



**ACT**  
Government

# 2020–21 Minister's Annual Report

under the Climate Change  
and Greenhouse Gas  
Reduction Act 2010

Presented by  
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and Emissions Reduction



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### **Acknowledgment to Country**

Yuma

Dhawura nguna ngurumbangu gunangu Ngunnawal. Nginggada dindi dhawura Ngunnawal bun yindjumaralidjinyin.  
Mura bidji mulanggaridjindjula.  
Naraganawaliyiri yarabindjula.

Hello

This country is Ngunnawal (ancestral/spiritual) homeland.  
We all always respect elders, male and female, as well as Ngunnawal country itself.  
They always keep the pathways of their ancestors alive.  
They walk together as one.

The Environment, Planning and Sustainable Development Directorate acknowledges the Ngunnawal people as Canberra's first inhabitants and Traditional Custodians. We recognise the special relationship and connection that Ngunnawal peoples have with this Country. Prior to the dislocation of Ngunnawal people from their land, they were a thriving people whose life and culture was connected unequivocally to this land in a way that only they understand and know, and is core to their physical and spiritual being. The disconnection of the Ngunnawal people from Culture and Country has had long-lasting, profound and ongoing health and well-being effects on their life, cultural practices, families and continuation of their law/lore. The Environment, Planning and Sustainable Development Directorate acknowledges the historic dispossession of the Ngunnawal people of Canberra and their surrounding regions. We recognise the significant contribution the Ngunnawal people have played in caring for Country as for time immemorial they have maintained a tangible and intangible cultural, social, environmental, spiritual and economic connection to these lands and waters.

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# Introduction

In 2010, the ACT Legislative Assembly passed the Climate Change and Greenhouse Gas Reduction Act 2010 (the Act). The purpose of the Act is to promote the development of policies and practices to address climate change, to set targets to reduce greenhouse gas emissions and to provide monitoring and reporting in relation to the targets.

For each financial year, the Minister must prepare a report on:

- A. the actions taken during the year to exercise the functions required of the Minister under the Act
- B. the effectiveness of government actions taken to reduce greenhouse gas emissions
- C. the findings of a cost-benefit analysis of any government policies or programs implemented to meet the targets.

This report outlines the ACT Government's actions against the requirements of the Act for the 202021 financial year.



# 2020–21 at a glance

- ACT powered by 100% renewable electricity for second consecutive year.
  - Greenhouse gas emissions 45% lower than 1990 levels.
  - Established the Sustainable Household Scheme to support sustainable home upgrades.
  - Funded Australia's first hybrid-electric fire truck.
  - Established Australia's first hydrogen fuel cell electric vehicle (FCEVs) Government fleet and first publicly available hydrogen refuelling station.
  - 100% of new ACT Government passenger vehicle fleet leases transitioned to zero emissions vehicles (where fit for purpose).
  - Helped households, businesses and schools reduce their emissions through Actsmart programs.
  - Funded community projects to support our transition to net zero emissions.
  - Funded several renewable energy projects under the Renewable Energy Innovation Fund.
  - Implemented a two-year registration waiver for zero emissions vehicles.
  - Installed solar panels at the Common Ground project in Gungahlin and the Toolangi social housing project in Kaleen.
  - Changed the Utilities Act to provide greater transparency in electricity pricing.
  - Established the Whitlam Collaboration Hub on Living Infrastructure.
  - Established the Fleet Advisory Service.
  - Established the Office of Climate Action.
  - Finalised the zero-emissions bus transition plan.
- 





# Part A: Actions taken in 2020–21

The year 2020–21 was characterised by ongoing recovery from the COVID-19 health emergency, which brought new challenges for the community, and the top priority will always remain the health and safety of our citizens and visitors.

Despite the challenges, the ACT continued to deliver action on climate change and to lead both nationally and internationally.

This annual report describes actions and achievements in 2020–21 related to the Minister's functions under the ACT's Climate Change and Greenhouse Gas Reduction Act 2010 (the Act).

This includes achievements made under the:

- Parliamentary and Governing Agreement for the 10th Legislative Assembly (PaGA)
- ACT Climate Change Strategy 2019–25
- Canberra's Living Infrastructure Plan: Cooling the City
- ACT's Transition to Zero Emissions Vehicles 2018–21
- Zero-Emission Transition Plan for Transport Canberra.

## New climate change actions agreed through the PaGA

A comprehensive set of new commitments were made under the PaGA to reduce our city's greenhouse gas emissions including to:

- phase out of fossil-fuel-gas in the ACT by 2045 at the latest, support energy grid stability and support vulnerable households
- significantly expand the number of zero emission vehicles (ZEVs) in the ACT
- reform the ACT's building and planning systems to ensure a transition to best practice climate-ready and environmentally sustainable buildings and planning.

The ACT Government also established the Office of the Coordinator General for Climate Action ('the Office') to coordinate and support the ACT Government's ambitious agenda for climate action. The Office coordinates activities across government, including:

- coordinating the rollout of the Sustainable Household Scheme of zero-interest loans of up to \$15,000 to help households with the upfront costs of investing in sustainable upgrades to their homes
- delivering the Big Canberra Battery of at least 250 MW of new 'large-scale' battery storage distributed across the ACT
- managing direct procurement and/or market incentives to provide energy storage infrastructure and guarantee access agreements
- establishing policy, legislative, procurement and planning reforms associated with climate adaptation and resilience.

The PaGA sets out specific initiatives to reduce natural gas use that will be implemented during the current term of government. In so doing, the PaGA progresses action 4.5 of the ACT Climate Change Strategy which is to develop a plan by 2024 for achieving zero emissions from gas use.

## ACT Climate Change Strategy 2019–25

Progress on the implementation of the ACT Climate Change Strategy is provided to Cabinet and the Climate Action Subcommittee of Cabinet every six months. In June 2021, the third implementation report described an additional two actions that reached completion since the previous implementation report:

- In 2019–20 the Australian National University prepared a report exploring options for implementing a reward scheme for community members who increase their use of public transport and/or active travel. This action was completed in 2020.
- In 2020–21, the ACT Government also achieved the goal of 100% of new Government vehicle leases being zero emissions vehicles (where fit-for-purpose).

## Canberra's Living Infrastructure Plan

The ACT Climate Change Strategy is complemented by Canberra's Living Infrastructure Plan: Cooling the City (Living Infrastructure Plan), which sets the direction for maintaining and enhancing trees, soils and waterways to keep our city cool, healthy and liveable in a changing climate. Actions undertaken in 2020–21 include the following:

- A living infrastructure demonstration project was completed at the Whitlam display village, including permeable driveways and novel gutter modifications that re-direct storm water towards tree root beds.
- Release of the Urban Forest Strategy, which provides the pathway to achieve the target of 30% tree canopy cover by 2045 and outlines actions to ensure our urban forest remains resilient to a changing climate.

- Development of a revised approach to identify and quantify tree canopy in urban Canberra to determine the baseline from which future actions can be monitored. This updated approach determined the 2020 tree canopy cover for urban Canberra as 22.5%.
- A Microclimate Assessment Guide was developed and piloted.
- A Climate Wise Landscape Guide was prepared to help individuals, businesses and built-environment professionals identify ways to maximise tree canopy cover and permeable surfaces and promote climate-adapted sustainable urban design.

## ACT's Transition to Zero Emissions Vehicles 2018–21

In May 2021, the Government introduced two years of free registration on all ZEVs registered in the ACT. This is an additional incentive to the ACT's existing stamp duty exemption for new ZEVs. Since the introduction of the registration policy, 372 additional ZEVs were registered in the ACT, representing a 36% increase over the six months to October 2021.

To lower emissions from the transport sector, the ACT Government is strongly supporting the uptake of ZEVs. Eleven separate but interrelated actions under the ACT's Transition to Zero Emissions Vehicles Action Plan 2018–21 (the Action Plan) aim to overcome three key barriers to ZEV uptake:

- Upfront costs
- Concerns about ZEV range
- Availability of fit-for-purpose ZEVs

A key achievement of this plan was the successful transition to 100% of new government passenger vehicle leases being zero emissions vehicles (where fit-for-purpose) from 2020–21. Under this Plan, ZEVs were afforded transit lane privileges. The action plan also continues to support the use of e-bikes to reduce transport emissions. Canberra's Electric Bike Library allows users to loan an e-bike for a trial period and can be used as a second car alternative. The ACT Government salary packaging scheme has also been successful, with 38 staff currently leasing an e-bike. An assessment of the outcomes of each action was carried out, and a summary of the results can be found at **Appendix A**.

The Auditor-General's Performance Audit Report, ACT Government's Vehicle Emissions Reduction Activities (the Audit Report), was provided to the Speaker of the ACT Legislative Assembly in April 2021. The Auditor-General acknowledged that the plans and strategies for vehicle emissions reduction provide an effective statement of the Government's ambitions. The ACT Auditor-General found that ACT Government agencies have, for the most part, effectively implemented the zero emissions vehicle commitments considered as part of the audit, while noting areas for learning and improvement for the future.

The ACT Government has agreed to each of the five recommendations made by the Auditor-General which relate to:

- program design and delivery
- shared implementation plans
- learnings from implementation
- zero emissions vehicle reporting
- fleet policy on zero emissions vehicles.

Progress on the actions under the Climate Change Strategy, Living Infrastructure Plan, and the Zero Emissions Vehicle Action Plan are provided in **Appendix B**.

In agreement with these recommendations, the ACT Government has commenced work to implement the government's response, which was tabled in the Legislative Assembly on 5 August 2021.



## Zero-Emission Transition Plan for Transport Canberra

In September 2020, the Minister for Transport and City Services announced the Zero-Emission Transition Plan for Transport Canberra, which outlines plans to purchase electric buses and creates more jobs, more opportunities for local energy providers and a clear strategy to ensure the right infrastructure is built to support the fleet. It articulates the way in which the bus fleet will transition to zero emissions by 2040, and will be timed with plans for electric charging infrastructure and new depots to support the growing fleet.

## All-electric Canberra Hospital Expansion

In September 2020, the ACT Government announced that the Canberra Hospital Expansion will run on the ACT's 100% renewable electricity—a world-leading climate action initiative. The ACT Government is expanding Canberra Hospital to include a new 40,000sqm emergency, surgical and critical healthcare facility at the existing hospital campus in Woden. The hospital expansion will be the largest healthcare infrastructure commitment ever undertaken by the ACT Government; it will be powered by efficient all-electric heat pumps. As the ACT has now reached our 100% renewable electricity target, this investment will be powered entirely by clean, green renewables. Once operational, this will avoid 1,886 tonnes of carbon dioxide being released into our atmosphere every year, equivalent to taking 760 cars off Canberra roads. Construction of the new facility has begun and is expected to be completed in 2024.

## Review of Climate Change Legislation

The [Climate Change and Greenhouse Gas Reduction Act 2010](#) promotes the development of policies and practices to address climate change, sets targets to reduce greenhouse gas emissions and provides for monitoring and reporting in relation to the targets. It is the primary item of ACT legislation addressing and responding to climate change.

A review of the legislation commenced in 2020–21, 10 years after commencement of the Act, as required by law. Independent consultants Aither were commissioned to undertake the review and provide recommendations and findings to the ACT Government.

## Renewable Energy Innovation Fund

The Government has continued to administer the Renewable Energy Innovation Fund (REIF) and programs to realise its vision for the ACT as an internationally recognised centre for renewable energy innovation and investment. Seven renewable energy projects made progress in 2020–21 supported by ACT Government funding. This included grant projects to support a solar panel test laboratory; hydrogen storage; battery storage optimisation; reducing charging time of electric vehicles; a trial of batteries in an all-electric suburb; a portable solar pilot program; and heavy electric vehicle performance simulation.

The ACT Renewables Hub, which is supported through the REIF, adapted to the challenges of COVID-19 in 2020–21 by delivering information sharing, collaboration and networking through online platforms and in-person events where possible.

## Community Zero Emissions Grants

The 2020–21 Community Zero Emissions Grants Program provided five grants with a combined value of more than \$127,000 to community groups and sponsored individuals to lead initiatives that support the ACT's transition to net zero emissions by 2045.

Projects funded:

- The Conservation Council ACT Region and the Canberra Environment Centre for their 'Make the Move' zero emissions travel project. The program engages directly with workplaces to provide information and support to commuters to assist them in making sustainable transport choices.
- The Australian Electric Vehicle Association (AEVA) ACT Branch for its 'Zero Emissions, Go Electric' project to conduct a series of mutually supporting events including an innovative Zero Emissions Eventure and Try Ride days.
- Localjinni for its Dynamo mobile-projector festival, which will celebrate the health and wellbeing benefits of active travel, and the economic gains provided by e-bikes as well as car and bike sharing schemes.
- Rebus Theatre Inc for 'Inner Climate', a theatre-based project that will explore psychological, social and political obstacles to reducing carbon emissions.
- Liz Lea Dance for 'And...Breathe', a short film arts communication project aimed at speaking to a diverse audience about the imperative of transitioning to net zero emissions by 2045.

## Sustainable Household Scheme

The ACT Government committed \$150 million over five years to provide zero-interest loans between \$2,000 and \$15,000 under the Sustainable Household Scheme (the Scheme). Eligible households and community groups will be able to make upgrades to their homes and premises through purchasing a range of sustainable products that will:

- help reduce energy use and costs
- help households live more comfortably
- contribute to greenhouse gas emissions reductions
- support development of the renewable energy industry in the ACT.

Products available under the Scheme include:

- Category A—household rooftop solar photovoltaic systems, battery storage systems and Electric Vehicle (EV) charging infrastructure
- Category B—electric reverse cycle heating and cooling systems, Hot Water Heat Pumps (HWHP) and efficient electric stove tops and oven units
- Category C—new and used electric vehicles (imported used and private sale).

Products can be bundled, or separate loans applied for over the five years, with a cumulative maximum of \$15,000 interest free.

## Wood Heater Replacement Program

The Actsmart Wood Heater Replacement program provided 36 rebates to encourage ACT residents to reduce air pollution from wood heaters by replacing them with efficient electric heaters.

## Support for households

During 2020–21, the ACT Government's Actsmart sustainability household programs provided support to 3,865 households—including 1,214 low-income households and 162 rental households—with information and assistance to reduce their energy use and greenhouse gas emissions. Activities undertaken included home energy assessments and education, workshops and information sessions, installation of energy efficient appliances, draught proofing and subsidies for low-income households to install solar systems through the Actsmart Solar for Low Income program.

The ACT Government also supports households and businesses to reduce energy demand and carbon emissions through the Energy Efficiency Improvement Scheme (EEIS). In 2020–21 the scheme was extended from 2021 to 31 December 2030 and switched from an emissions reduction metric to an energy savings metric to account for the ACT having achieved 100% renewable electricity.



## Actsmart Schools

Through the Actsmart Schools program, the Government continued to support school communities to take climate action and move towards zero net emissions. This program helps all ACT schools develop and implement a staged approach to improving their sustainability.

Actsmart Schools provides advice to the school community to improve energy, waste and water management; increase biodiversity and reduce transport emissions; hold teacher professional learning events; provide hands-on learning experiences for students; and curriculum-based resources. The annual Actsmart Schools Sustainability Awards is an opportunity to acknowledge and celebrate teacher and student leadership, successful teams and projects. It includes the school of the year award, awarded to North Ainslie Primary School in 2020.

## Community Activities

In 2020–21 the ACT Government provided funding to expand the SEE-Change Canberra Electric Bike Library, which allows Canberrans the chance to borrow an e-bike for eight days before investing in one. The library provides a variety of bikes to cater for a variety of needs including standard and cargo e-bikes.

The government also provided funding to the three community groups—Canberra Environment Centre, SEE-Change and the Conservation Council ACT Region—to engage with the community on a range of sustainability issues, initiatives, policies and programs through established community partnerships.

## Next Generation Energy Storage Program

The ACT Government continued its staged roll-out of solar battery storage in homes and small businesses in the ACT through the Next Generation Energy Storage (Next Gen) program. The program has expanded from three installers to 15, which provides the ACT community with greater options. More than 290 solar battery storage systems were installed over 2020–21, bringing the total number of systems supported by the program to more than 1,800.

## Business Engagement

Over 2020–21, the Actsmart for Business programs provided:

→ Actsmart Business Energy and Water assessments for 85 organisations

- 41 rebates to support energy efficiency and water upgrades, with a total estimated saving of 238MWh of energy and \$57,076 in ongoing annual savings to businesses
- rebates to 41 businesses for the Actsmart Solar for Business Program, with a total estimated annual savings of 937MWh of energy and \$171,965 in ongoing annual savings
- accreditation of 361 sites by the Actsmart Business Recycling Program, which diverted an estimated 22,551 cubic metres of material from landfill, saving an estimated 4208 tonnes CO<sub>2</sub>-e in greenhouse gas emissions.

## Climate Change Council

The ACT Climate Change Council (the Council) advises the Minister for Water, Energy and Emissions Reduction (the Minister) on matters relating to reducing greenhouse gas emissions and building resilience and adapting to climate change.

Over the 2020–21 reporting period, the Council held four formal meetings and provided advice to the Minister and EPSDD, including advice on establishing an ACT Social Cost of Carbon. Additionally, the Council progressed work through informal Council meetings and continued to consult with representatives from business and the community on climate change matters.

The Council prepared two submissions on key pieces of legislation and policy as well as participating in a variety of engagement activities. The Council also established ongoing working relationships with ACT Government ministers to provide advice about the impact of climate change related to different ministerial portfolios.

The [Council's Annual Reports](#) are published on the EPSDD website.

## National and International Engagement

The ACT is a leader in climate change action and continues to engage with other jurisdictions on a national and international scale through partnerships such as the Under 2 Coalition, Global Covenant of Mayors for Climate and Energy and the Cities Power Partnership.

The ACT also transparently reports its climate change actions and greenhouse gas emissions annually through the international Carbon Disclosure Project.

## Partnerships

The ACT Government recognises that it cannot address the challenges of climate change alone. Partnerships with business and civil society are key to harnessing the ACT's collective skills and expertise to combat climate change.

In 2020–21, the ACT Government continued to strengthen its approach to partnerships in the ACT community to help develop and showcase climate action leadership. This included:

- developing a new interactive game to engage the ACT community on climate action topics including reducing greenhouse gas emissions from transport
- procuring research and analysis about the ACT community's engagement with climate action to inform future partnership approaches and activities
- commencing initial work on a Scalable Solutions platform to showcase community climate action projects
- Developing a new Everyday Climate Choices website, providing centralised and user-centred resources on climate action
- designing new partnership approaches to increase the reach and impact of both government and non-government initiatives to combat climate change.

# Part B: Effectiveness of Government Actions

## ACT Greenhouse Gas Inventory

Every year, the ACT Government publishes the Territory’s greenhouse gas emissions.

Total greenhouse gas emissions in 2020–21 were 1,685 kt CO<sub>2</sub>-e in the ACT, a 45% reduction from 1989–90 levels. Per capita emissions were 3.9 t CO<sub>2</sub>-e in 2020–21, representing a 65% reduction from 1989–90 levels.

This was mainly a result of the ACT maintaining its 100% renewable electricity supply since 2019–20. As a result, transport is the largest source of emissions at 64%, followed by natural gas combustion (22%) and waste decomposition (10%). As expected, total emissions increased slightly from 2019–20 levels due to economic recovery following the pandemic.

**Table 1** ACT emissions over time, and 2025 target (kt CO<sub>2</sub>e-)

1989-90	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2024-25 (Target)
3,077	4,060	4,027	3,765	3,763	1,638	1,685	1,539



## Zero Emissions Government Projects

During 2020–21 the ACT Government achieved the following projects within government directorates:

- Met the target of 100% of newly leased government passenger vehicles being ZEVs (where a fit-for-purpose vehicle was available). The ACT Government continues to operate one of the largest zero emissions passenger fleets in Australia. Under this action, the government fleet now has more than 175 ZEVs and 125 electric vehicle charging points.
- Established Australia's first hydrogen fuel cell electric vehicle (FCEVs) government fleet. The 20 Hyundai Nexo passenger vehicles are refuelled at Australia's first publicly available hydrogen refuelling station in Fyshwick.
- Implemented an all-electric tools and e-bike trial with Tidbinbilla's ACT Parks and Conservation Service staff. New electric chainsaws, line trimmers, pole-saws, leaf blowers and two allterrain mountain e-bikes have been provided to the rangers as a zero-emissions alternative for operational equipment.
- Conducted a heating trial at the 255 Canberra Avenue depot to inform scalability and feasibility for other ACT Government depots. This project trialled and collected data from the installation of electric heaters.
- Initiated a fit-for-purpose design for the Emergency Services Agency Civic Station. This design includes all-electric building services, environmentally conscious systems, elements and charging capacities for the EV fleet including Canberra's first electric fire truck.
- Commenced planning and design activities for the refurbishment of the existing Traffic Operation Centre warehouse. The project seeks to extend all-electric heating and cooling and incorporate charging facilities for electric vehicles.
- Conducted a desktop study identifying the potential for solar photovoltaics at more than 200 government buildings to support electrification and the transition to zero emissions.
- Funded the installation of batteries at Margaret Hendry School and Caroline Chisholm Senior School through the COVID-19 Stimulus package to support local jobs and businesses.

## Zero Emission Government Loan Fund

The ZEG Fund is a zero-interest loan fund that allows ACT Government agencies to manage the cost of reducing emissions. The fund supports cost-effective emissions reduction projects, with 36 projects to the value of \$18 million supported under the fund to date. Highlights for the ZEG fund in 2020–21 included the following:

- Provided funding for Australia's first hybrid-electric fire truck, which will be the first lowemissions emergency vehicle in the ACT Government's fleet.
- Implemented the Stromlo Depot project, which combines building and vehicle emissions reduction technology upgrades. The project includes a 64kW solar photovoltaic system, replacement of a gas hot water system with an electric heat pump and installation of electric vehicle infrastructure.
- Completed the Tuggeranong Police Station project, which converted conventional gas-based heating to a hybrid heat pump, LED lighting upgrades and installation of a solar photovoltaic system and battery storage.
- Progressed fund applications for the Tuggeranong and Gungahlin community health centres following the execution of a memorandum of understanding with Canberra Health Services. These sites will be the first community health centres to transition to net zero emissions technologies and appliances.

## Agency Specific Performance

ACT Government agencies have five-year emissions reduction targets that they report against annually using the 2018–19 year as a baseline. **Table 2** shows each directorate's 2020–21 (financial year) performance against the five-year targets. ACT Government emissions increased against baseline levels due to the expansion of services, opening of new facilities and increased activities that contributed to the increase in emissions.

**Table 2** Greenhouse gas emissions by Directorate 2020–21.

Directorate	Baselines* (TCO <sub>2</sub> E)	2020-21 Emissions (TCO <sub>2</sub> E)	Emissions as Percentage of Baseline
ACT Health Directorate	319	293	91.8
Canberra Health Services	10349	7170	69.3
Chief Minister, Treasury and Economic Development Directorate <sup>1</sup>	4113	5290	128.6
Community Services Directorate	598	504	84.3
Education Directorate	6337	6014	94.9
Environment, Planning and Sustainable Development Directorate	789	744	94.3
Justice and Community Services Directorate <sup>2</sup>	3543	3851	108.7
Major Projects Canberra <sup>3</sup>	16	34	212.5
Transport Canberra and City Services Directorate <sup>4</sup>	39028	43430	111.3
<b>Totals</b>	<b>65092</b>	<b>67330</b>	<b>103.4</b>

Data source: ACT Government Enterprise Sustainability Platform (extracted 29/09/2021)

\*2020 Baselines are calculated from 2019 calendar year.

- The significant increase in emissions is largely due to gas usage from the almost full year operation of the Stromlo Leisure Centre (which had not yet opened during the baseline year). There was also colder weather over the shoulder months during 2020-21, resulting in an increased need for pool facility heating. The increase in emissions from gas was slightly offset by the continued closure of the 50-metre pool at the Gungahlin Leisure Centre, and the reduction in transport fuel use due to a reduction in fleet vehicles and reduced use of vehicles due to COVID-19.
- JACS emissions increases were from a spike in winter gas consumption at ACT Courts and at City and Woden Police Stations, and increased ACTAS fleet usage.
- MPC was formed on 1 July 2019 and during 2019-20, occupied one Pod (Pod C3) in Callam Offices and Level 2 at Nature Conservation House in Belconnen. In 2020-21, all staff co-located on level 3 at Callam Offices in Pods A, B and C. The increase from the baseline figure of 16 TCO<sub>2</sub>E to an actual of 34 TCO<sub>2</sub>E is due to data not being available when MPC was established, the relocation of MPC staff into Callam Offices and the increase in our staffing numbers. ACT Property Group, who own the building, have secured funding to upgrade the current heating, ventilation, and air conditioning (HVAC) system which utilises gas boilers for heating, contributing the majority of MPCs CO<sub>2</sub> emissions.
- An increase in weekday bus services from July 2020 and an uplift in weekend bus services commencing in October 2020 has contributed to an increase in fuel use for the Transport Canberra bus fleet for 2020-21 compared with 2019-20. An increase in TCCS fleet fuel use was the result of additional vehicles required during COVID-19 pandemic and increase in grass growth compared with 2019-20 resulting in greater mowing requirements.

## ACT Renewable Energy Target Compliance

The ACT Government committed to deliver 100% renewable electricity for the Territory from 2020 under the Climate Change and Greenhouse Gas Reduction Act 2010. In 2020–21, for the second financial year, the ACT Government successfully met its target to source 100% of the Territory’s electricity from renewable sources. This means voluntarily surrendering 2,216,737 large-scale generation certificates (LGCs) to the Clean Energy Regulator on behalf of all ACT electricity users. The ACT Government published a methodology (the acquittal methodology) for assessing compliance with this 100% renewable electricity target.

In the acquittal methodology, electricity consumption (demand) is accounted for as the electricity imported into the ACT electricity grid from where it connects to the NSW transmission grid. This means that electricity generated in the ACT (such as from rooftop solar, large-scale solar farms and landfill gas generators) acts to reduce electricity consumption and, consequently, reduces the amount of electricity required to be imported from the transmission grid. In addition, the ACT’s share of Commonwealth Large-scale Renewable Energy Target (LRET), Greenpower purchases in the ACT and the ACT’s share of Below Baseline NSW region NEM renewable generation contribute towards the overall number of LGCs to surrender. The methodology also accounts additional LGCs to surrender for electricity generated by ACT landfill gas.

It should be noted that LGCs are surrendered based on an estimate of the ACT’s electricity consumption each financial year (see **Table 3**). Any discrepancy between LGCs surrendered and ACT electric consumption is reconciled at the end of that financial year. If too many certificates have been surrendered, the excess LGCs are carried forward to the following year.

**Table 3** 100% renewable electricity target acquittal.

Sources of renewable energy (MWH)	Original methodology	Alternative methodology
Feed-in-tariff contracts with large-scale generators	2,044,092	2,146,998
ACT’s share of the Large-scale Renewable Energy Target (LRET)	539,552	539,552
Greenpower purchases in the ACT <sup>1</sup>	0	0
Electricity exported to the distributor and generated by renewable sources within the ACT	0	156,094
ACT’s share of NEM renewable generation up to the level of their LRET baseline	93,200	93,200
Renewable electricity supply	≈2,708,000	≈2,967,000
ACT electricity consumption	≈2,708,000	≈2,967,000
Renewable electricity percentage	100%	100%
LGCs surrendered	2,216,737	2,216,737
LGCs carried forward to future year	172,645	172,645
LGCs carried forward from previous year	31,156	31,156

The Minister also successfully championed for emissions reduction to be included in the National Energy Market Post 2025 Reforms, further supporting the ACT’s 100% renewable target.

<sup>1</sup> The electricity methodology allows the ACT Government to count Greenpower towards meeting the target. However, a decision has been made not to count Greenpower, so that ACT electricity consumers can choose to purchase Greenpower to support further uptake of renewable electricity in Australia above the ACT’s already ambitious target.



# Part C: Cost Benefit Statement

## Climate Change Policy Benefits

Government actions to reduce emissions are designed to benefit industry, households, businesses and the community. For example, the EEIS is continuing to deliver energy and cost savings for participating ACT households and small to medium businesses for the lifetime of installed technologies. Other programs have delivered additional savings for households and businesses, and the ACT's large-scale feed-in tariff system has provided support to the renewable energy industry while also delivering substantial emission reductions for the ACT.

Together, the Energy Efficiency Improvement Scheme and the Small and Medium Feed-in-Tariff Scheme and Large Scale FeedinTariff Scheme, are estimated to have cost a representative ACT household around \$154 in 2020–21.

### Emissions reduction and industry development

Under the Electricity Feed-in (large-scale Renewable Energy Generation) Act 2011 and through five rigorous and competitive reverse auctions, the ACT Government supported development of 11 solar and wind farms.

Local investments arising from our renewable electricity investment are estimated to bring over \$500 million of benefits to the ACT in knowledge-based industries of the future over a 20-year period.

The investment the ACT took in renewable energy also contributes to emissions reductions. In 2020–21, the ACT consumed 2,967,000 MWh of electricity. This renewable electricity generation avoided 2,029 kt CO<sub>2</sub>-e that would have otherwise occurred without the ACT scheme, and would have accounted for 55% of total emissions (assuming the emissions intensity of electricity in NSW).

## Households and Businesses

### *Rooftop solar*

The ACT small-and-medium scale FiT scheme supports the generation of electricity by eligible solar systems with less than 200 kW capacity. A total of 10,153 solar systems were registered as FiT generators in the scheme in 2020–21, producing a total generation of 47 MWh of electricity from combined installed capacity of around 35 MW.

This was complemented by 17,985 solar systems not supported by the scheme, which generated 72 MWh of electricity from a combined total installed capacity of around 100 MW. Similar to the large-scale FiT scheme, the small and medium scale FiT scheme contributes to the ACT's 100% renewable electricity target, and net zero emissions target.

### *Energy Efficiency Improvement Scheme*

The Energy Efficiency Improvement Scheme (EEIS) benefits households and businesses by reducing their energy costs. Since the Scheme commenced in 2013 up to 30 June 2021:

- more than 78,500 households and businesses have benefited from the Scheme, including more than 20,400 priority households
- 20,400 priority households, which includes rental properties, have experienced lifetime bill savings of more than \$106 million
- more than 4,300 small- and medium-sized businesses have received commercial LED lighting upgrades worth over \$200 million in lifetime energy bill savings. Average lifetime energy bill savings for businesses is approximately \$50,000. This equates to just under \$100 per week in bill savings for participating small and medium sized businesses.





### Supporting Low-income Households

Specific Government policies are in place to help vulnerable households facing financial hardship and to address the cost of climate change measures on lower income households. These include Actsmart programs for low-income households, utility concessions and requirements on energy retailers to assist consumers suffering financial hardship. In 2020–21, around 1,214 low-income households participated in the Actsmart Home Energy Efficiency Programs. Assistance included home energy assessments and education, installation of energy efficient appliances, draught proofing and no interest loans for energy efficient appliance purchase. In 2020–21, the ACT Government extended the Actsmart programs to provide free, tailored in-home energy assessments for renters, supporting and additional 162 rental households through this program.

In 2020–21, the Utilities Hardship Fund supporting energy consumers impacted by the COVID-19 health emergency, was extended a further four years. Eligible customers can receive \$100 vouchers from participating retailers. Additional funding has been committed to improve energy literacy in the community so consumers better understand their bills, rates and services to help in times of need.

In 2020–21, 13 households benefited from the Actsmart No Interest Loan Scheme, administered on behalf of the ACT Government by Care Financial and the Salvation Army. The scheme provided subsidised energy and water efficient appliances for 13 homes.

In 2020–21, the EEIS delivered energy savings in 827 low income, priority households. The EEIS supported the delivery of the Energy Efficiency Improvements in Public Housing program, with 2,669 energy efficient electric heaters and hot water systems installed from 1 July 2018 to 30 June 2021.

## Climate Change Policy Cost Impact

Two climate change policies had a direct cost of living impact in 2020–21: the Energy Efficiency Improvement Scheme (EEIS); and the small-scale and large-scale feed in tariff schemes (FiT scheme).

In 2020–21, these schemes contributed approximately \$154 to a representative household electricity bill. This is approximately 9% of the total cost of electricity to a representative ACT household during the year. Offsetting this impact, activities completed under the EEIS in 2020–21 will deliver millions in lifetime energy bill savings across participating ACT households and businesses.

The compliance cost of the EEIS is passed through to customers in the electricity tariffs. In 2020–21, the average pass-through cost of compliance for a representative household is estimated to be \$24.60 per annum compared to \$25.49 per annum in 2019–20.<sup>2</sup>

In 2020–21, the cost of the FiT scheme increased due to variation in wholesale electricity prices and in part the response to the COVID-19 health emergency. While this has an impact on households and businesses, ACT electricity prices remain comparable with other jurisdictions, even while delivering 100% renewable electricity. In recent years, the costs of meeting our 100% renewable electricity target have been lower than originally anticipated, due to higher wholesale electricity prices.

The average small-scale FiT scheme pass-through costs for a representative household consuming 6,372 kWh annually in 2020–2021 was around \$34.03 compared to \$39.09 in 2019–20.

The FiT scheme pass-through costs for representative household were around \$95.07 in 2020–21, compared to \$94.45 in 2019–20.

**Table 4** Climate change policy cost impact per representative household year 2020-21.

	Average large scale and small scale FiT pass through cost <sup>3</sup>	Average EEIS pass through Cost	Average annual electricity bill
2020-21	\$129.10	\$24.60	\$1,793

<sup>2</sup> Independent Competition and Regulatory Commission Retail Electricity Price Recalibration 202122: Standing offer prices for the supply of electricity to small customers.

<sup>3</sup> Independent Competition and Regulatory Commission Retail Electricity Price Recalibration 202122: Standing offer prices for the supply of electricity to small customers.

# Appendix A

## Outcomes of the actions under the ACT's Transition to Zero Emissions Vehicles Action Plan 2018–21

The Action Plan concluded in 2021. An evaluation of the outcomes of the activities highlights the role the ACT Government has played in leading the way for zero emissions vehicle (ZEV) uptake and demonstrates a strong 'learn by doing' approach within a new technology and small (but growing) market.

**Actions 1 and 2—ACT Government fleet transition:** Actions 1 and 2 were successfully completed, and represent the cornerstone of the try, test and learn approach. In 2019–20 (Action 1) the ACT Government successfully transitioned 74% of its new vehicle fleet leases to ZEVs where fit for purpose, surpassing its target of 50%. In 2020–21 (Action 2), 100% of the new leases were ZEVs where fit for purpose.

A secondary goal of this initiative is to stimulate the supply of ZEVs to the secondhand market. Given that the ACT Government fleet is relatively recent, it will be a few years until the effect on the secondhand market is clear. To date, a total of 34 ZEVs and plug-in hybrid vehicles have been sold in the secondhand market to purchasing business partners such as dealerships and auction houses. This represents 7% of the total 515 vehicles sold.

**Action 3—planning for charging infrastructure in residential and commercial developments:** Action 3 has yet to be fully delivered but remains a priority within the Planning and Urban Policy team. The Planning and Urban Policy Division is developing policy to enable the delivery of EV Ready infrastructure within multi-unit and commercial developments as part of the ACT Planning System Review and Reform Project. Communication and engagement on the project will occur in the second half of 2022.

**Action 4—supporting range through charging infrastructure on major routes:** Action 4 is complete and the Memorandum of Understanding with the NSW Government is in place. Under Addendum A of the *ACT-NSW Memorandum of Understanding on Regional Collaboration*, the Electric Vehicle Network is a priority work area:

*“the ACT and NSW must work collaboratively on supply side initiatives, such as investment in electric vehicle charging infrastructure to support the capacity and uptake of zero-emissions vehicles in the Canberra Region. The ACT and NSW agree to work together, in conjunction with Local Government Areas, to facilitate the installation of charging stations on major routes to and from Canberra including routes to Sydney and coastal areas to support sustainable population growth.”*

The ACT Government developed its Public Charging Outlook (formerly known as Public Charging Masterplan) for ZEV charging infrastructure to inform the type and location of chargers required in the ACT. The ACT Public Charging Outlook is supported by mapping information that is integrated with the NSW Charging Masterplan map information. By joining these datasets together NSW and the ACT provide view of an integrated greater Canberra region for charging investors.

**Action 5—use of transit lane:** Action 5 is complete. The *Road Transport (Road Rules)* legislation was amended on 1 July 2019 to allow ZEVs to use transit lanes, followed by the installation of signage on Adelaide Avenue in 2020 by Roads ACT. In addition to offering ZEV drivers incentive, this action supported awareness campaigns around the incentives available to ZEV drivers and contributes to a growing awareness and normalisation ZEVs.

**Action 6—investigating solar-powered public charging infrastructure:** Action 6 is complete following the delivery of the consultancy report investigating the feasibility of ACT institutions and commercial businesses for the installation of covered car parks with solar powered vehicle charging station sites. This assessment will be considered as part of relevant future policy development.

**Actions 7 and 8—support for e-bikes:** Actions 7 and 8 are complete and ongoing. The ACT Government supported SEE-Change to establish the Canberra E-Bikes Library in 2020, which has been well utilised and continues to operate.

Amendments to tax arrangements and the implementation of a salary sacrifice scheme for e-bikes was successfully introduced and continues to be used by ACT Government staff. Since inception, 49 employees have salary packages for an e-bike, and 38 leases are currently held.

**Action 9—support for ZEV businesses:** Action 9 is complete, and the ACT Government continues to work with local businesses. The ACT Government delivered the below initiatives.

- Co-founding of the ‘Charge Together’ initiative, which seeks to share knowledge and provide support to fleet managers across government and business, who are looking to transition their fleet to electric vehicles. Environment, Planning and Sustainable Development Directorate (EPSDD) has indicated that new funding is now required to update this initiative.
- Establishment of the ACT’s first public Hydrogen Refuelling Station in March 2021. This supports the ACT Government’s new fleet of hydrogen fuel cell electric vehicles (20 Hyundai Nexos). The government worked with private sector partners Neoen, ActewAGL, Hyundai and SG Fleet.
- The ACT Government has supported the ACT ZEV-related goods and services sector by purchasing from local suppliers, including when leasing government fleet vehicles and procuring charging infrastructure.
- As part of the vehicle-to-grid and vehicle-to-home trials, 50 bi-directional chargers are being deployed across ACT Government sites to support the charging of 50 Nissan Leafs in the government’s fleet.
- The ACT Government will establish a fleet advisory service to support Canberra businesses and community organisations transitioning their fleets to zero emissions vehicles.
- The ACT Government has allocated \$2.7M for market sounding and installation of 50 publicly accessible charging stations, as part of its charging masterplan.

**Action 10—vehicle to grid charging potential:** Action 10 is complete and ongoing. An active trial in collaboration with ActewAGL and funding from the Australian Renewable Energy Agency (ARENA) is being overseen by the Australian National University. This trial is working on vehicle-to-grid reliability and viability to support the grid in the transition to ZEVs.

**Action 11—parking incentives for ZEVs:** Legislative amendments are being considered to ACT traffic and parking regulations for electric vehicle parking. These amendments will be important in supporting ZEV uptake by providing parking for electric vehicles in a range of places and preventing those spaces being taken up by vehicles with internal combustion engines.

# Appendix B

## Progress on actions

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ACT's Transition to Zero Emissions Vehicles Action Plan .....	31

<b>Complete</b>	Action is completed
<b>Now BAU</b>	Setup is complete and operation is now ongoing
<b>Updated through PAGA commitments</b>	This action has been adjusted to account for priorities in the Parliamentary & Governing Agreement for the 10th Legislative Assembly
<b>In Progress</b>	Action in progress, currently meeting the scope and timeframes expected for completion
<b>In Progress, delayed</b>	Action in progress, delayed from original timeframes
<b>Yet to Commence</b>	Action is yet to commence.

## Glossary of terms

**ACT** – Australian Capital Territory

**CCS** – ACT Climate Change Strategy 2019–25

**CHS** – Canberra Health Services

**CMTEDD** – Chief Minister, Treasury and Economic Development Directorate

**CSD** - Community Services Directorate

**EDU** – Education Directorate

**EPSDD** – Environment, Planning and Sustainable Development Directorate

**ESA** – ACT Emergency Services Agency

**HD** – ACT Health Directorate

**JACS** – Justice and Community Safety Directorate

**LIP** – Canberra's Living Infrastructure Plan: Cooling the City

**MPC** – Major Projects Canberra

**PAGA** – Parliamentary and Governing Agreement of the 10th Legislative Assembly

**SLA** – Suburban Land Agency

**TCCS** – Transport Canberra and City Services

**ZEV** – ACT's transition to Zero Emissions Vehicles Action Plan 2018–21

Strategy	Code	Action Description	Status	Directorate Timeframe
<b>Climate Change Strategy</b>				
CCS	1.01	Expand the scope of the Community Zero Emissions Grants to support community projects that reduce emissions and / or increase resilience to climate change and prioritise projects that offer replicable solutions.	<b>Complete</b>	EPSDD From 2019
CCS	1.02	Support and enable community action on climate change by providing tools and resources and recruiting a dedicated climate change community liaison in the Environment, Planning and Sustainable Development Directorate.	<b>Now BAU</b>	EPSDD From 2020
CCS	1.03	Deliver the Actsmart programs to encourage and support community efforts to reduce emissions and improve sustainability outcomes.	<b>Now BAU</b>	EPSDD Ongoing
CCS	1.04	Enable community members to share ideas for ongoing improvements to the strategy via Government digital platforms.	<b>In Progress</b>	EPSDD Ongoing
CCS	1.05	Work with the ACT Climate Change Council to encourage community participation in climate change initiatives.	<b>Now BAU</b>	EPSDD Ongoing
CCS	1.06	Work with the local Traditional Owners and the Aboriginal and Torres Strait Islander community to integrate traditional knowledge into landscape management.	<b>Now BAU</b>	EPSDD Ongoing
CCS	2.01	Partner with community service organisations to identify vulnerable and disengaged sectors of the community and implement measures to support their participation in shifting to net zero emissions.	<b>In Progress, delayed</b>	EPSDD/CSD By 2021
CCS	2.02	Engage with industry and workers to identify sectors likely to be affected by the transition to a net zero emissions economy and support re-training of workers where needed.	<b>In Progress</b>	EPSDD/ CMTEDD By 2021
CCS	3.01	Expand the Actsmart Home, School and Business programs to include travel choices and integrate with the work of the Active Travel Office.	<b>Complete</b>	EPSDD/TCCS By 2020
CCS	3.02	Explore options for implementing a reward scheme for community members who increase their use of public transport and/or active travel.	<b>Complete</b>	EPSDD/TCCS By 2020
CCS	3.03	Plan for a compact and efficient city with improved access to sustainable transport options by delivering up to 70% of new housing within our existing town and group centres and along key transit corridors.	<b>Now BAU</b>	EPSDD Ongoing
CCS	3.04	Prioritise improving public transport services and supporting infrastructure, including buses, light rail stage two and connecting services.	<b>Now BAU</b>	TCCS Ongoing

Strategy	Code	Action Description	Status	Directorate Timeframe
CCS	3.05	Maximise accessibility to the rapid bus and light rail networks through feeder services and expanding the Park and Ride network.	In Progress	TCCS By 2024
CCS	3.06	Expand and promote the Active Travel Office and schools-based active travel initiatives.	In Progress	TCCS/ED/HD Ongoing
CCS	3.07	Finalise an active travel strategic plan and update the Active Travel Framework to provide coordinated active travel networks across the Territory.	In progress	TCCS By 2020
CCS	3.08	Implement the Municipal Infrastructure Standards for Active Travel and develop best practice guidance for industry and stakeholders to inform better design outcomes for active travel infrastructure.	In progress	TCCS By 2020
CCS	3.09	Prioritise walking and cycling and enhance active travel infrastructure to improve safety and connectivity of the active travel network.	In progress	TCCS Ongoing
CCS	3.1	Support bike share schemes and other measures to improve the effectiveness and accessibility of cycling as a 'last kilometre' solution.	Now BAU	TCCS Ongoing
CCS	3.11	Finalise and implement the End-of-Trip Facilities General Code to encourage improved bicycle parking and end-of-trip facilities in commercial developments.	In progress	TCCS/EPSDD By 2021
CCS	3.12	Trial and evaluate innovative approaches to planning and development that prioritise active travel and public transport.	In Progress	EPSDD By 2024
CCS	3.13	Implement car free days and consider car free areas, shared zones and traffic calmed streets.	In Progress, delayed	EPSDD/ TCCS/CRA By 2021
CCS	3.14	Support car share schemes and transport-on-demand solutions across the ACT region.	Now BAU	TCCS Ongoing
CCS	3.15	Investigate and implement options for encouraging a shift to public transport and active travel through planning and a smarter approach to parking.	In Progress	CMTEDD/ EPSDD/ TCCS By 2022
CCS	3.16	Explore and implement new approaches to improving the productivity of key transport corridors through prioritisation of public transport and/or active travel.	In Progress	TCCS By 2024
CCS	3.17	Improve efficiency and usability of public transport through the adoption of emerging smart cities technologies such as smart streetlights, congestion monitoring, real time data and optimisation of timetables to reduce journey times.	In Progress	TCCS By 2023
CCS	3.18	Investigate options for dedicating a greater proportion of road space and public realm space to sustainable transport modes.	In Progress	TCCS By 2023

Strategy	Code	Action Description	Status	Directorate Timeframe
CCS	3.19	Consider options for reforming car registration fees to incentivise efficient road use.	In Progress	CMTEDD/ TCCS/ EPSDD By 2022
CCS	3.20	Explore and trial financial incentives such as increased registration discounts, rebates and low interest loans to encourage the uptake of zero emissions vehicles and electric bikes.	Complete	EPSDD By 2020
CCS	3.21	Implement the Zero Emissions Vehicles Action Plan 2018–2021 and explore ways to encourage investment in public EV charging stations, identify new actions to support the uptake of zero emissions vehicles from 2021 onwards.	Complete	EPSDD By 2021
CCS	3.22	Amend road rules to facilitate the safe use of new sustainable personal mobility options, such as electric scooters.	Complete	JACS/TCCS Ongoing
CCS	3.23	Investigate regulatory options to drive the transition to zero emissions commercial vehicle fleets.	In Progress	JACS / CMTEDD By 2023
CCS	4.01	Legislate a 100% renewable electricity target from 2020 onwards.	Complete	EPSDD By 2019
CCS	4.02	Develop and implement a Sustainable Energy Policy 2020-25 that sets out actions to deliver sustainable, affordable and reliable energy to the Territory and drives the continued development of the renewable energy industry in the ACT.	Updated through PAGA commitments	EPSDD By 2020
CCS	4.03	Amend planning regulations to remove the mandating of reticulated gas in new suburbs.	Complete	EPSDD By 2020
CCS	4.04	Conduct a campaign to support the transition from gas by highlighting electric options and savings opportunities to the ACT community.	Updated through PAGA commitments	EPSDD From 2020
CCS	4.05	Develop a plan for achieving zero emissions from gas use by 2045, including setting timeframes with appropriate transition periods for phasing out new and existing gas connections.	In Progress	EPSDD By 2024
CCS	4.06	Introduce mandatory disclosure of energy performance for all rental properties.	In Progress, delayed	EPSDD By 2022
CCS	4.07	By 2021 introduce legislation for staged minimum energy performance requirements for rental properties to come into force in 2022-23.	In Progress, delayed	EPSDD By 2021
CCS	4.08	Expand the Actsmart Household Energy Program to provide free, tailored in-home energy assessments for renters.	Now BAU	EPSDD From 2021
CCS	4.09	Continue to upgrade to efficient-electric appliances in existing public housing properties where technically feasible and assess the cost and benefits of shifting to all-electric public housing.	Now BAU	CSD From 2019

Strategy	Code	Action Description	Status	Directorate Timeframe
CCS	4.1	Ensure all newly constructed public housing properties are all-electric (fitted with electric appliances) from 2019.	Now BAU	CSD From 2019
CCS	4.11	Continue to deliver the solar for low-income program and investigate options for providing solar to public housing.	Now BAU	EPSDD Ongoing
CCS	4.12	Trial facilitating access to interest free loans or other innovative finance for gas to electric upgrades and deep retrofits of low-income homes.	Updated through PAGA commitments	EPSDD By 2022
CCS	4.13	Provide information and training tailored to first home buyers, homeowners and owner-builders to support higher awareness of zero emissions, climate-wise homes.	Now BAU	EPSDD Ongoing
CCS	4.14	Facilitate demonstration projects showcasing zero (or negative) emissions climate-wise homes.	In Progress	EPSDD By 2024
CCS	4.15	Design, and commit to a timeframe for implementing, higher minimum energy performance and climate resilience standards for new buildings that will deliver efficient, zero emissions buildings.	Yet to Commence	EPSDD By 2022
CCS	4.16	Provide information and facilitate education and training of developers and design and construction practitioners in zero emissions technologies and systems and climate-wise design.	Yet to Commence	EPSDD Ongoing
CCS	4.17	Develop a new residential energy assessment tool that adequately assesses the year-round thermal performance of buildings in the Canberra climate.	In Progress	EPSDD By 2022
CCS	4.18	Trial incentives and other measures to encourage all-electric, high efficiency apartment and commercial buildings.	Yet to Commence	EPSDD By 2024
CCS	4.19	Expand the Energy Efficiency Improvement Scheme to increase support for low-income priority households and further encourage a shift from gas to high efficiency electric appliances.	Now BAU	EPSDD From 2020
CCS	4.2	Encourage the use of smart financing by medium and large businesses and organisations to support energy efficiency improvements, space heating upgrades and zero emissions vehicle fleets.	In Progress	EPSDD By 2023
CCS	4.21	Review planning regulations and identify opportunities to require sustainable, climate-wise built environment and landscaping including through developing a Climate-wise Code.	In Progress, delayed	EPSDD By 2021
CCS	4.22	Implement Canberra's Living Infrastructure Plan to achieve 30% urban canopy cover, increase surface permeability, account for the value of living infrastructure and assess local needs for managing heat.	Now BAU	EPSDD Ongoing

Strategy	Code	Action Description	Status	Directorate Timeframe
CCS	5.01	Reflect climate change projections and risk vulnerabilities in disaster and emergency prevention, preparedness, response and recovery, particularly for extreme heat, bushfire and flash flooding.	Now BAU	ESA/EPSSD Ongoing
CCS	5.02	Encourage community preparedness for climate risks through targeted Emergency Services Agency outreach and the Actsmart sustainability programs.	In Progress	ESA/EPSSD Ongoing
CCS	5.03	Reduce staff travel needs by co-locating staff in centralised offices, providing facilities for teleconferencing, exploring co-working hubs and supporting flexible work arrangements and explore incentives to support staff use of public transport and active travel.	Now BAU	EPSSD/ CMTEDD Ongoing
CCS	5.04	Implement a user-friendly sustainable procurement approach for goods and services and capital works that ensures greenhouse gas and adaptation outcomes are considered in all procurement decisions.	In Progress, delayed	CMTEDD By 2021
CCS	5.05	Ensure the social cost of carbon and climate change adaptation outcomes are considered in all ACT Government policies, budget decisions, capital works projects and procurements.	In Progress, delayed	CMTEDD/ EPSSD By 2021
CCS	5.06	Ensure all new Government capital works projects with a budget of more than \$10 million either seek or are consistent with an independent sustainability rating such as an Infrastructure Sustainability rating from the Infrastructure Sustainability Council of Australia (ISCA), or a Greenstar rating from the Green Building Council of Australia or equivalent, and review ratings at least every five years.	In progress	CMTEDD/ EPSSD From 2020
CCS	5.07	Foster partnerships with sub-national governments and non-government organisations locally, nationally and internationally to promote climate action and increased ambition.	Now BAU	EPSSD/ CMTEDD Ongoing
CCS	5.08	Join the Global Green and Healthy Hospitals network to improve sustainability performance and reduce emissions from ACT health facilities.	Complete	HD By 2020
CCS	5.09	Develop and implement a roadmap for transitioning Transport Canberra buses to zero emissions by 2040 at the latest while continuing to improve service levels, and review progress every five years.	Now BAU	TCCS/EPSSD From 2022
CCS	5.1	Establish and implement a pathway to a zero emissions ACT Government health sector by 2040 informed by an assessment of all current and planned public health facilities.	In progress	HD/EPSSD From 2020

Strategy	Code	Action Description	Status	Directorate Timeframe
CCS	5.11	Invest an interim price of \$20 per tonne of emissions from Government operations into measures to meet the Zero Emissions Government target from 2020-21 and arrange for an independent body to develop a social cost of carbon for application from 2025.	In progress	All From 2020
CCS	5.12	Establish a pathway to zero emissions ACT Government schools supported by an interim emissions reduction plan to 2025.	In progress	ED/EPsDD From 2020
CCS	5.13	Ensure all newly built or newly leased Government buildings and facilities are climate-wise and all-electric (where fit for purpose).	In Progress	CMTEDD/ EPsDD From 2020
CCS	5.14	Replace all space and water heating systems in Government facilities with electric systems at the end of their economic lives (where fit for purpose).	In Progress	CMTEDD/ EPsDD From 2020
CCS	5.15	Ensure all newly leased ACT Government passenger fleet vehicles will be zero emissions vehicles from 2020–21 (where fit for purpose).	Now BAU	CMTEDD/ EPsDD From 2021
CCS	5.16	Investigate the use of innovative finance options such as Energy Performance Contracting as a method of reducing costs and emissions in Government assets.	Complete	EPsDD By 2020
CCS	6.01	Support food rescue organisations to avoid food waste.	In Progress	EPsDD Ongoing
CCS	6.02	Implement the Actsmart programs and household waste education programs to reduce waste generation and increase recycling.	Updated through PAGA commitments	EPsDD/TCCS Ongoing
CCS	6.03	Introduce a food and garden waste collection for all households (including multi-unit dwellings) from 2023, and support with an education program from 2020.	In Progress	TCCS From 2020 From 2023
CCS	6.04	Develop and consult on a scheme for requiring large organic waste producers such as hospitality and food retail businesses to have a separate organic waste collection.	Yet to Commence	TCCS By 2023
CCS	6.05	Identify opportunities to reduce emissions from organic waste treatment including sewage such as through the use of anaerobic digestion and composting and investigate potential sites for organic waste processing.	In Progress	TCCS/EPsDD Ongoing
CCS	7.01	Identify opportunities to increase resilience of terrestrial and aquatic habitats at risk from climate change and implement land management changes and relevant on-ground works with delivery partners.	In Progress	EPsDD Ongoing
CCS	7.02	Ensure action plans for threatened species and communities consider the impact of climate change.	Now BAU	EPsDD Ongoing

Strategy	Code	Action Description	Status	Directorate Timeframe
CCS	7.03	Identify suitable sites in the ACT for 'carbon sinks' and develop a plan for planting trees or using soil carbon in these areas to sequester carbon with consideration of biodiversity outcomes and competing land uses.	In Progress	EPSDD By 2022
CCS	7.04	Encourage sustainable farming practices which are fit for the current and future climate and enhance soil and water quality, and work with farmers to identify opportunities for net zero emissions farming and innovation to increase resilience.	In Progress	EPSDD Ongoing
CCS	8.01	Work with industry to support innovation, research and partnerships that will enable and accelerate the transition to a net zero emissions economy.	In Progress	EPSDD/ CMTEDD Ongoing
CCS	9.01	Improve data capture, integration and sharing across Government to enable accurate tracking and reporting of progress.	In Progress	CMTEDD Ongoing
CCS	9.02	Collect and report ACT travel data at least every two years on a range of journey types.	In Progress	TCCS/EPSDD Ongoing
CCS	9.03	Collect and report data to monitor progress against resilience indicators, including continuation of the longitudinal survey and climate-related health impacts and costs.	In Progress	EPSDD/HD Ongoing
CCS	10.01	Investigate opportunities for implementation of negative emissions technologies in, or supported by, the ACT.	Yet to Commence	EPSDD By 2024
<b>Living Infrastructure Plan</b>				
LIP	1	Complete inventory and mapping of living infrastructure and expand the public urban infrastructure asset management system to include urban living infrastructure to inform investment decision making, whilst investigating steps to implement an accounting framework, such as the United Nations System of Environmental Economic Accounting (SEEA), to value urban living infrastructure.	In Progress	EPSDD
LIP	2	Achieve 30% tree canopy cover (or equivalent) and 30% permeable surfaces in Canberra's urban footprint by 2045.	In Progress	EPSDD
LIP	3	Prepare a Microclimate Assessment Guide and mandate its use to inform policy and forward planning studies for centres, urban renewal projects and urban intensification precincts, with initial assessment of priority locations to inform a city cooling works program.	In Progress	EPSDD

Strategy	Code	Action Description	Status	Directorate Timeframe
LIP	4	Introduce requirement(s) for microclimate assessments of significant developments located in centres, urban renewal projects and urban intensification precincts, to assist with development assessment.	In Progress	EPSDD
LIP	5	Prepare a guide for use by the community and built environment professionals to support effective landscape plans and increase the opportunity for a healthy climate.	In Progress	EPSDD
LIP	6	Require multi-dwelling, mixed use and commercial development applications (DA) to have landscape plans that demonstrate how surface treatments and tree canopy cover targets will be met and change the processes for certification of DA compliance accordingly.	In Progress	EPSDD
LIP	7	Expand Actsmart web-based information and programs to incorporate the Climate-wise Landscape Guide to encourage and support community efforts to improve sustainability outcomes.	In Progress	EPSDD
LIP	8	Review and update the <u>ACT Tree Protection Act 2005</u> to ensure consistency with the objectives of the Plan and suitability to Canberra's changing climate.	In Progress	TCCS
LIP	9	Develop a strategic plan for the public urban forest that outlines how the urban forest can be maintained and enhanced to improve amenity in a changing climate and deliver biodiversity outcomes.	Complete	TCCS
LIP	10	Trial city cooling initiatives in high priority locations.	In Progress	TCCS
LIP	11	Trial local park upgrades in high priority locations including watered grass, trees, seats, lights and drinking fountains.	In Progress	TCCS
LIP	12	Support the amenity and safety of active travel on trunk cycle and pedestrian routes with tree canopy shade and water points at key destinations.	In Progress	TCCS
LIP	13	Showcase best practice climate-wise design through display houses and exhibition sites in Government projects.	In Progress	EPSDD
LIP	14	Support trials and demonstration projects to retrofit infrastructure to allow hydration of open spaces using stormwater.	In Progress	EPSDD
LIP	15	Investigate ways to encourage and incentivise living infrastructure on existing and future buildings in Canberra.	In Progress	EPSDD

Strategy	Code	Action Description	Status	Directorate Timeframe
<b>ACT's Transition to Zero Emissions Vehicles Action Plan</b>				
ZEV	1	At least 50% of all newly leased ACT Government fleet passenger vehicles will be zero emissions vehicles in 2019-20 (where fit for purpose).	<b>Complete</b>	EPSDD
ZEV	2	All newly leased ACT Government passenger fleet vehicles will be zero emissions vehicles from 2020-21 (where fit for purpose).	<b>Now BAU</b>	EPSDD
ZEV	3	Amend the Parking and Vehicle Access General Code to require all new multi-unit and mixed-use developments to install vehicle charging infrastructure.	<b>In Progress, delayed</b>	EPSDD
ZEV	4	Work with local and state governments to facilitate the installation of charging stations on major routes to and from Canberra including routes to Sydney and coastal areas.	<b>In Progress</b>	EPSDD
ZEV	5	Permit ZEVs to drive in transit lanes until 2023.	<b>Complete</b>	EPSDD
ZEV	6	Conduct a feasibility study for the installation of covered car parks with solar powered vehicle charging stations.	<b>Complete</b>	EPSDD
ZEV	7	Investigate providing incentives to encourage the use of electric bikes including through more secure bike parking and bike charging stations.	<b>In Progress</b>	EPSDD
ZEV	8	Amend tax arrangements to allow ACT Government staff to salary sacrifice an electric bike.	<b>Complete</b>	CMTEDD
ZEV	9	Support new and innovative businesses in the ZEVs sector to maximise job creation and economic development in the ACT.	<b>Updated through PAGA commitments</b>	EPSDD
ZEV	10	Investigate the potential use of electric vehicle batteries to support the electricity grid at times of peak demand.	<b>In Progress</b>	EPSDD
ZEV	11	Review parking and traffic regulations to ensure that priorities offered to ZEVs can be enforced and provide specific ZEV number places for easy identification and enforcement of ZEV related regulations.	<b>In Progress</b>	EPSDD

