditional custodians in the ACT, reinforce the commitment to culturally aware practice, informed by the Ngunnawal Community.

B. INCREASE THE INVOLVEMENT OF, AND COMMUNICATION WITH YOUTH AND SCHOOLS

Expanding climate education, storytelling initiatives, through better engagement with existing School and youth initiatives is necessary. The Sustainable Schools program networks and events should be used to enhance awareness of the ACT Climate Change council's activities. Biennial events such as the Youth Assembly for 12–25-year-olds can be used to foster exchange of ideas. Mechanisms to facilitate cross-pollination of issues and innovation across the ACT Youth Advisory Council and the ACT Climate Change Council need to be established. Support the development of community-led action in all these groups.

C. SUPPORT THE DEVELOPMENT OF COMMUNITY AND BUSINESS LED CLIMATE ACTION

The ACT Commissioner for Sustainability and Environment's State of the Environment 2023 Report found the ACT community's interest in climate action to be a strength for the ACT. Leveraging this strength, across both community and business, can both accelerate climate action and strengthen social licence for the ACT's ambitious climate action agenda. This can include in the first instance, expanding investment into the program led by the Adaptation and Resilience Policy team is working with ACTCOSS on a project partially funded through the Commonwealth's Disaster Ready Fund to develop and pilot resources to support Community Sector Organisations to undertake climate risk management and adaptation planning.

INCLUSIVE LEADERSHIP AND GOVERNANCE

A. IMPLEMENT A SCOPE 3 EMISSIONS REDUCTION PROGRAM FOR THE ACT GOVERNMENT.

While policy for managing territory-wide Scope 3 is potentially challenging, it is very practical to consider the opportunity to develop and implement a Scope 3 emissions reduction program for government operations. This should include

- Procurement policies targeting reporting and minimization of procured product emissions intensity
- Measurement and reporting
- Expansion of the FOGO pilot program as planned.

B. CROSS DIRECTORATE BODY TO ENSURE STRATEGIC ALIGNMENT OF COLLECTIVE VISION

Establish a cross- Directorate body to identify, develop and support implementation of comprehensive and integrated climate change responses addressing both climate adaptation and net emissions-reduction. Such a translational body can also play a pivotal role in cross-border sharing of knowledge and resources and setting up a nation-leading governance structure for data sharing.

The ACT has been world-leading in its approach to climate action and continues to be a remarkable environment for new approaches and ideas. Over the past decade Australians have faced unprecedented temperatures, fires, smoke and rainfall events. There is a real benefit to explicitly encompass Science, imagination and the deep knowledge of the Ngunnawal Peoples. Science, reflecting decades of accurate projections of the impacts of climate change, imagination for new ways of approaching problems in an increasingly unpredictable environment, both centred around a deep care for Country. Similarly, we can extend prior mitigation-focussed thinking by embedding our thinking in a continuum from mitigation to adaptation. When considering climate change and our future it is helpful to consider how we care for people and place and with an intergenerational lens, understanding from the past and considering where our future generations might land. These three elements: science and imagination, the continuum of mitigation to adaptation, and caring for people and place with a multicultural, intergenerational lens, are broad brush approaches that can inculcate across the updated ACT Climate Change Strategy.

