

EXECUTIVE SUMMARY



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The ACT's *State of the Environment 2019* report responds to the statutory requirement to provide the ACT community and Government with commentary and analysis about the environment in the territory. The reporting period for this report is from 1 July 2015 to 30 June 2019, with a data cut-off date of 30 June 2019. Formal recommendations are made, key actions are provided to assist with ongoing management, and data gaps and policy challenges are outlined.

Drivers of environmental challenges and change continue to be climate change, our ecological footprint, population growth and development pressures.

Ecological footprint

In keeping with previous reports, the ACT's ecological footprint has been calculated: servicing the total ACT footprint, as estimated in 2017–18, would require an area of land nine times the size of the territory. Our per capita footprint is 5.24 hectares, which is comparable to the footprint of the average Australian. Since 2009–10, there has been a decrease of 11% in the ACT's total footprint and a decrease of 20% in our carbon footprint. Despite this, the ACT's ecological footprint continues to test our resolve to live more sustainable lives.

Indigenous environmental knowledge

This report begins with a discussion of Indigenous people's contribution to the understanding of cultural water and cultural-cool burns in the ACT. During the reporting period, the ACT Government engaged Traditional Custodians and developed consultation protocols with the United Ngunnawal Council of Elders. This consultation has informed ecological fire regimes and the Murray-Darling Basin Plan Water Resources Plans. Legislative changes about Indigenous fishing rights have been foreshadowed.

Community sustainability leadership and citizen science

Community sustainability leadership and citizen science initiatives have continued, been consolidated, and are celebrated in a stand-alone chapter in this report. The value of this work is significant in the monitoring and protection of biodiversity, and community commitment markedly improves sustainable practices in public parks, on private land, in schools, homes and businesses. Environmental economic accounting has been used to demonstrate the value of environmental volunteering in the ACT. Using this model, 'replacement value' would be in the order of \$40–50 million per year.

Urban trees

Canberra's urban forest is a public illustration of everyday nature conservation. Living infrastructure – green and blue – is invaluable for protecting and enhancing biodiversity, and as a buffer against the impacts of climate change, including the urban heat island effect. The Canberra community considers tree canopy and water-sensitive urban design as critical to the city they value and enjoy. This has been shown in the commitment people made to the development of *Canberra's Living Infrastructure Plan: Cooling the City (2019–2025)*.¹ A number of promising initiatives are detailed in this plan, including the need to factor climate change, senescence and dieback into planning. Academic research and the experience of other cities have been explored to assist in providing the evidence base for best practice. In terms of human needs, the associated co-benefits of developing a living infrastructure commitment are recognised to include improved health and wellbeing and the reduction of social isolation. The indicators developed in the ACT Government's forthcoming Wellbeing Framework (2020) further link these benefits. The Living Infrastructure Plan adopts an innovative policy approach, aiming to explore the use of 'natural capital accounting' by using the United Nations System of Environmental-Economic Accounting to more clearly determine the value of the urban forest for decision making.

¹ Environment, Planning and Sustainable Development Directorate (EPSDD), 2019, *Canberra's Living Infrastructure Plan: Cooling the City*, ACT Government, Canberra, found at https://www.environment.act.gov.au/___data/assets/pdf_file/0005/1413770/Canberra-Living-Infrastructure-Plan.pdf, accessed 18 November 2019. This infrastructure plan was launched after the cut-off date for data for this report.

Climate change and Canberra

The ACT Government joined the international community in declaring a climate emergency in May 2019. Government leadership in climate change and energy policy has received the recognition it deserves. The ACT will deliver on its commitment to provide 100% renewable energy to the Canberra community in 2020. In late 2019, the ACT Government renewed its commitment to reducing greenhouse gas emissions with the launch of its *Climate Change Strategy 2019–25*.² The Government's interest in removing gas from the territory's energy mix is reinforced in this new strategy, reflecting leading emissions reduction practice. It is recognised that much of the 'heavy lifting' to meet renewable energy targets has been achieved through regulatory processes. The Canberra community is now being encouraged to harden its resolve to address climate change challenges at the personal and community level. Actsmart, the Environment, Planning and Sustainable Development Directorate's (EPSDD) program arm of environmental sustainability in the ACT Government, continues to deliver sustainability initiatives which engage the community and promote social equity. These programs cross sectors and portfolios and are cited extensively in this report.

Waste and a circular economy

The ACT Government was an early adopter of waste reduction targets and was the second jurisdiction in Australia to act on single-use plastic shopping bags. In 2018, a commitment to a wide-ranging community and Government discussion about waste and waste-to-energy was undertaken. The community is now being consulted about a further ban on single-use plastics. Our ability to further reduce waste has plateaued even as the ACT Government continues to evaluate policy, review current practices, advance ambitious waste reduction targets, improve

annual reporting, build capacity for organics collections, undertake landfill methane capture, and consult the community about waste-to-energy proposals (2018–19). Actions have included aligning with NSW to introduce a highly successful Container Deposit Scheme and contributing to national waste reduction planning. Transitioning to a circular economy is now a national conversation.³

Transport

Transport will become the ACT's major source of greenhouse emissions after the territory transitions to 100% renewable energy in 2020. Canberrans have a perennial attachment to the use of private passenger vehicles which contributes to this problem. Analysis in this report shows that we have increased our uptake of diesel passenger vehicles with a resultant impact on air quality. Although the ACT (along with South Australia) has the highest rate of electric vehicle uptake in Australia, and government incentives support the expansion of private ownership of electric vehicles, electrification still constitutes a major challenge. The Government's commitment to electrifying our transport modes and the Government fleet has the potential to reduce emissions in the transport sector. In terms of research and development, the adoption of other non-polluting fuels, such as hydrogen, is being explored. Our uptake of public and active transport is less than optimal. Digital technology apps and scheduling changes are being introduced in an effort to address this. Our uneven commitment to active travel across the city continues to be a concern, and cycling infrastructure and active travel programs are being instituted to remedy this. Cycling participation surveys show that Canberrans cycle more than other Australian city dwellers, but this is in comparison to a low base and recent cycling participation trends are not encouraging; Territory Plan Variations are being explored to build interest.

2 EPSDD, 2019, *ACT Climate Change Strategy 2019–25*, ACT Government, Canberra, found at https://www.environment.act.gov.au/__data/assets/pdf_file/0003/1414641/ACT-Climate-Change-Strategy-2019-2025.pdf/_recache, accessed 18 November 2019.

3 Australian federal, state and local governments, 2018, *National Waste Policy 2018*, found at <https://www.environment.gov.au/system/files/resources/d523f4e9-d958-466b-9fd1-3b7d6283f006/files/national-waste-policy-2018.pdf>, accessed 18 November 2019. It specifically invites circular economy action.

Water

Land use impacts, modified river flows and climate change continue to impact on aquatic ecosystems in the ACT. The Snowy 2.0 project provides an opportunity to increase flows in the Murrumbidgee River, which would represent a significant boost for river health, biodiversity and recreational uses alike. Water resources are under pressure from decreased rainfall and catchments that provide water security and habitat are stressed. Murray-Darling Basin Plan Water Resources Plans – surface and groundwater – have been submitted and accepted. However, the ACT's water use is not presently the subject of restrictions even though water levels are falling despite the recent enlargement of the Cotter Dam. Monitoring and evaluation of all of Canberra's lakes remains an important consideration and academic partnerships, independent research, and reporting is critical to understanding and responding to challenges in a timely, efficient, rigorous and effective manner. A sustainable funding model to support monitoring and the management of water supply and catchment values must be put in place to counter a range of climate scenarios and their potential impacts on biodiversity and water security.

Air quality

Air quality is generally good in the ACT, except for particulate matter pollution from wood heaters, especially in the Tuggeranong Valley. A marked increase in numbers of diesel passenger vehicles and the associated pollution is a concerning trend. Rates of allergic rhinitis caused by pollen is also a significant health concern. More air quality monitoring stations are required to better understand localised issues.

Land management and planning

Land health, management and planning is fundamental to how we respond to the need to protect biodiversity and ecosystem services. The risks to biodiversity which stem from population growth and housing development need to be carefully managed. The establishment of the ACT Design Review Panel and the appointment of a Chief Engineer, coupled with the *ACT Planning Strategy 2018*, provide an opportunity to implement tighter controls over developments. The ACT Government's promotion of an increase in infill development (up from 50% to 70%) has the potential to benefit the natural environment provided the commitment to the urban forest is met in the more compact developments that ensue. The transition to becoming a medium-density, mixed-use, compact city with development taking place along connected transport corridors will have its challenges. The City Renewal Authority's *Strategic Plan 2018–25*,⁴ *Sustainability Strategy*,⁵ and *City and Gateway Urban Design Framework* (developed in partnership with the National Capital Authority)⁶ outline opportunities for sustainable compact city development in respect of place making, star ratings, water use, active travel, and tree canopy.

4 City Renewal Authority, *Strategic Plan 2018–25*, ACT Government, Canberra, found at https://www.act.gov.au/__data/assets/pdf_file/0010/1284589/2025-Strategic-Plan.pdf, accessed 18 November 2019.

5 City Renewal Authority, 2018, *Sustainability Strategy*, ACT Government, Canberra found at https://www.act.gov.au/__data/assets/pdf_file/0008/1280159/sustainability-strategy.pdf accessed on 18 November 2019.

6 National Capital Authority (NCA) and ACT Government, 2018, *City and Gateway Draft Urban Design Framework*, EPSDD, Canberra, found at https://www.planning.act.gov.au/__data/assets/pdf_file/0005/1296986/CITY-AND-GATEWAY-Urban-Design-Framework.pdf, accessed on 21 November 2019.

Biodiversity

Biodiversity policy continues to reflect adaptive management. The *Nature Conservation Act 2014* (ACT), Nature Conservation Strategy, Biodiversity Research and Monitoring Program and Conservation Effectiveness Monitoring Program all link to provide transparent, accountable, evidence-based input into biodiversity policy and support the need for adaptive management methodologies.

Biodiversity offsetting has been used to facilitate development which impacts Matters of National Environmental Significance. The Strategic Assessments for the development of Gungahlin and the Molonglo Valley, established pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), have been independently audited by the Office of the Commissioner for Sustainability and the Environment (OCSE). Independent audits will continue every five years. Other strategic assessments are foreshadowed. It will continue to be important to actively engage the community and environmental non-government organisations in the consideration of any proposed ACT biodiversity offsets even as the criteria for establishment adopts the Commonwealth Offsets Guide.

Challenging biodiversity issues remain. These include the adoption of a sustainable funding model; implementing modern, efficient and effective data management infrastructure; anticipating, understanding, and managing climate change impacts on ecosystems and species; the monitoring, evaluation and management of pressures associated with urban development and Canberrans' ecological footprint; the ongoing legacy of historic clearing and land management practices; and the management and eradication of invasive plants and animals.

Fire

As this report was finalised, we witnessed the first ever declaration of a 'catastrophic' fire danger warning for the city of Sydney (November 2019). The ACT's geography and development patterns coupled with climate change projections and realities mean our natural landscapes, biodiversity, habitat and water catchments face an increasing fire risk. Many strategic and operational interventions have occurred since the 2003 bushfires. Policy is evidence-based, evaluated, and reviewed within stipulated timeframes, and policy renewal has been routinely instituted. Infrastructure and service delivery expenditure on operational matters will potentially be stretched, given cross-jurisdictional responsibilities and collaborations.

Policy responses

State of the environment reports routinely consider government policy responses to the environmental challenges associated with drivers of change including climate change and human settlements.

There has been considerable policy renewal in this reporting period. In the ACT, the government assumes local and sub-national responsibilities. Being landlocked, the ACT needs to work with NSW on environmental matters. Cross-jurisdictional operations such as the Container Deposit Scheme illustrate the potential, but illegal waste transfers and biodiversity risk factors, such as feral horses in national parks, continue to test resolve and the capacity to respond.

Innovation and leadership are critical in times of change. The ACT Government accepts the fact that we are living through a climate emergency. The Government is a recognised leader in driving research and development in energy policy. Other jurisdictions have adopted the ACT's reverse auction mechanism for advancing renewable energy projects. Business is an advocate of ACT policy in this regard. Early adopters are beneficiaries of leadership.

Integration of environmental policy across portfolios is complex. For instance, action on waste and plastic pollution involves a number of ministers and their directorates. Climate and energy policy offers insights into how policy and operations, community and business matters are intrinsically linked; how cross-portfolio responsibilities such as transport and building regulations both underpin and impact outcomes. Blending policy and operational matters, the Actsmart program, offers a good example of integration, cross-portfolio collaboration and alignment, and the benefits of routine and targeted policy evaluation. The importance of policy continuity is also apparent in this well-integrated program.

The tension between the need for clear and stable climate and energy policy, and support for environmental adaptive management in relation to sustainability and biodiversity, reflects the differentiated nature of policy across the environment portfolio. On the one hand, policy needs to be highly structured and stable but, on the other, it must be flexible and responsive. ‘One size’ does not fit all.

Implementation challenges are generally well understood in the ACT. However, it has been the experience of the OCSE when conducting investigations into strategic assessments and water policy that delays do occur, and implementation plans have been deferred. In the reporting period the ACT Government has responded positively to OCSE corrective action requests and recommendations about environmental management issues.⁷

Rigorous reporting, as well as routine review and evaluation, is also necessary for accountability and transparency. The ACT’s policy instruments across the environmental spectrum commonly establish review requirements including timeframes, reporting and consultation obligations.

The ACT Government has worked hard to engage the community in environmental policy design and evaluation and has put in place a number of processes to formalise these consultative arrangements, including adopting deliberative democracy, using and continuing to explore digital technologies, and inviting the contributions and critical thinking of young professionals.

The report which follows discusses these and other matters and provides recommendations, indicator assessments, key actions, and a range of illustrative case studies.

⁷ See OCSE, 2018, *Independent Audit of the Molonglo Valley Strategic Assessment*, ACT Government, Canberra, found at <https://www.envcomm.act.gov.au/investigations/independent-audit-of-the-molonglo-valley-strategic-assessment>; OCSE, 2018, *Independent Audit of the Gungahlin Strategic Assessment*, ACT Government, Canberra, found at <https://www.envcomm.act.gov.au/investigations/independent-audit-of-the-gungahlin-strategic-assessment>