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STANDING COMMITTEE ON PLANNING, TRANSPORT, AND CITY SERVICES
Ms Jo Clay MLA (Chair), Ms Suzanne Orr MLA (Deputy Chair),
Mr Mark Parton MLA

Submission Cover Sheet

Inquiry into electric vehicle (EV) Adoption in the ACT

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Shane Rattenbury MLA
Attorney-General
Minister for Consumer Affairs
Minister for Water, Energy and Emissions Reduction
Minister for Gaming

Member for Kurrajong

Ms Jo Clay MLA
Chair
Standing Committee on Planning, Transport and City Services
ACT Legislative Assembly
GPO Box 1020
CANBERRA ACT 2601

By email only: LAcommitteePTCS@parliament.act.gov.au

Dear Ms Clay Jo

INQUIRY INTO EV VEHICLE ADOPTION IN THE ACT

Thank you for the opportunity to make a submission to the Standing Committee on Planning, Transport and City Services (the Committee) Inquiry into EV Vehicle Adoption in the ACT.

The submission outlines the action that the ACT Government is taking to increase uptake of Electric Vehicles (EVs) in the Territory, including Battery Electric Vehicles (BEVs), Fuel Cell Electric Vehicles (FCEVs) and Plug-in Hybrid Electric Vehicles (PHEVs) to reduce transport emissions and grow the EV industry. The ACT Government's approach is outlined in the ACT Zero Emissions Vehicles Strategy 2022-30 attached to the submission.

I look forward to meeting with the Committee to answer any subsequent questions they may have.

Yours sincerely [redacted]

[redacted]

Shane Rattenbury MLA

26/8/22

ACT Legislative Assembly London Circuit, GPO Box 1020, Canberra ACT 2601

+61 2 6205 0005 rattenbury@act.gov.au

@ShaneRattenbury shanerattenburymla shanerattenbury

ACT Government

ACT Government Submission

Standing Committee on Planning, Transport, and City Services

Inquiry into EV Vehicle Adoption in the ACT

26 August 2022

Environment, Planning and Sustainable Development Directorate

The ACT Government is taking action to increase uptake of Electric Vehicles (EVs) in the Territory, including Battery Electric Vehicles (BEVs), Fuel Cell Electric Vehicles (FCEVs) and Plug-in Hybrid Electric Vehicles (PHEVs) to reduce transport emissions and grow the EV industry. The ACT Government's approach is outlined in the ACT Zero Emissions Vehicles Strategy 2022-30 at Attachment A to this submission.

In 2020-21 transport was the largest source of ACT greenhouse gas emissions, making up 64% of total emissions[1]. Reducing emissions from transport is necessary to achieve our net zero emissions target by 2045.

The ACT Government has shown leadership on reducing emissions from transport through its Zero Emissions Plan for Transport Canberra[2] and Zero Emissions Vehicle Action Plan 2018-2021[3]. Under these plans Canberra's light rail runs on 100% renewable electricity, Canberra's first 12 zero emissions buses will be in operation by the end of 2022, and Government is progressing work to deliver another 90 zero emission buses. These actions will see the transition of around a quarter of the ACT's public transport fleet within the next two years. Government also has 20 hydrogen cars operating in its own fleet, and have been progressing the transition to zero emissions passenger vehicles across directorates with a clear policy for choosing zero emissions vehicles where fit for purpose.

The ACT Government is supporting the community to make the transition to low- and zero-emission options with among Australia's most generous incentives. The ACT provides two years free registration to newly registered battery electric and hydrogen vehicles, registered between 24 May 2021 and 30 June 2024. Canberrans looking to buy a new or used zero emissions vehicle pay no stamp duty and could be eligible for a zero-interest loan of up to $15,000 for an EV or charging equipment through the Sustainable Household Scheme.

The ACT Government is also supporting the construction of at least 180 new publicly accessible EV charging stations across the ACT by 2025, with the first 50 rolling out through 2022-23.

Through the Planning System Review and Reform Project, the ACT Government is considering requiring new mixed and multi-unit developments to be EV-ready. Government is also providing information and support to commercial fleet managers considering EVs through the Fleet Advisory Service.

The recently released *ACT Zero Emissions Vehicle Strategy 2022-30* sets out a range of actions that will make owning a zero emissions vehicle a more affordable and accessible option for all

[1] Point Advisory 2021, ACT Greenhouse Gas Inventory for 2020-21, <https://www.environment.act.gov.au/__data/assets/pdf_file/0003/1918038/ACT-Greenhouse-Gas-Emissions-Inventory-Report-2020-21.pdf>

[2] ACT Government 2020, Zero-Emissions Transition Plan For Transport Canberra, <https://www.transport.act.gov.au/__data/assets/pdf_file/0010/1625095/ZERO-EMISSION-TRANSITION-FINAL-.pdf>

[3] ACT Government 2018, The ACT's Transition to Zero Emission Vehicles Action Plan 2018-21, <https://www.environment.act.gov.au/__data/assets/pdf_file/0012/1188498/2018-21-ACTs-transition-to-zero-emissions-vehicles-Action-Plan-ACCESS.pdf>

Canberrans in the years to come. To speed up the transition to ZEVs, the Strategy sets a ZEV sales target of 80%-90% by 2030 and actions to increase ZEV uptake.

The policies under this strategy support people to purchase zero emissions vehicles by accessing subsidies and no-interest loans, as well as continuing to expand our ambitious public charging infrastructure plan and new subsidies for private charging infrastructure.

The Government's submission to this inquiry highlights the barriers identified and actions being taken to increase uptake of EVs, by considering each item in the Terms of Reference in turn.

a) Skills development needs to support an expanding EV uptake

Electric vehicle skills training and workforce development is necessary to support EV uptake in the ACT and to ensure that the ACT has the skills to seize the growing market opportunities.

Ensuring a positive customer experience throughout the life-cycle of an EV supports the accelerated uptake of EVs. This could include EV sales and retail, maintenance, repairs and servicing and EV charger installation and maintenance.

Training and workforce development is needed in the automotive and electrical trades to respond to a growing EV market. Further training in de-energising and handling EVs is required by emergency first responders, tow-truck operators and auto body repair workshops.

Public fast chargers and home chargers require installation and occasional maintenance to ensure that they perform reliably. The work of installing EV chargers will overlap with existing electrician skillsets and in aggregate will lead to an increasing level of demand for these skills.[4] As adoption of EVs accelerates, the level of demand will provide market incentives to drive electrical skills development.

Developing, updating and delivering new training courses and developing a workforce takes time and planning. Without proactive planning and resourcing for the expected growth in EV uptake there will be a lag in the number of skilled personnel required to meet the growing demand to keep EVs on the road.

The Canberra Institute of Technology is prepared with a newly launched EV training lab, and has already started delivering EV skills and awareness training. This training includes supporting first responders to deal safely with electric vehicle accidents. This work is supported through the CIT Renewable Energy Skills Centre of Excellence, established with industry development funding secured from a past ACT Government renewable electricity reverse auction. The Centre of Excellence has established CIT as a leading national training provider in training for wind, solar and battery maintenance, and operations. More work is underway to develop the course materials for the EV Certificate III in Light Vehicle Mechanical Technology. Prioritising training resources is required to meet the existing and growing demands for EV training.

[4] As most drivers prefer to charge at home per ACT Government 2021, Electric Vehicle Charging Outlook for the ACT, <https://www.environment.act.gov.au/__data/assets/pdf_file/0007/1914802/electric-vehicle-charging-outlook-for-the-act-industry-guidance-2021.pdf>

More than 30 Transport Canberra (TC) staff had completed the General Electric Vehicle training at CIT by June 2022. Enrolments will continue throughout the year to ensure all relevant TC staff have undertaken the training.

b) Industry development opportunities

As part of the 2020-21 ACT Budget, the Government invested $2.66m to supporting infrastructure and industry development for the zero emissions vehicles sector. The ACT is investing in the public charging industry in the ACT to grow the industry and ensure there are at least 180 public chargers by 2025. The Fleet Advisory Service has recently launched which provides information to Canberra businesses and community organisations wanting to transition to EVs. The transition to EVs presents opportunities for ACT industry development for EV charging, vehicle conversion and vehicle sales and services. The ACT Government is supporting development of the charging installation industry by offering $2,000 grants for the installation of EV charging for common areas in multi-unit buildings.

Enterprising businesses in the ACT[5] and broader region are expanding into the market for EV conversion. It is likely that this will remain a niche as the range of new EV options expands,[6] but one that the ACT has opportunities to develop locally. In the future, conversions may become a cost effective option compared to continuing to run a fossil fuelled vehicle as technology improves.

The ACT is a leading market for EVs in Australia.[7] For local businesses this means an opportunity to grow the supply of EVs and related products and services, and expand the EV industry.

c) Planning laws and regulations and education and promotions in relation to charging infrastructure requirements in a variety of residential, public and commercial configurations and precincts

ACT planning laws are facilitating the uptake of EVs. The ACT Government has already made several commitments to planning reform supporting the development of EV capabilities and infrastructure. In the Parliamentary and Governing Agreement of the 10th Legislative Assembly,[Error! Bookmark not defined.] and in conjunction with the Planning System Review and Reform Project, the ACT Government committed to implementing regulations to require new multi-unit residential and commercial buildings to include charging infrastructure, as well as explore opportunities to retrofit existing buildings with charging infrastructure. This commitment is designed to allow new multi-unit buildings and commercial developments to be EV ready for owners to install their own EV charging equipment when it suits them.

Planning exemptions for the installation of public EV charging streamline and simplify the expansion of the ACT's EV charging network. Exemptions for EV charging equipment installation are in place include regulation 1.113 under the current *Planning and Development Regulation 2008* (ACT), which

[5] Crowe, A 2022, Che Baker will transform a DMC DeLorean into an electric vehicle for documentary, The Canberra Times, <https://www.canberratimes.com.au/story/7741280/great-scott-this-deloreans-being-converted-to-a-new-fuel-source/>

[6] Kelly, Z 2022, Should You Convert Your Car to Electric? Here's What an Aussie EV Technician Thinks, Gizmodo Australia, <https://www.gizmodo.com.au/2022/01/electric-car-conversion/>

[7] Electric Vehicle Council 2022, State of Electric Vehicles, <https://electricvehiclecouncil.com.au/wp-content/uploads/2022/03/EVC-State-of-EVs-2022-1.pdf>

provides that an electric vehicle charging point is exempt from the need for a development approval if it has a height of not more than 2.5m and a plan area of not more than 2m,[2] in addition to other criteria under this section.

The ACT Government recognises that EVs are a key component in the transition to zero emissions transport and the Government's response to climate change. Supporting electric vehicle charging stations is one way that the ACT Government can address the barriers to EV purchase and increase EV uptake. To support the rollout of public EV chargers, the ACT Government is developing an operational policy for assessing proposals to install electric vehicle charges on Government leased land.

This policy will cover requirements for design, siting, location, signage and charger configuration. The policy will provide clear guidance about the approval pathways and required documentation for proposals seeking to locate EV charging infrastructure on ACT Government land, ensuring that these facilities are placed in appropriate locations.

d) ACT Government's role in providing charging infrastructure

In December 2021 the ACT Government published the Electric Vehicle Charging Outlook for ACT Guidance for Industry. The Outlook shares an EV outlook to help EV charge point operators understand how many EVs are expected in the ACT to 2030, and provides information to support investment in charging infrastructure.

The outlook for public charging in the ACT is for strong growth and investment opportunity. By 2030, the ACT will need at least 580 to 1,000 public chargers to support expected numbers of EVs – up from less than 60 in 2021. The number of EVs registered in the ACT is expected to reach at least 25,000 to 42,000 in 2030, up from 1,300 in 2021. This means that EV registrations are expected to increase by an average of 2,600 vehicles annually between 2021 to 2030. The outlook for public chargers is based on expected growth in EV registrations supported by policy and EV model availability, average trips and driver behaviour, combined with the ACT's priority to grow as a compact and efficient city with more dense urban development.

We are committed to ensuring there are at least 180 public chargers in the ACT by 2025. We will substantially increase access to public charging for ACT residents and visitors, leading to reduced levels of range anxiety among ACT residents by the medium term. At the early stage of industry development, there is an important role for the ACT Government in supporting the supply of charging infrastructure to overcome the barriers to purchasing an EV which are range anxiety and charger availability. Further, Norway's experience indicates commercial operators are likely to require Government support to invest in publicly accessible chargers when battery EVs comprise less than 3 per cent of the light car fleet.[8]

The development of charging stations is necessary to alleviate range anxiety and provide charging options for drivers that cannot charge at home. It is expected that in the long term, as battery EV

[8] Lorentzen E, Haugneland P, Bu C, Hauge E, Charging infrastructure experiences in Norway - the worlds most advanced EV market, 2017 <https://elbil.no/wp-content/uploads/2016/08/EVS30-Charging-infrastrucure-experiences-in-Norway-paper.pdf>

uptake increases throughout the Territory, that the ACT's public charging industry will be self-sustaining.

The ACT Government offers generous incentives for people and businesses thinking about buying a zero emissions vehicle, including $2,000 grants for installation of EV charging for common areas in multi-unit buildings. Installations in these buildings can be complex and present a barrier to EV uptake.

e) Regional charging infrastructure and whether this is a barrier to local uptake, end-of-life battery disposal, and impact of EVs on ACT power supply requirements and vehicle-to-grid issues

Range anxiety around regional travel remains a barrier to EV uptake at present, though it is expected to be mitigated by planned investments by the NSW and Federal Government. End-of-life battery disposal is technologically feasible but limited by the scale of the market. The ACT Government considers national schemes the most effective way to improve end-of-life recycling. Vehicle-to-grid technology is still in its infancy, especially in Australia, but the ACT Government is supporting research to widen understanding of the issues involved. Each of these issues are explored in further detail below.

Regional charging infrastructure

The NSW Government has announced the largest level of charging funding of any Australian state[9], with ambition to fund ultra-fast charging stations at 100km intervals across NSW. This will boost the ACT's access to regional charging infrastructure as it is rolled out across the regions of NSW which surround the Territory. The ACT Government will continue cross-jurisdictional engagement to make EV chargers available on common interstate, long distance transit routes. At present, the regional charging network has chargers at appropriate intervals along major routes connecting the ACT with NSW, but the chargers at each site are often low in number.

National and NSW Government support, together with private operators, have propelled the rollout of fast chargers in many regional destinations surrounding the ACT, including Yass, Goulburn, Batemans Bay, Narooma, Bega, Cooma and Jindabyne. However, there remains some destinations where there are long distances between fast chargers, where only Tesla Superchargers are present (which do not allow other brands of vehicle to charge), or where low numbers of chargers can mean that when chargers are out of service there are no alternatives nearby.

Where fast charging is not available drivers are able to use slow charging as a substitute at their destination, but these are not necessarily sufficient for mid-journey charging. Journeys planned to use slow chargers at destinations can avoid these issues, and apps such as Plugshare have emerged to provide drivers with information about chargers nationally, including throughout regional areas.

[9] NSW Government 2021, NSW Electric Vehicle Strategy, < https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/nsw-electric-vehicle-strategy-210225.pdf>

It is expected that, as battery technology improves, infrastructure is installed, and the EV market expands, the average range of EVs will increase,[10] and range anxiety will lessen reducing the barriers to EV purchase.

End-of-life battery disposal

The majority (over 90%) of material in an EV battery can be recycled.[11] But Australia has low rates of lithium-ion battery recycling compared to leading jurisdictions in Europe.[11] For EV batteries, it is expected that there will be substantial opportunities for reuse in other applications, particularly as home batteries. Batteries reaching end-of-life for use in EVs still retain 70-80% of initial capacity,[11] and so may have significant contributions to make outside of vehicles, particularly in stationary storage applications.

The ACT Government considers that given the scale requirements for these operations to be self-supporting, the ACT is best served by participating and leading national and regional schemes rather than establishing a unique environment in the ACT. This allows for existing schemes and work of governments and industry to be leveraged, encourages economies of scale, and facilitates opportunities for harmonising approaches to product stewardship across jurisdictions.

The ACT Government will continue to monitor the progress of the Battery Stewardship Council's battery stewardship scheme, B-cycle, which was launched in February this year. This national voluntary scheme will facilitate a national battery collection network for hand-held batteries. This includes button batteries like those found in watches, car keys and remotes, as well as batteries that can be replaced by consumers, including AA or AAA batteries. The scheme operates through imposing a levy on imported batteries, and the levy will be used to fund rebates for scheme accredited collectors, processors and recyclers of used batteries. The Battery Stewardship Council are considering options and consulting industry on their plans to include electric vehicle and energy storage batteries in the scheme. The ACT Government looks forward to the progression of this work by the Council.

Impact of EVs on ACT power supply requirements and vehicle-to-grid issues

The transition to EVs will effectively transition the fuels our transport systems use from petrol, diesel, and LPG to electricity and hydrogen. This will increase electricity demand in the ACT as EVs are adopted. The ACT is in a strong position to respond to increases in demand with our 100% renewable electricity, Big Canberra Battery project, and integration into the National Electricity Market, while also supporting increases in energy efficiency through the EEIS to offset the increased electrical demands of EVs. Data reflecting charging habits of EVs within the ACT is still developing and may suggest reforms to electrical pricing tariffs to better support the electrical grid as local charging becomes better understood.

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[10] Packham, C 2022, Electric vehicles set for range parity with petrol cars by 2024, Australian Financial Review, <https://www.afr.com/companies/energy/electric-vehicles-set-for-range-parity-with-petrol-cars-by-2024-20220202-p59t79>

[11] Zhao, Y, Ruether, T, Bhatt, A, Staines, J 2020, Australian landscape for lithium-ion battery recycling and reuse in 2020 – Current Status, Gap Analysis and Industry Perspectives, CSIRO, <https://doi.org/10.25919/91ap-m622>

The ACT Government is working with ARENA, ActewAGL and researchers at the Australian National University on the Realising Electric Vehicle-to-grid Services (REVS) project. This project, using ACT Government fleet vehicles to test and provide vehicle-to-grid services, aims to further expand knowledge of vehicle-to-grid technology in the Australian context and smooth the transition to more widespread applications. This will enable the ACT Government to build a more comprehensive picture of the issues and opportunities posed by vehicle-to-grid in the ACT context and share this with the community.

The potential of vehicle-to-grid technology offers the opportunity for EV batteries to provide additional services stabilising the electricity grid and smoothing demand. While this technology has great potential in the future, at present it is still developing. Chargers capable of vehicle-to-grid operation are not yet commercially available in Australia. Australian safety standards mean that those used overseas can not necessarily be used here. Prices at present are substantially higher than the cost of chargers incapable of vehicle-to-grid operation.

f) Application of Territory taxes and charges for EV purchases including registration charges

Vehicles purchased and operated in the ACT are subject to two Territory taxes: stamp duty and registration fees. There are discounts provided for EVs in both.

Stamp duty is charged on new or used vehicle registration, establishment or transfers in the ACT. Under the Vehicle Emission Reduction Scheme (VERS)[12] new cars, motorcycles, utes, and light commercial vehicles are charged varying stamp duty rates based on their carbon dioxide emissions. Under this system, new EVs fall under performance rating A, and pay no vehicle duty. This is a substantial saving compared to fossil fuelled vehicles: a $50,000 fossil fuelled vehicle with average emissions performance paying $1,600 compared to an EV paying $0.

Vehicles which are second-hand or which do not have an emissions rating (typically heavier commercial vehicles) are not subject to the VERS scheme. Vehicles outside the VERS scheme are charged at the rate of an average emissions vehicle. The ACT Government exempts used EVs from stamp duty for vehicles purchased from 1 August 2022.

In contrast to vehicle stamp duty fees, vehicle registration fees in the ACT are determined by vehicle weight and not emissions. This tends to mean that EVs pay higher registration fees, because of the greater weight required for their drivetrains, despite their zero emissions. For example, a battery-electric Hyundai Kona pays $401.00 per year, compared with a fossil fuelled Kona which pays $354.20.

To encourage EV adoption, the ACT Government offers two years of free registration for EVs purchased or acquired in the ACT from 24 May 2021 and before 30 June 2024[13]. Both new and used vehicles are eligible for this discount. Conversions to electric vehicles are also included. This only

[12] ACT Government 2022, Motor Vehicle Duty, <https://www.revenue.act.gov.au/duties/motor-vehicle-duty>
[13] ACT Government 2022, Free registration for two years, <https://www.accesscanberra.act.gov.au/s/article/motor-vehicle-registration-and-renewal-tab-zero-emissions-vehicle-registration>

covers the registration fee component of the total charge, as EVs still pay all other government fees and charges and motor accident injuries (MAI) insurance premiums.

As more people transition to electric vehicles, a number of jurisdictions in Australia have announced changes to their registration and road user charges, including New South Wales, Victoria, Western Australia and Tasmania. The ACT is actively monitoring developments here and internationally and is considering its options. The ACT is also aware that its current fixed registration system is weight based and penalises heavier, battery electric vehicles despite their lower emissions. Any registration reform in the ACT would necessarily consider both emissions and distance based charging and ensure lower emissions vehicles were incentivised.

g) Federal taxes and charges for EV purchases, including import taxes

There are three main federal taxes which apply to vehicles: import tariffs, the luxury car tax, and fuel tax.

Motor vehicles which are imported into Australia are generally subject to 5% import tariffs.[14] Different rates of duty apply for vehicles from some countries through free trade agreements:

- Vehicles from Brunei Darussalam, Cambodia, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Laos, Malaysia, Myanmar, New Zealand, the countries of the Pacific Island Forum, Peru, The Philippines, Singapore, Thailand, United States of America and Vietnam which attract no tariff, as well as Mexico, which pay no tariffs except on second-hand vehicles; and
- Goods vehicles from developing countries subject to DCS rates of duty which pay 4% import tariffs.

This means that most vehicles imported into Australia pay no import tariffs, as they originate from China, South Korea, Japan or the USA. Vehicles coming from Europe, however, remain subject to the 5% import tariff. This applies equally to EVs and fossil fuelled vehicles. As the tariff applies as a proportion of the vehicle's value, this acts as a disincentive for vehicles which have more expensive purchase prices, such as EVs.

The new Commonwealth Government proposes to remove these tariffs for all EVs and exempt EVs from fringe benefits tax, which applies to vehicles which are provided through work for private use.[15]

Vehicles above the luxury car tax threshold pay 33% for luxury car tax. The threshold is set separately for fuel efficient vehicles and for other vehicles. For the 2022-23 financial year, the threshold for fuel efficient vehicles is $84,916, and for other vehicles, $71,849. To qualify as a fuel efficient vehicle, a vehicle must have fuel consumption at or below 7L/100km as a combined rating. For petrol fuelled vehicles, the 7L/100km fuel consumption level equates to approximately 160gCO2/km. This includes all EVs, as well as all PHEVs and most hybrids. Some pure petrol vehicles also fall under this threshold.

[14] Australian Border Force 2022, Current Tariff Classification, <https://www.abf.gov.au/importing-exporting-and-manufacturing/tariff-classification/current-tariff>
[15] Australian Labor Party 2021, Powering Australia, <https://keystone-alp.s3-ap-southeast-2.amazonaws.com/prod/61a9693a3f3c53001f975017-PoweringAustralia.pdf>

As both import tariffs and the luxury car tariff apply based on the initial purchase price of the vehicle, they act as an incentive to choose vehicles which have a lower upfront cost. This acts as a disincentive to EVs which at present have a higher upfront cost, partially offset by lower running costs.

Fossil fuelled vehicles also pay fuel tax, which will be at 44.2c per litre for petrol or diesel once the temporary halving ends on 28 September 2022.[16] As EVs do not consume fuel, they do not pay this tax.

h) Other Federal barriers to EV uptake, cost and availability of EVs, including fuel efficiency standards, impact of EV uptake on existing motor and service industry sectors including possible transition assistance, equity and just-transition issues for people on lower incomes

The primary barrier to EV adoption in the ACT at present in 2022 is the supply and availability of vehicles. This is partially driven by international supply chain disruption causing global shortages, and partly by how regulations in Australia compare to those in other jurisdictions, which determines which markets are preferentially supplied in conditions of scarcity. The transition to EVs will impact workers and businesses in existing industries which serve fossil fuelled vehicles, as EV adoption accelerates. These issues are explored separately below.

Other Federal barriers to EV uptake, cost and availability of EVs, including fuel efficiency standards

In 2022, the limited range of EV models supplied to Australia is one of the greatest barriers to EV uptake in the ACT. Australia is low on their priority list for global vehicle manufacturers due to both relatively low emissions standards and a lack of policy support for EVs, such as vehicle sales targets.[17]

The average CO_2 emissions intensity for new passenger vehicles sold in Australia is 23% higher than it is in Europe.[18] Vehicles sold in Europe must adhere to relatively stringent emissions standards which cap the levels of CO_2, particulate matter and other pollutants which can be emitted from internal combustion engine vehicles.

Australia's vehicle emissions standards apply under ADR79/04,[19] which sets restrictions on allowed exhaust emissions. This covers only air pollutants (carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter) and applies no restrictions on carbon dioxide or fuel economy. These limits

[16] Australian Government 2022, Budget 2022-23 Fuel Excise, <https://budget.gov.au/2022-23/content/factsheets/download/factsheet_excise.pdf>
[17] Borys, S & Evans, J 2021, Car makers say lack of emissions regulations putting handbrake on electric vehicles in Australia, ABC, <https://www.abc.net.au/news/2021-11-10/car-brands-call-for-emissions-regulation-electric-vehicles/100608000>
[18] National Transport Commission 2021, Carbon Dioxide Emissions Intensity for New Australian Light Vehicles 2020, <https://www.ntc.gov.au/sites/default/files/assets/files/Carbon%20dioxide%20emissions%20intensity%20for%20new%20Australian%20light%20vehicles%202020.pdf>
[19] Australian Government 2022, Vehicle Emissions Standards, <https://www.infrastructure.gov.au/infrastructure-transport-vehicles/vehicles/vehicle-safety-environment/emission-standards>

are based on the Euro 5 standards. Stronger Euro 6 (or equivalent) emissions standards having been adopted in the US, Canada, the EU, United Kingdom, Japan, China, Korea and India.[20] These nations account for over 80 per cent of global new vehicle sales, and supply the majority of passenger vehicles to Australia. Euro 6 standards have been in place since 2014 and European countries are in the process of developing stronger standards, Euro 7 standards, expected to be implemented in 2025-26.[21]

The Federal Chamber of Automotive Industries (an industry representative body) has introduced a voluntary standard specifying a 4% reduction in average CO_2 emissions for passenger cars for each member brand.[22] However, as a voluntary industry standard, it does not provide the same levels of encouragement to vehicle manufacturers to improve vehicle performance as government regulation. In 2020, 67% of brands[23] failed to meet the targets set by this standard for passenger vehicles.

Carbon emissions regulations in the European Union[24] and the California regulations[25] adopted across states making up 40% of US sales[26] each require manufacturers to meet an average level of carbon emissions across all light vehicles they sell. In California this emissions regulation is combined with mandated levels of EV sales.

This regulatory environment means that Australia is a comparatively less advantageous environment for manufacturers to supply EVs to in comparison to fossil fuelled vehicles. Major manufacturers like Volvo and Ford Europe are planning to offer only electric cars from 2030, General Motors has committed to only offering electric vehicles from 2035 and Volkswagen is aiming to have 70% of European sales be electric vehicles by 2030.[27] While these companies are ramping up production of zero emission vehicles, they must make choices about which markets to service around the world and nations without regulation such as Australia will receive lower priority.

Many nations have set ambitious targets for the phase out of new fossil fuelled vehicles. Norway plans to prevent the sale of any new fossil fuelled vehicles by 2025, the United Kingdom by 2030, and the European Union recently agreed to an EU-wide phase out in 2035. Australia has no similar

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[20] The International Council on Clean Transportation 2016, A technical summary of Euro 6/VI vehicle emission standards, <https://theicct.org/sites/default/files/publications/ICCT_Euro6-VI_briefing_jun2016.pdf>
[21] European Automobile Manufacturers' Association 2022, ACEA proposals for Euro 7 and Euro VII emission standards, <https://www.acea.auto/publication/acea-proposals-for-euro-7-and-euro-vii-emission-standards/>
[22] Federal Chamber of Automotive Industries 2022, Fuel Quality & Emissions, <https://www.fcai.com.au/fuel-quality-and-emissions/fuel-quality-and-emissions>
[23] Federal Chamber of Automotive Industries 2021, Monitoring CO2 emissions from passenger cars and light commercial vehicles in 2020, <https://www.fcai.com.au/news/publication/view/publication/180>
[24] The European Commission 2022, CO2 emission performance standards for cars and vans, <https://ec.europa.eu/clima/eu-action/transport-emissions/road-transport-reducing-co2-emissions-vehicles/co2-emission-performance-standards-cars-and-vans_en>
[25] California Air Resources Board 2022, Advanced Clean Cars Program, < https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about>
[26] California Air Resources Board 2022, States that have Adopted California's Vehicle Standards under Section 177 of the Federal Clean Air Act, <https://ww2.arb.ca.gov/sites/default/files/2022-05/%C2%A7177_states_05132022_NADA_sales_r2_ac.pdf>
[27] Electric Vehicle Council 2021, State of Electric Vehicles August 2021, <https://electricvehiclecouncil.com.au/wp-content/uploads/2021/08/EVC-State-of-EVs-2021-sm.pdf

national commitment, which makes us a lower priority market for suppliers. The ACT would welcome an Australian Government commitment which would help provide certainty to vehicle suppliers on the nation's future direction.

In leading jurisdictions in Europe and China, government spending to support the electric car transition is substantial and has increased in recent years[28]. This has helped electric vehicles to be more price competitive, even approaching parity with fossil fuelled vehicles in Norway and China. The ACT acknowledges the actions of the new Australian Government but would also welcome further financial support for electric vehicles at the federal level.

The ACT Government welcomes the Australian Government's commitment to deliver Australia's first National Electric Vehicle Strategy. Proposed measures, such as the introduction of an 'Electric Car Discount' and the expansion of Australia's national electric vehicle charging infrastructure, will promote the uptake of EVs domestically and demonstrate to the world that Australia is ready to fully embrace zero emission transport technologies of the future.

Supportive policies are a critical and powerful lever for steering and accelerating the adoption of EVs in the formative phase. As observed in Norway, favourable EV policies have led to the world's highest rates of EV adoption. However, after Government policy helps to overcome the initial economic and technological barriers to take up, the market should play an important role as a result of global technological learning and increased diffusion over time. A competitive EV market will lead to improvements in performance, reduction of costs and eventually deliver long term benefits, driving efficient prices and high customer satisfaction.

The ACT Government is, and will continue to be, a strong advocate for improving vehicle standards in Australia to encourage manufacturers to bring their best performing vehicles to the Australian market. This was evident in the ACT Government's recent successful advocacy for increased vehicle dimensions which will allow for zero-emission heavy vehicles currently in development in the USA and Europe to be available here in Australia. Monitoring market developments and advocating for reform to ensure Australia gets access to the best vehicle choices will remain a key focus for the ACT Government.

Impact of EV uptake on existing motor and service industry sectors including possible transition assistance

There are several segments of industry which will be impacted by the transition to EVs. Transition assistance for industry has not been proposed by the ACT Government at this stage.

The motor vehicle servicing industry will continue to service electric vehicles as the passenger fleet electrifies. However, due to the simplified drive train and fewer moving parts than petrol vehicles, electric vehicles require less maintenance than their fossil fuelled counterparts. Maintenance savings of around 40%[29] are expected, which, while positive for the EV driver, may diminish demand for the

[28] International Energy Agency 2022, Global EV Outlook 2022, <https://iea.blob.core.windows.net/assets/ad8fb04c-4f75-42fc-973a-6e54c8a4449a/GlobalElectricVehicleOutlook2022.pdf>

[29] NSW Government 2022, Why buy an electric vehicle?, <https://www.transport.nsw.gov.au/projects/electric-vehicles/why-buy-an-electric-vehicle>

vehicle servicing industry. The transition to EVs will also require different skills needs as described above in the section 'Skills development needs to support an expanding EV uptake'.

In conjunction with the transition to EVs, Australia is observing a parallel transition away from in-person sales dealers to online sales. Online sales are a particular focus of many of the international leaders in EV sales, such as Tesla and BYD. While the impacts of the transition to online sales are not strictly caused by the EV transition, they may have a compounding effect upon businesses which offer both vehicle sales and service.

Petrol stations face substantial impacts from the transition to EVs. Electric Vehicles do not require refuelling with petrol, and so the existing infrastructure for refuelling fossil-fuelled vehicles will not be required or may need to be repurposed once the transition is complete. As the transition progresses, they are likely to see a declining level of demand for liquid fuels. Some petrol stations may be in a position to transition to EV fast charging facilities, with some businesses already preparing for this change.[30]

As noted in the Electric Vehicle Outlook for the ACT, petrol stations and EV charging sites will also be subject to a new dynamic, with around 70% of EV drivers able to charge at home or work.[31] Hence the role of public commercial charging stations and the associated business model is likely to differ significantly from service stations. The take up of EVs is likely to be facilitated by retailers providing prospective customers with chargepoint data on when public chargers are in use, their location and pricing, consistent with the Electric Vehicle Outlook for the ACT. This will provide customers with confidence they can charge as needed while facilitating price and service competition between public EV charging providers.

Equity and just-transition issues for people on lower incomes

The ACT Government is committed to a just transition to net zero emissions that supports low-income households and the most vulnerable in our community, and will work with industry to re-train affected workers and pursue opportunities for new, zero emissions industries. This commitment is set out in the ACT Climate Change Strategy 2019-25 (the Strategy).

Government is aiming for a just transition to net zero emissions that supports the most vulnerable in our community. The Strategy considers factors such as reducing energy costs, managing impacts on workers and businesses and providing tailored information and support for low income households. The intent is to share the benefits of actions, such as improved parks and open spaces and access to public transport, equitably across sectors and geographic communities in the ACT. Considerations for a just transition are embedded throughout the actions. Specific actions are included in the 'just transition' section.

EVs provide a direct benefit to the ACT community by reducing the harm of pollution from fuel vehicles, and reducing carbon emissions to address climate change. By increasing the uptake of EVs

[30] Ampol 2022, Ampol EV charging network opportunity, <https://www.ampol.com.au/about-ampol/sustainability/future-energy/ev-charging-network>
[31] ACT Government 2021, Electric Vehicle Charging Outlook for the ACT, Guidance for industry, <https://www.environment.act.gov.au/__data/assets/pdf_file/0007/1914802/electric-vehicle-charging-outlook-for-the-act-industry-guidance-2021.pdf>

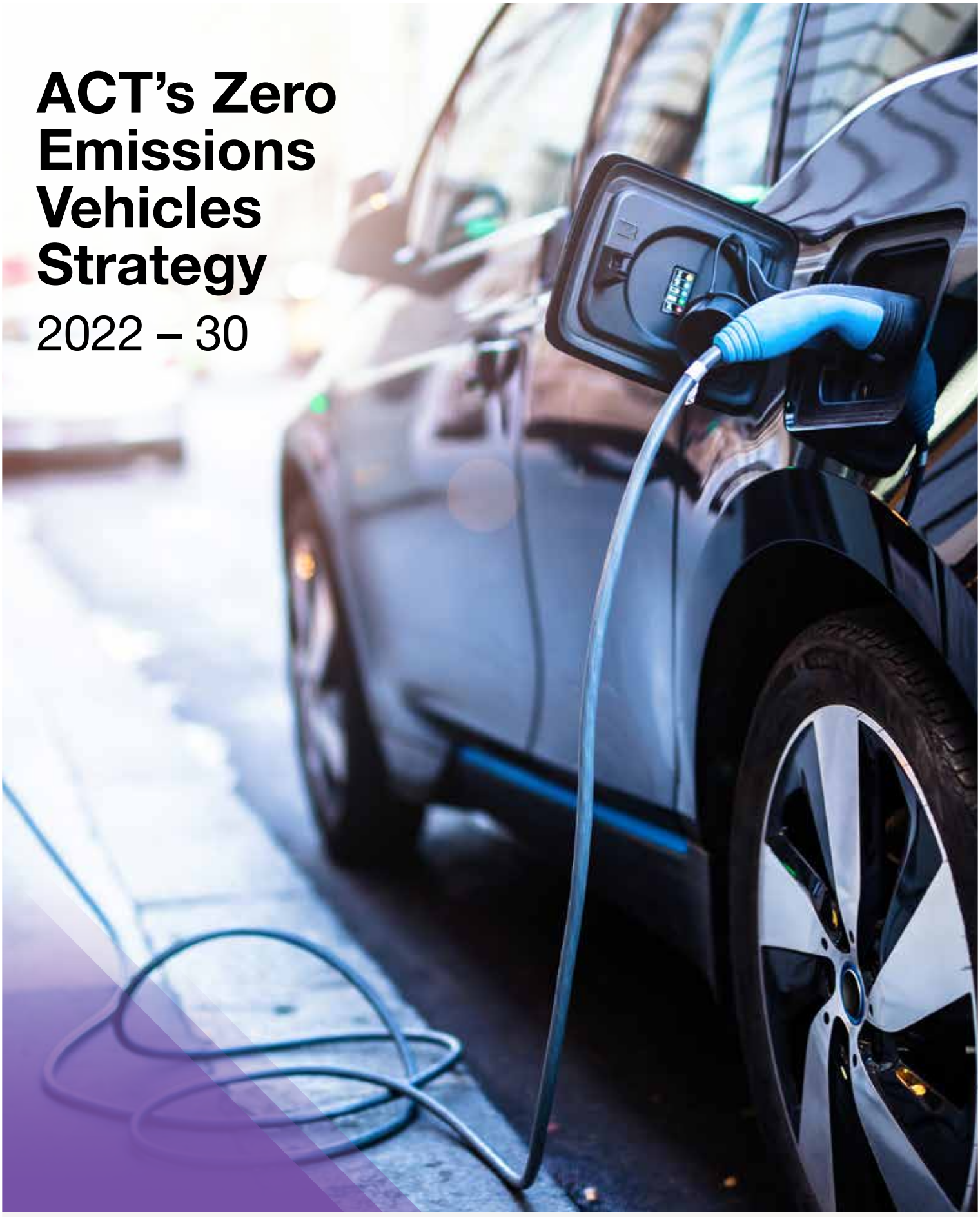
the ACT Government is acting on the commitment to ensure a just transition to net zero emissions by 2045 across the community. The impacts of climate change and of pollution from fuel combustion, disproportionately fall on those members of the community with lower incomes, the elderly, children and people with existing health conditions. By addressing transport emissions and vehicle pollution, the ACT Government can reduce the negative impacts of climate change and pollution on the whole community.

Conclusion

Electric Vehicles are a key element of the ACT Government's strategy to reduce emissions in the ACT. The ACT Government is taking substantial action to support EV uptake, and to ensure the transition is just. However, there remain barriers to wider adoption. Where those barriers are within our remit, the ACT Government will act to reduce and eliminate them. Where they are outside our control, the ACT Government will act as an enabler to private industry and work constructively at Federal level.

ACT's Zero Emissions Vehicles Strategy

2022 – 30



ACT Government

Small Steps. Smart Choices.

climatechoices.act.gov.au/zev

Contents

The policies in this Strategy are designed around six priority actions:

Setting a clear direction

Making zero emissions vehicles more affordable

Expanding the electric vehicle charging network

Supporting and informing uptake

ACT Government leadership

Updating policies to support the transition

Foreword

Andrew Barr MLA
Chief Minister, Treasurer,
Minister for Climate Action

Shane Rattenbury MLA
Minister for Energy, Water and
Emissions Reduction

The ACT is proud to lead on meaningful climate change action and reducing greenhouse gas emissions. We are the first Australian jurisdiction to shift to 100% renewable electricity. Canberrans can be proud of our achievements in helping to deliver a sustainable, zero emissions future.

With global emissions still rising, there is an urgent imperative to further reduce emissions, including from the cars we drive.

Now that we have achieved 100% renewable electricity, transport is the single largest contributor to the ACT's greenhouse gas emissions, making up over 60% of the total. To reach our goal of net zero emissions by 2045, we need to significantly reduce emissions from transport.

This requires working together and taking action as a community. Businesses, households, organisations and government all have a part to play.

The ACT Government is committed to reducing transport emissions, to create a healthier and more sustainable future for the ACT. As well as improving public transport and encouraging walking and cycling, a key measure is to transition the ACT's vehicle fleet to zero emissions vehicles such as electric cars.

Foreword

This Strategy focuses on how we can encourage the uptake of ZEVs to cut transport emissions and improve air quality in our city. Because of our 100% renewable electricity supply, the shift to ZEVs presents a zero emissions solution that can help decarbonise the ACT's transport system. The benefits of this transition are not only environmental, it can also lead to better health and financial outcomes, offering improved air-quality, increased fuel security and lower maintenance and running costs, and quieter and cleaner roads and cities.

The ACT has long led Australia and much of the world on taking action to reduce emissions through decarbonising our electricity sector and we can now shift our focus to the transport sector.

Ambitious targets for ZEV sales, underpinned by supportive policies, and a fit-for-purpose charging network in the ACT will all help to ensure that availability of ZEVs increase, and that the ACT benefits from a wider range of models than is currently available.

The ACT is one of the most attractive places to buy a ZEV – with no stamp duty, two years free registration and an interest free loan of up to $15,000 for eligible ZEVs. We will continue to make zero emissions vehicles more affordable and support an equitable transition by investigating further changes to fees and charges, underpinned by the principle that the lower your transport emissions the less you pay.

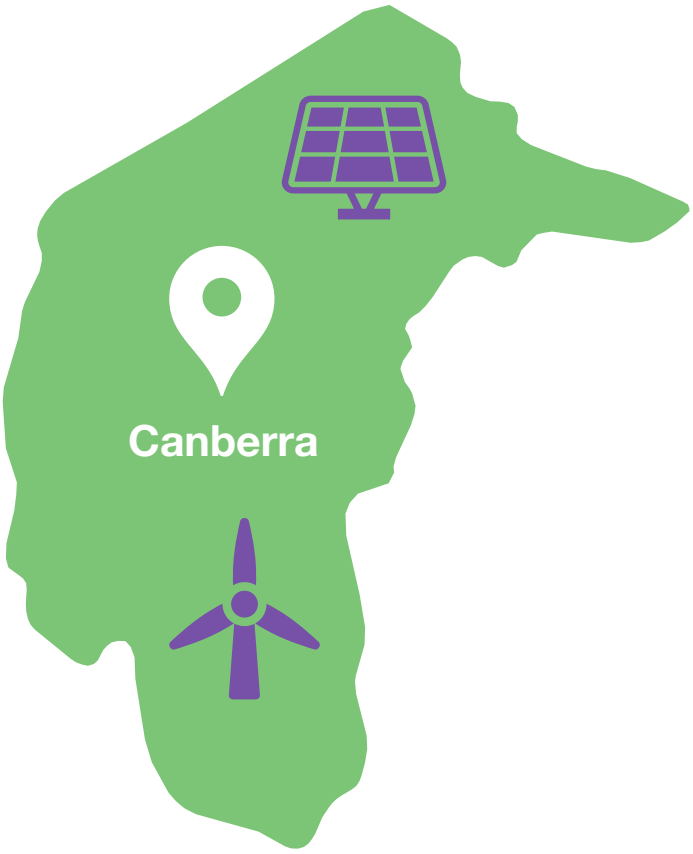
This Strategy adopts a ZEV sales target for the ACT of 80-90% by 2030, and outlines the ACT Government's intention to cease registration of new non-ZEVs by 2035. These ambitious targets make it clear that the ACT is committed to a zero-emissions future. Our ZEV policies will support this 2030 target, and we want to work with manufacturers, businesses, and the community to ensure it is achieved.

We recognise that we are in a state of a climate emergency and are committed to taking the necessary steps to rapidly reduce emissions. While the ACT is only a small proportion of Australia and a smaller proportion of the world, we can have a big impact supporting the transition to zero emissions transport.

This Strategy is our pathway for ensuring Canberra continues to lead in the shift to zero emissions vehicles, and an invitation to businesses and the community to help lead the way in delivering a zero-emissions transport future for our city.

Transport makes up over 60% of the ACT's total emissions and passenger vehicles make up the majority of transport emissions

Vision



By 2030, the ACT will be a leading jurisdiction in the adoption of zero emissions vehicle technologies and will be on track to meet our target of net zero greenhouse gas emissions by 2045 at the latest.

Zero Emissions Vehicles (ZEVs) will make up the vast majority of new car sales and will be an accessible and affordable option for Canberrans. Our streets will be quieter and our air cleaner as people choose ZEVs and other travel options like zero-emissions public transport. The ACT will be home to a thriving ZEV sector including sales, servicing, research, and innovation. All sectors of the community will have access to new and used ZEVs and charging facilities, supporting people with different lifestyles and levels of income.

Objectives and scope

2030 zero emissions vehicles outlook for the ACT

80-90%

of new car sales will be ZEVs

As we work towards a net zero emissions city, reducing emissions from transport is a high priority for the ACT. To achieve this, the ACT Government is encouraging greater community uptake of public transport, more walking and cycling infrastructure to support active travel options, as well supporting a rapid shift to ZEVs. This Strategy sets out the next steps the ACT Government will take to accelerate the uptake in an equitable and efficient way that maximises the benefits for the whole ACT community.

The measures in the Strategy include local actions to encourage uptake, greater industry support and development, and advocacy for national reforms to better enable this shift. It also sets an ambitious 2030 zero emissions vehicle sales target of 80-90% . This target is designed to provide clear guidance to industry and the community on the future of road travel in the ACT.

For the purpose of this Strategy, ZEVs are defined as cars, commercial vehicles, trucks, motorbikes and personal mobility devices, such as electric scooters, that produce zero tailpipe emissions. This includes battery electric vehicles (EVs) and hydrogen vehicles. The target will also include plug-in hybrid vehicles in recognition of the fuel efficiency of these vehicles and their role in reducing emissions in the short term. Active travel, while an important aspect of reducing emissions from transport, is covered in the *ACT Transport Strategy*. Zero emissions buses are addressed in *Transport Canberra's Zero Emissions Transition Plan*.

The initial focus of the Strategy is on the vehicles we drive every day – light vehicles, which make up 95% of the ACT fleet. EVs are a mature, proven technology which can replace most petrol or diesel vehicles of this type and are a key focus for initial measures.

It will also be important to drive a longer-term transition in heavy vehicles – including those used for transport and logistics across our supply chains, and those used to support the delivery of ACT Government municipal services like waste collection. As the markets and technologies for these vehicles mature and the transition in the private vehicle market gathers pace, the ACT Government will progressively step up the focus of our work in these areas.

The need for action

Net zero greenhouse gas emissions by 2045

The ACT has set a nation-leading target of achieving net zero greenhouse gas emissions by 2045 at the latest. This target, and interim targets, are legislated in the *Climate Change and Greenhouse Gas Reduction Act 2010*. The targets stand among the world's most progressive and demonstrate the Territory's commitment to delivering real climate action. In 2020, the ACT met the emissions reduction target of 40% below 1990s levels. But there is more to do. By 2030, the ACT aims to meet a target of 65-75% reduction in emissions from 1990 levels.

Our emissions targets

The ACT is committed to net zero emissions by 2045. To achieve this, targets have been set to reduce emissions (from 1990 levels) by:

- 40% in 2020
- 50-60% in 2025
- 65-75% in 2030
- 90-95% in 2040
- 100% in 2045

ACT's emissions targets from 2020 to 2045.

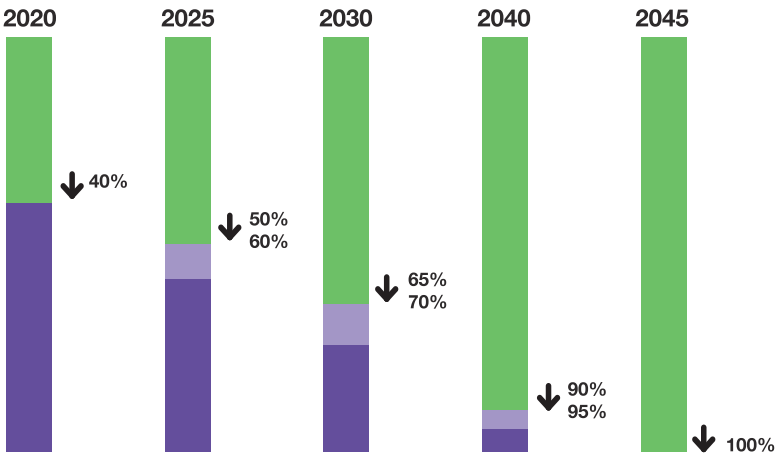


Figure 1. ACT emissions reduction targets to 2045

The need for action

After moving to 100% renewable electricity, transport is now the ACT's largest source of greenhouse gas emissions and is the priority for emissions reduction action. Transport emissions were 1,070 kt CO^2 equivalent in 2020-21, or 64% of total emissions, making it the single largest contributor to emissions in the ACT[1]. Passenger vehicles contribute 70% of transport emissions[2].

Addressing emissions from transport through the uptake of ZEVs is an opportunity that requires collaboration from a range of stakeholders and the broader community.

ACT residents and businesses

Light vehicles are 95% of all vehicles in the ACT. So it is important that ACT residents and businesses have the opportunity to make their next vehicle a ZEV.

Government

Government must lead the way. That's why the ACT Government is continuing to support ZEV uptake by addressing drivers for change and transitioning our own fleet.

Car manufacturers

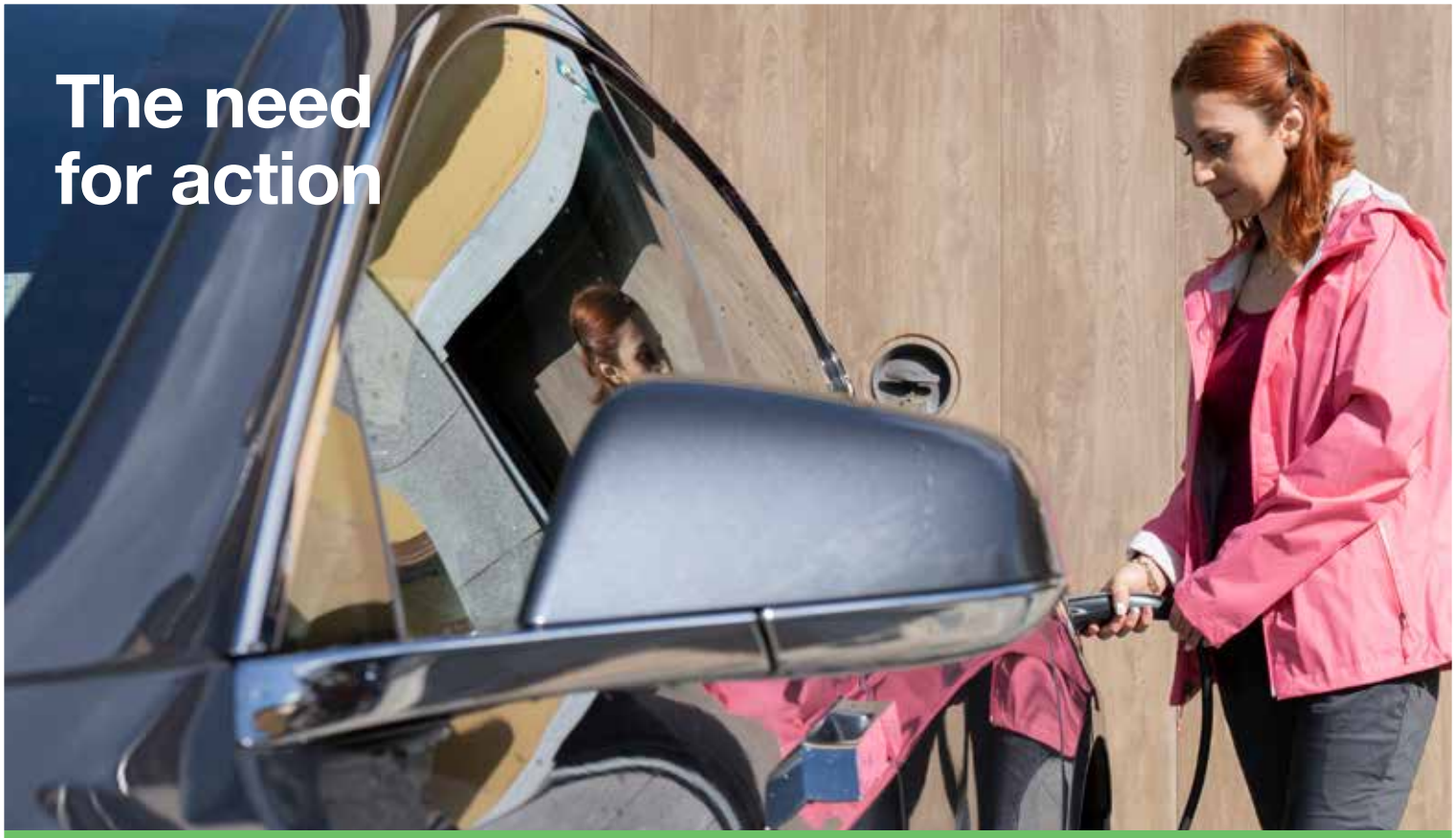
Car manufacturers are producing more types and numbers of EVs. Companies are more likely to deliver vehicles to places with strong policy and investment frameworks for supporting ZEV uptake

Industry

We need industry to invest in bringing more ZEVs to the ACT. And we need to attract ZEV industries to the ACT, as well as strengthening our local capacity to train skilled workers in new ZEV capabilities.

1 'ACT Greenhouse Gas Emissions Inventory Report 2020-21', ACT Government, November, 2021
2 'ACT Transport Strategy 2020', ACT Government, August 2020

The need for action



Globally, many vehicle manufacturers have committed to moving production to all EVs. More than ten of the largest car manufacturers worldwide have declared electrification targets for 2030 and beyond[3]. Many others are working quickly to respond to the growing demand for zero emissions vehicles by increasing the model availability and production of ZEVs.

Despite recent new sales growth of ZEVs, the decarbonisation of the total fleet will take decades as older vehicles remain on the roads. In the ACT, the average age of a car is 9.5 years[4], although some vehicles remain in active use for many years longer than this, so fleet turn-over occurs slowly. Given the long active life of cars, in order to keep on track to net zero emissions by 2045, we need to take action now. By taking a proactive approach to increase the number of ZEVs in the ACT, we can be part of a collective effort by States and Territories to accelerate the uptake of ZEVs across Australia. Demonstrating strong demand will help to attract more affordable ZEV models to Australia sooner.

3 'Global EV Outlook 2021: Trends and developments in electric vehicle markets', International Energy Agency, April 2021

4 'Motor Vehicle Census, Australia 2021', Australian Bureau of Statistics, January 2021

The need for action

Cutting transport emissions between now and 2030 is critical for meeting the ACT emissions reduction targets, and for playing our part to keep global temperature increase to well below two degrees. By taking action now, we can reduce the risk we face and avoid more urgent and costly interventions to reduce emissions later.

Global car manufacturers will naturally be inclined to focus ZEV efforts and models on the markets with the most stringent vehicle emissions standards, sales mandates, and other supportive ZEV policies.[5] Responsibility for Australia's vehicle emissions standards and other policy settings that influence international manufacturer strategies, such as import taxes and asset write off policy, sits with the Federal Government. These policy decisions impact the ACT's ability to access new technologies, ZEV models, and innovative industries. In addition to continuing to advocate for more stringent vehicle emissions standards and other supportive policy settings, the ACT Government is taking decisive action within areas of its control through the measures outlined in this Strategy. Along with similar efforts from other states and territories, this will encourage greater model availability than is currently available and signal to manufacturers that the ACT is a viable market for future growth.[6]

Cutting transport emissions now is critical to playing our part to keep global temperature increase to well below two degrees

5 'Electric Vehicle Outlook 2021', BloombergNEF, 2021
6 'Global EV Outlook 2021: Trends and developments in electric vehicle markets', International Energy Agency, April 2021

The ACT's zero emissions transport journey

Battery electric vehicles are a mature, proven technology

This Strategy builds on the previous achievements of the *ACT's Transition to Zero Emissions Vehicles Action Plan 2018-21* (The Action Plan) which led the ACT to achieve the greatest adoption of EVs among Australian states and territories.[7] The Action Plan included commitments to shifting to a zero emissions Government passenger vehicle fleet and introducing incentives for ZEV uptake.

The *ACT Climate Change Strategy 2019-25* sets out the ACT Government's response to climate change and includes measures to reduce the ACT's emissions in line with meeting our interim targets and achieving net zero emissions by 2045 at the latest. It includes a range of actions to reduce emissions from transport in addition to the actions in this Strategy.

The *ACT Transport Strategy* identifies the opportunities and challenges to reduce transport emissions by increasing trips taken by public transport, walking and cycling as we work to make Canberra a more compact and efficient city. The *Zero Emission Plan for Transport Canberra* also specifically outlines a pathway to achieve the ACT Government's ambition of a zero emission public transport system by 2040 or earlier. We are transitioning our city's bus fleet to zero emissions, and investing in the infrastructure and skills needed to make the transition operationally successful. This will not only help to address the risks of harmful climate change, but will also ensure we can offer Canberra's public transport passengers a cleaner, quieter and more comfortable ride.

7 'State of Electric Vehicles 2021', Electric Vehicle Council, August 2021

The ACT's zero emissions transport journey

2018 ACT commits to achieving net **zero emissions** by 2045

2018 ACT **Zero Emissions Vehicles Action Plan 2018-21** released

2020 ACT achieves **100% renewable electricity** target

2020 **Zero emission transition plan** for public transport

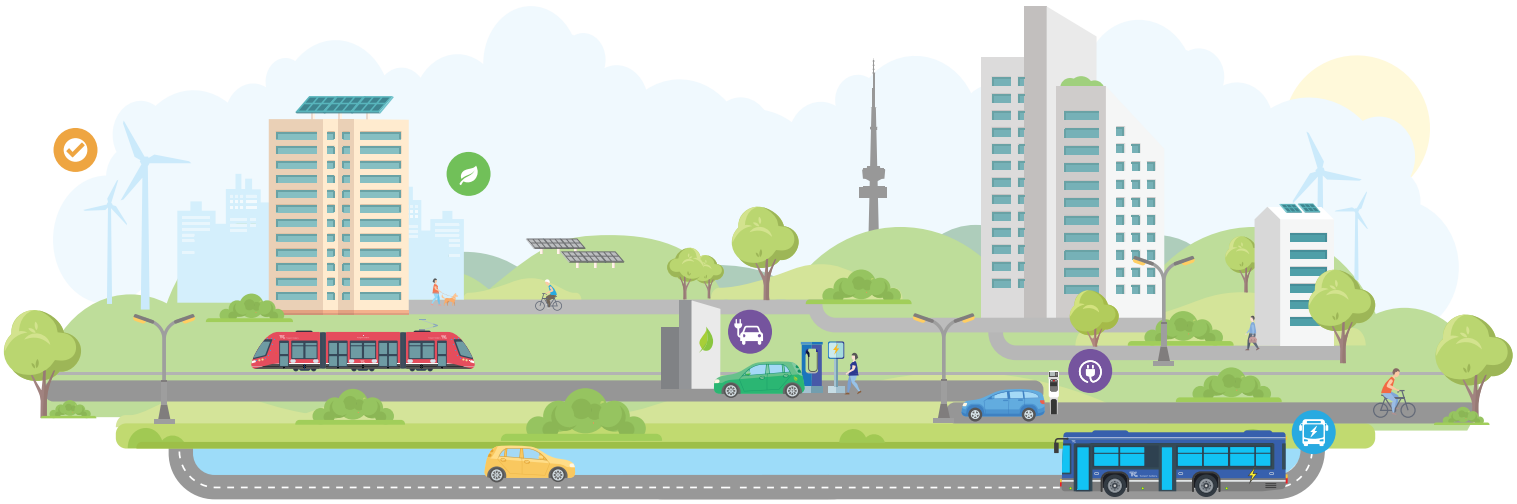
2021 **Hydrogen transport refuelling station** opens

2021 **Electric Vehicle Public Charging Outlook** released

2021 100% new ACT Government passenger vehicle fleet leases **transitioned to zero emissions vehicles** (where fit for purpose)

2022 Contracts in place for at least **70 new EV chargers**

2022 **ACT Zero Emissions Vehicles Strategy 2022-30**



The *ACT Planning Strategy 2018* introduced a plan for a more compact and efficient urban form, complemented by liveable neighbourhoods through the integration of land use and transport planning. The *ACT Infrastructure Plan* has articulated the future direction for our transport investments.

We are committed to supporting the green economy including through the implementation of skills to support a transition to ZEVs. Skilled to Succeed, the ACT's skills and workforce agenda, explicitly identifies the importance of training and upskilling in ZEV technologies as a key growth opportunity for our local skills sector and economy.

The ACT Government has recognised in the *ACT Wellbeing Framework* that the sustainability of our environment and the way we get around both play a critical role in defining wellbeing in the Territory.

The *Parliamentary and Governing Agreement 2020* states that the parties forming the ACT Government, agree that the world is facing a climate change emergency, and commit to undertaking rapid, science-based action to mitigate and adapt to climate change. This includes taking action to significantly expand the number of ZEVs in the ACT. The Strategy is intended to align with this intent, and complements the Agreement by expanding and increasing policy actions to encourage ZEV uptake in the ACT.

Drivers for change

While we know we need to act on climate change and reduce emissions, particularly from passenger vehicles, there are four barriers to overcome to drive change and increase uptake of ZEVs in the ACT. This section describes these four drivers of change.

Affordability

The average price of a ZEV is higher than the average price of fuel vehicles, which discourages higher uptake. High ZEV purchase prices remain a barrier for many households, particularly where this cost represents a large portion of their annual income.

58% of ACT residents report high purchase prices as a barrier to buying a ZEV.[8] And this reflects the national sentiment. In the Electric Vehicle Council's 2021 national survey, the high purchase price discouraged 50% of respondents from purchasing a ZEV.[9] However, the number of available ZEV models is increasing rapidly and prices continue to decline.

8 'Electric Vehicles in the ACT: Final Report to the ACT Government,' University of Canberra, November 2020.
9 'State of Electric Vehicles', Electric Vehicle Council, August 2020.

Drivers for change

Size and maturity of the market

The ZEV market is still emerging, and does not yet provide ACT residents with the same range of vehicles and services as the fuel vehicle industry. 41% of consumers say model availability discourages them from purchasing an EV.[10] In 2021, there were 31 electric models available in Australia compared to 130 EV models available in the United Kingdom.[11]

While the models available locally include sedans, light cars and SUVs, there are few options available for other popular vehicles like utilities. The market is especially limited for second-hand vehicles, with only 164 sold in the ACT in 2021. The range of associated services available in the ACT is still growing, and training for vehicle services and maintenance options are limited compared with those for petrol vehicles.

Range anxiety

People who are considering buying an EV are often concerned they won't be able to find places to easily recharge their vehicle.[12] Concern regarding EV range is a well-known barrier to EV purchases. Almost half the respondents in a 2020 Electric Vehicle Council survey said range anxiety is a factor that discourages them from buying an EV.[13] When asked how government policy can promote the use of ZEVs, the provision of public charging infrastructure was an equal first priority for survey respondents.[14] While investment in the expansion of Australia's public charging network is growing rapidly, this concern remains a barrier to slow the uptake of ZEV purchases.

Public charging is particularly important for people who don't have access to dedicated parking spaces at home, and those travelling from elsewhere. However, EV owners also want to recharge where it is most convenient to them – at home. In townhouses and apartments, retrofitting EV charging is more complex than in houses with off-street parking. Coordinating the installation of chargers through owners corporations (unit titles) can also be a time consuming process.

10 'State of Electric Vehicles', Electric Vehicle Council, August 2020.
11 'State of Electric Vehicles', Electric Vehicle Council, August 2021.
12 'Consumer Attitudes Survey 2021', Electric Vehicle Council in partnership with carsales, 2021
13 'State of Electric Vehicles', Electric Vehicle Council, August 2020
14 'State of Electric Vehicles', Australian Electric Vehicle Council, August 2020

Drivers for change

Government policy and process

Policy certainty is necessary to support a sustainable ZEV market in the ACT. By providing supportive policy and processes, the ACT Government serves as an enabler in the net-zero emissions transition.

The ACT Government fleet has led the charge with the greatest adoption of EVs among Australian states and territories. We have also supported trials of advanced technology, such as Australia's first publicly available hydrogen refuelling station to power our 20 hydrogen fuel cell vehicles – the first government fleet of hydrogen vehicles in Australia. The lessons learned throughout our trials and fleet transition can serve as a base to expand the number of zero emissions vehicles in the ACT.

Action

The policies in this Strategy are designed around six priority actions:

Setting a clear direction

Making zero emissions vehicles more affordable

Expanding the electric vehicle charging network

Supporting and informing uptake

ACT Government leadership

Updating policies to support the transition

Action

Through this strategy the ACT Government commits to the following actions, to be achieved by the following dates.

Setting a clear direction		
1	Aim to achieve 80-90% of new light vehicle sales in the ACT being ZEVs in 2030	2030
2	Phase-out light internal combustion engine vehicles from 2035	2035
3	Prohibit onboarding of new ICE vehicles to rideshare and taxi networks by 2030	2030
Making ZEVs more affordable		
4	Provide two years free registration for battery electric and hydrogen fuel cell electric vehicles and investigate potential for future reforms	2021-2024
5	Provide stamp duty exemption for new zero emissions vehicles	Ongoing
6	Expand the stamp duty exemption to include used battery electric and hydrogen fuel cell vehicles (includes electric scooters, motorbikes, trikes)	2022
7	Offer $15,000 zero-interest loans for zero emissions vehicles and charging equipment and installation	2021
8	Introduce incentives to encourage the uptake of electric bikes, motorbikes and trikes	2023
Expanding the EV charging network		
9	Develop streamlined license applications for EV charging stations on public land	2022
10	Deliver more than 70 publicly accessible electric vehicle charging stations across Canberra in 2022-23	2022
11	Expand the public EV charging network to ensure there are at least 180 publicly available charging stations in the ACT by 2025	2025
12	By 2023 at the latest, enact regulation in the Territory Plan to require electric vehicle charging infrastructure for new multi-unit residential and commercial buildings	2023
13	Continue cross-jurisdictional engagement to make EV chargers available on common interstate, long distance transit routes	Ongoing
14	Provide information to unit titles and apartment building owners about EV charger installation in apartment buildings, including build to rent	2022
15	Introduce $2,000 incentives for installation of EV charging at multi-unit buildings	2023

Action

Through this strategy the ACT Government commits to the following actions, to be achieved by the following dates.

Supporting and informing uptake		
16	Deliver a community education and promotion program on zero emissions vehicles	2022
17	Deliver the Zero Emissions Fleet Advisory Service to assist businesses and organisations	2022
ACT Government leadership		
18	Continue to advocate for strong national policy to support the zero emissions vehicle transition including vehicle emissions standards	Ongoing
19	Continue to ensure that 100% of all newly leased government passenger vehicles are zero emissions where fit for purpose	Ongoing
20	Develop a strategic plan for long term (post 2030) charging needs for the ACT fleet (excluding buses)	2022-2024
21	Deliver the next stage of ACT Government fleet vehicle charging infrastructure	2023
22	Deliver a demonstration project for zero emissions commercial vehicles	2022-25
23	Update the definition of zero emissions vehicle for the Government fleet to exclude plug-in hybrid electric vehicles (PHEVs)	2022
24	Continue to provide information and support for Government fleet drivers	Ongoing
25	Implement a pathway towards a transition to zero emission waste trucks by the mid-2030s	2035
26	Explore opportunities to replace government commercial and heavy vehicles with ZEVs as models become available	Ongoing
Updating policies to support the transition		
27	Reform parking regulations to enable enforcement of parking in EV only parking spaces	2022
28	Investigate enabling zero emissions vehicles in the ‘one-off’ drivers test	2022

Action

1. Setting a clear direction

- 80-90% of new vehicle sales will be zero emissions vehicles by 2030
- Prohibit onboarding of new internal combustion engine vehicles to rideshare and taxi networks by 2030
- Phase-out light internal combustion engine vehicles from 2035

80-90% of new vehicle sales will be zero emissions vehicles by 2030

The ACT Government has set a target of 80-90% of new light vehicle sales being ZEVs by 2030. This target reflects the high ambition of the ACT Government, our supportive policies, our supportive population (which already leads the nation in ZEV uptake), and our confidence in the rapidly improving Australian ZEV market and policy landscape.

The target also aims to send a clear signal to the market and to the community about the future of transport in the ACT. The target is aspirational and achieving it will involve collaboration with industry to encourage the shift to ZEVs and to attract ZEV business, investment and jobs to the ACT.

Manufacturers have told the Electric Vehicle Council that 'policies that most influence electric vehicle allocation in the global market are electric vehicle sales targets, consumer incentives and fuel efficiency standards[15]. Through the 80-90% target, the ACT Government makes it clear that it will lead Australia on its holistic support for, and interest in, ZEV policies and business.

More than 20 countries have vehicle electrification targets or bans for internal combustion engine vehicles.

With our supportive local policies and existing high levels of ZEV take-up, the ACT Government believes we can achieve 80-90% of new vehicle sales being ZEVs by 2030. The Government will regularly review its progress against this target leading to 2030.

15 'Global EV Outlook 2021', International Energy Agency, April 2021.

Action

Phase-out light internal combustion engine vehicles from 2035

In addition to the sales target, the Government's intention is to commence the phase-out of new light internal combustion engine (ICE) vehicles from 2035. This is consistent with the range of target phase-out dates set by the EU, Canada, the United Kingdom and some US states. The Government will explore the best and most appropriate mechanism for achieving such a phase out. It is expected that by 2035, ZEV sales for new standard light vehicles will be close to 100%. We believe it is important to signal this policy to the community, well in advance, to drive industry and consumer decision-making.

The ACT Government is committed to working with the Commonwealth Government to find an appropriate pathway forward for the ACT Government's policy intention to phase out the purchase of new light ICE vehicles from the mid-2030s. However, we also recognise that it would be preferable for this policy to be set and adopted nationally across the Australian vehicle market. We will work closely and collaboratively with the Commonwealth and other state and territory governments to advocate for such a policy nationally, which would supersede the need for state and territory government action.

The ACT Government will continue to review this target milestone to 2035, in the context of our policies, and the evolution of the market.

Prohibit onboarding of new internal combustion engine vehicles to rideshare and taxi networks by 2030

Taxi and rideshare networks play a vital role in the current ACT transport network. These networks are likely to grow as car ownership decreases. These sectors play a key role in the transition to a zero emissions future. Taxi and ride share vehicles are used intensively, with the fleet being replaced with new vehicles more often than private passenger vehicles. Under current ACT road transport regulations, taxi vehicles must be replaced every eight years, or following six consecutive years of use as a taxi. Rideshare networks generally require vehicles operating on their networks to be less than ten years old.

That's why the ACT Government will prohibit the onboarding of new ICE vehicles to taxi and rideshare networks from 2030. This would not affect existing drivers on these networks, but would ensure that these key local fleets progressively become cleaner over time. It also sends a clear signal to drivers who are considering replacing their vehicle within the next few years to make the switch to a ZEV, bringing forward more vehicle purchases towards the overall 80-90% sales target.

It is expected by 2035, ZEV sales for new standard light vehicles will be close to 100%

Action

In addition, the ACT Government will implement a pathway for taxis and rideshare to use only zero emissions vehicles by the mid-2030s, a commitment already reflected in the Government's *Parliamentary and Governing agreement*. It is essential that rideshare and taxi network play their part in the transition to zero emissions vehicles to remain compatible with the ACT Government's zero emission goals.

Taxi and rideshare operators are already taking steps to improve the environmental operation. For example, in 2020 Uber announced its commitment to being a zero-emission mobility platform globally by 2040[16]. As part of the private vehicle fleet, rideshare participants in the ACT are currently able to access the ACT Government's $15,000 zero-interest loan via the Sustainable Household Scheme to support the purchase of a ZEV and home charging infrastructure, as well as access related concessions in areas such as stamp duty and registration.

The ACT Government will continue to engage with the ACT taxi industry as we move through the ZEV transition. While taxis and rideshare are both bookable services, taxis provide important additional offerings for the Canberra community, particularly in providing wheelchair accessible vehicles and larger capacity vehicles for groups. We will ensure that our policies are appropriately calibrated to match the availability of suitable ZEVs in the market to meet these service needs, and ensure these services remain accessible and affordable for Canberrans who need them.

16 https://www.uber.com/us/en/about/sustainability/

Action

2. Making zero emissions vehicles more affordable

- Two years free registration and investigate potential for future reforms.
- Provide stamp duty exemption for new and used EVs and hydrogen vehicles (includes electric scooters, motorbikes, trikes).
- Offer $15,000 interest-free loans for zero emissions vehicles and charging equipment and installation.
- Introduce incentives to encourage the uptake of electric bikes, motorbikes and trikes.

Two years free registration and investigate potential for future reforms

New or used battery electric and hydrogen fuel cell electric vehicles registered in the ACT will receive two years free registration until 30 June 2024. It will help reduce on-road costs and price disparity by eliminating the registration component of these fees. Other components of these fees (such as Motor Accident Injuries insurance fees) remain. The ACT Government is committed to offering this waiver for two years for each eligible vehicle registered up to 30 June 2024.

As more people transition to ZEVs, a number of jurisdictions in Australia have announced a road user charge policy, including New South Wales, Victoria, Western Australia and Tasmania. These policies are aimed at ensuring a fair and sustainable road user system into the future. The ACT is actively monitoring developments here and internationally and is considering its options. The ACT is also aware that its current fixed registration system is weight based and penalises heavier ZEV models despite their lower emissions. Any registration reform in the ACT would necessarily consider both emissions and distance-based charging and ensure zero emissions vehicles were incentivised over emitting vehicles. The Government's principle for such a reform over the long-term would seek to ensure that the amount you pay is linked to the total vehicle emissions.

Stamp duty exemptions for new zero emissions vehicles

To help reduce the upfront cost of purchasing a ZEV, the ACT offers a full stamp duty exemption to new ZEVs. This means no stamp duty is payable on new ZEVs sold in the ACT, saving around $2,100 when compared with an equivalent fuel vehicle with average emissions performance. This exemption applies to EVs, hydrogen fuel cell vehicles, and any other vehicles (such as plug-in hybrids) which achieve an emissions performance rating of 130g of CO^2 per km or less.

Second-hand vehicles provide a more affordable option to adopt zero emission transport, especially for ACT residents on lower incomes. Buyers of used EVs and hydrogen vehicles purchased from 1 August 2022, will also be eligible for the stamp duty exemption. By exempting EVs and hydrogen vehicles from stamp duty, we will cut the cost of an average second-hand vehicle by around $1,600, encouraging those considering

a second-hand vehicle purchase to make a zero emissions choice. These stamp duty reforms would be integrated with any future registration reforms.

Zero-interest loans for zero emission vehicles and charging infrastructure

The ACT offers zero-interest loans of up to $15,000 through the *Sustainable Household Scheme* to help eligible buyers purchase a new or second-hand ZEV, charging infrastructure and installation. Buyers have up to ten years to repay and there are no upfront costs or fees to make use of this program.

There are already a range of new and used EV dealerships signed up as participants under the scheme, and more suppliers will be added over time. These loans will make it easier for households to switch to products that are better for the environment.

Introduce incentives to encourage the uptake of electric bikes, motorbikes and trikes

ACT Government will explore further incentives to encourage the take up of electric bikes, motorbikes and trikes. Electric motorbikes are increasing in popularity and will potentially play a role in the future zero emission transport landscape in Canberra. Electric bikes are a zero emissions mode of travel that provide a sustainable travel mode for many people, and can realistically replace many car trips. In particular, electric cargo bikes can be used to transport children and carry large loads, making them a viable alternative to car travel for many people.

Recognising that electric bikes are a growing and relatively inexpensive zero emission travel option, the ACT Government supports the *ACT E-bike library*, which allows Canberrans to borrow and trial e-bikes for free.

Action

3. Expanding the electric vehicle charging network

Develop streamlined license applications for EV charging stations on public land.

- Deliver more than 70 publicly accessible EV charging stations across Canberra in 2022-23.
- By 2023 at the latest, enact regulation in the Territory Plan to require EV charging infrastructure for new multi-unit residential and commercial buildings.
- Continue cross-jurisdictional engagement to make EV chargers available on common interstate, long distance transit routes.
- Provide information and advice to unit titles and apartment building owners on EV charger installation at apartment buildings, including build to rent.
- Expand the public EV charging network to ensure there are at least 180 publicly available charging stations in the ACT by 2025.
- Introduce $2,000 incentives for installation of EV charging at multi-unit buildings.

Expand public charging infrastructure in the ACT

The ACT Electric Vehicle Charging Outlook, which was delivered in 2021, provides guidance for industry to invest in public charging in the ACT. The outlook aims to lower the barriers to new charging operator entry into the ACT market and build awareness among the public and industry of the ACT's support for ZEVs. It also sends a strong signal that the ACT is ready to receive further investment in our charging network to support the transition.

The industry is small but growing rapidly and the ACT needs chargers to support this growth. By ensuring there are at least 180 new public chargers by 2025, and rolling out the first through 2022-23, we will substantially increase access to public charging for ACT residents and visitors, leading to reduced levels of range anxiety among ACT residents by the medium term. Over the long term, this will help increase demand for ZEVs in the ACT and help to reduce risk for the charging industry and build a sustainable charging market.

Following the delivery of the first round of support for the new public chargers in 2022, the ACT Government will conduct an evaluation of the outcomes of the process, and use the findings to design the next round of funding for public charging stations. The ACT Government will monitor the market to ensure that the ACT has at least 180 public chargers by 2025, in line with our 2021 outlook expectations.

$2,000 incentive for chargers in apartment buildings

The ACT Government will provide a $2,000 incentive to install charging infrastructure in common areas in multi-unit buildings, starting in 2023.

The ACT Electric Vehicle Charging Outlook shows that around 70% of charging will occur at home[17]. For people living in apartment buildings, or unit title organisations, a lack of home charging can be a barrier to ZEV purchase.

The experience in some other countries such as Norway shows that a reliable and strategic public charging network can meet much of the EV charging need of people living in apartments, avoiding the need to retrofit charging into apartment buildings. In the ACT, the solution is likely to be a mix of public charging and EV charging at apartment buildings. The solution for each building will depend on the viability of installing charging stations on site.

Multi-unit dwellings (townhouses and apartments) are not currently designed in a way that easily accommodate the installation of chargers since they don't have the electrical infrastructure, necessary wiring, or the space needed to install charging infrastructure. Retrofitting EV infrastructure into these buildings can be technically challenging and expensive compared to houses. By supporting charging infrastructure in common areas, such as visitor car parks, we are making sure that drivers have access to charging across the ACT.

To support the roll-out of charging infrastructure in multi-unit buildings, the ACT Government will also provide information to guide stakeholders through the process of installing EV charger infrastructure.

17 'EV Charging outlook for the ACT', ACT Government, December 2021

Action

Making new builds electric vehicle ready

The *Territory Plan* is a legislative instrument that guides investors, developers, building owners and other stakeholders on the standards required in building development.

New regulations targeting the provision of EV charging infrastructure in new developments and retrofitting existing developments, are being adopted globally. The ACT Government is aligned with this need to plan proactively for the future of driving and charging. Amending the Territory Plan to require charging infrastructure in new buildings will make charging easier for everyone. Adequate charging infrastructure is a barrier to EV ownership which we will address through requiring EV Ready developments.

The Australian Building Codes Board is considering nationally consistent options for EV ready buildings through the National Construction Code. As a starting point the ACT Government will amend the Territory Plan by 2023 at the latest to require all new multi-unit and commercial developments to provide ZEV charging.

Working with partners to expand charging infrastructure outside the ACT

Installing charging infrastructure on major roads to and from Canberra is an important factor in promoting ZEV uptake. *The ACT and NSW Memorandum of Understanding for Regional Collaboration*[18] identifies that the ACT and NSW governments will work to identify strategic objectives, needs and infrastructure investment priorities for the Canberra Region. The EV network is noted as a priority area. We have agreed to work in conjunction with NSW Government and 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 and enable wide spread zero emissions travel.

Streamlined applications for EV chargers on public land

To support the development of the EV charging industry, the ACT Government will develop a process to streamline applications to install chargers on Government land. The ACT Government operates car parking areas and curb space which may present future opportunities for EV charging operators.

18 'ACT-NSW Memorandum of Understanding', ACT Government and NSW Government, 2020

Action

4. Supporting and informing uptake

> Deliver a community education and promotion program on zero emissions vehicles.

> Deliver the Zero Emissions Fleet Advisory Service to assist businesses and organisations.

Deliver a community education program

We want to help the community to understand how ZEVs work and to feel comfortable behind the wheel of a ZEV. Increased familiarity and better education about EV technology can address the perception that the lack of public charging infrastructure is a barrier to EV ownership.

The ACT Government will provide tailored information about ZEVs, the technology, how they work, the realities of charging an EV and the available charging facilities in the ACT. Research has shown that once consumers become more familiar with ZEVs and their supporting technologies, their initial concerns about the perceived barriers tend to dissipate, and they are more likely to consider purchasing a ZEV[19].

Deliver the Zero Emissions Fleet Advisory Service for businesses and organisations

The ACT Government has established a dedicated Business Fleet Advisory Service to support Canberra businesses and community organisations with transitioning their fleets to ZEVs.

In 2020 in the ACT, commercial and government fleet sales accounted for 50% of all new vehicles purchased[20]. Electrification of fleets has been identified as one of the key short-term opportunities to accelerate adoption of EVs in Australia.

By accelerating fleet adoption, we can also improve model availability and the second-hand market for those without the upfront financial means for purchasing a new ZEV.

The Business Fleet Advisory Service provide Canberra businesses and community organisations with independent and targeted advice, and offers hands on experiences with ZEVs and associated technologies in order to guide, equip and support them to adopt these vehicles in their fleets.

The services include assisting with the development of a business case by providing fleet transition information reports specific to a business' fleet needs; presenting suitable ZEV options and transition strategies; providing detailed total cost of ownership comparisons; and providing information on ZEV charging requirements and charger options.

19 'Consumer Attitudes Survey 2021', Electric Vehicle Council in partnership with carsales, 2021

20 'Potential regulatory and non-regulator approaches to encourage electric vehicle transition for commercial fleets', *Local ACT fleet landscape, August 2020.*

Action

5. ACT Government leadership

- Continue to advocate for strong national policy to support the zero emissions vehicle transition including vehicle emissions standards.
- Continue to ensure that 100% of all newly leased government passenger vehicles are zero emissions where fit for purpose.
- Provide funding for the next stage of ACT Government fleet vehicle charging infrastructure.
- Deliver a demonstration project for zero emissions commercial vehicles.
- Develop a strategic plan for long term (post 2030) charging needs for the ACT fleet (excluding buses).
- Continue to provide information and support for Government fleet drivers.
- Update the definition of zero emissions vehicle for the Government fleet to exclude plug-in hybrid electric vehicles (PHEVs).
- Implement a pathway towards a transition to zero emission waste trucks by the mid-2030s.
- Explore opportunities to replace government commercial and heavy vehicles with ZEVs as models become available.

National policy advocacy including vehicle emissions standards

Collaboration across all Australian jurisdictions is essential to the successful transition to ZEVs, particularly where Commonwealth legislation governs the import and use of vehicles on Australian roads. The ACT Government will continue to leverage its strong reputation as an environmentally progressive jurisdiction through ongoing national advocacy for accelerated action on levers held by the Australian Government to match the ACT's ambitions.

The ACT Government works closely with our state, territory, local and Australian Government counterparts to reduce vehicle emissions and, where possible, will explore opportunities to take unilateral action to reduce emissions.

A key area of focus for this national work is on modernising and future-proofing Australian vehicle standards. Australia's failure to keep pace with evolving international standards encourages manufacturers to bring older, lesser-performing vehicle designs to the Australian market and reduces consumer choice. The ACT Government will continue to monitor market developments and advocate for reform to ensure Australia gets access to the best vehicle choices.

The ACT will also advocate for adoption of stronger vehicle emissions standards and adoption of an appropriate carbon emissions standard by the Australian Government. ACT Government will advocate for stronger standards to be introduced by 2024. If this cannot be achieved through

Action

Commonwealth Government action, we will explore opportunities to coordinate with other Australian states and territories to deliver an equivalent outcome.

Other opportunities for national advocacy include tax reform, as a number of Commonwealth taxes currently incentivise ICE vehicles. These include fuel excise tax write-offs for businesses purchasing ICE vehicles, import tariffs, and the luxury car tax. In conjunction with ACT Government ZEV concessions and incentives, such tax reform may support uptake of ZEVs.

We will continue to work nationally on exploring opportunities to strengthen supporting infrastructure such as charging and refuelling networks across the country for both private and public heavy vehicle fleets. We are particularly focused on exploring opportunities to improve heavy vehicle safety at the same time as supporting the transition to a zero emissions heavy vehicle fleet. For example, combining highway charging infrastructure with rest stops for drivers could help support a transition in the heavy vehicle fleet while helping address issues like fatigue and driver wellbeing which contribute to Australia's heavy vehicle road toll.

Transition of ACT Government zero emissions vehicle fleet

Government is committed to leading by example to reduce transport emissions from Government operations and showcase best practice sustainability practices.

For example, the ACT Government is investing in new technologies for the government fleet. A new Plug-In Hybrid Electric Fire Truck, will join the ACT Emergency Services Agency in 2022, a first of its kind trial in Australia[21]. This fire truck demonstration project will help to show how other emergency services organisations in Australia and globally can transition to ZEVs. The ACT Government is also trialling the use of a range of ZEV municipal vehicles – including garbage trucks, mowers and light trucks – to understand how we can best achieve the integration of these vehicles into our fleets. But there is still a long way to go. Under the Strategy, the ACT Government will:

- Continue to ensure that 100% of all newly leased government passenger vehicles are zero emissions where fit for purpose.
- Provide funding for the next stage of ACT Government fleet vehicle charging infrastructure.
- Deliver a demonstration project for zero emissions commercial vehicles from 2022.
- Continue to provide information and support for Government fleet drivers.
- Update the definition of zero emissions vehicle for the Government fleet to exclude plug-in hybrid electric vehicles (PHEVs).

21 Electric fire truck signed and sealed to be delivered in 2022 | ACT Emergency Services Agency

Action

These actions will support the ACT's commitment to reduce emissions from Government operations by more than 33% by 2025 (from 2020 levels) without the use of offsets, and net zero emissions from Government by 2040.

The ACT Government's revised fleet policy will also ensure that all of its light passenger vehicle ZEVs are EVs. It will no longer consider PHEVs to be ZEVs for this purpose, as these vehicles still use petrol.

This commitment will expand to include other vehicle types over time as they become technologically, and commercially ready and as new entrants enter the Australian market. Once a lease ends, ACT Government fleet vehicles are typically resold on the second-hand market, which in turn helps grow the second-hand vehicle market.

On the training front, the Canberra Institute of Technology is collaborating with Tesla to design tailored training for ZEVs auto mechanics. This will ensure that as the number of ZEVs on Canberra's roads increases, the auto service industry is skilled up to meet the demand.

Strategic plan for long term charging needs for the ACT fleet

With most ACT Government fleet vehicles at depot locations, we also need to make sure that electrification is cost-effective and minimises disruption to the electricity grid. An uncoordinated transition would risk disruption to the electricity grid. A study into the strategic long term charging requirements of the Government fleet will be commissioned to ensure that the transition is planned. Identifying how our charging requirements will change in the future will allow our electrical infrastructure partners to plan for future demand.

Action

Implement a pathway towards a transition to zero emission waste trucks by the mid-2030s

For other government heavy vehicles, Transport Canberra and City Services continues to work towards a transition to zero emission waste trucks by the mid-2030s, with a zero emissions waste pick-up truck currently being trialled. As technology improves, the ACT commits to seeking additional opportunities wherever possible to transition other heavy vehicle fleets to zero emissions. The ACT Government also remains committed to, and engaged in, work ongoing across jurisdictions on a national approach to the heavy vehicle zero emissions transition. The ACT Government will continue to advocate for the introduction of stronger emissions standards for all new trucks which is supported by the trucking industry.

Explore opportunities in heavy vehicles

Compared to light ZEVs, current zero emission heavy vehicle technology experiences a smaller market due to constraints such as weight, range and capacity. The ACT Government will take a leadership role in supporting innovations in this technology to ensure it progresses and becomes more widely available. We will do this within our own fleets by actively engaging with industry, participating in trials and development of pilot technologies, and monitoring rapidly changing developments for opportunities to support a heavy vehicles zero emissions transition through our Zero Emissions Government program.

For example, significant work is underway towards our commitment on transitioning the ACT's public transport fleet to zero emissions by 2040 or earlier under the *Zero Emissions Transition Plan for Transport Canberra*. The first 12 zero emissions buses will enter Canberra's fleet before the end of 2022. The Government is in the process of procuring a further 90 which will be progressively rolled out by 2024. A new fully electric bus depot is being built in Woden, retrofitting of existing depots is currently being considered and feasibility is underway for a fourth electric bus depot on Canberra's North-side. While emissions from public transport only accounts for approximately three percent of the Territory's overall emissions, as of 2020 the Transport Canberra fleet of diesel and gas buses accounted for over half of all government emissions.

Action

6. Updating policies to support the transition

> Reform parking regulations to enable enforcement of parking in EV only parking spaces.

> Investigate enabling ZEVs in the 'one-off' drivers test.

Reform parking regulations

Reliable availability of public charging is necessary to address range anxiety and provide certainty to both local and visiting EV drivers commuting in and around the ACT.

In 2022 the ACT Government has introduced two new regulatory provisions that will discourage drivers of other types of vehicles from parking in areas that are specifically designated for EVs. The first provision prohibits drivers of non-electric powered vehicles from stopping in a parking area for EVs. The second prohibits a driver of an EV from stopping in the parking area unless they are plugged in to the charger. These changes to parking regulations ensure that charging locations are more readily accessible for EV users and reduces concerns about charger availability.

Investigate enabling zero emissions vehicles in the 'one-off' drivers' test

Access Canberra is in the process of developing its requirements for government driving tests to accommodate vehicles with centrally mounted and easily accessible electronic park brakes. This would allow EVs to be used for all types of driving tests. This change will allow more Canberrans to conduct the test in the vehicle most familiar to them and allow for tests to be conducted in EVs, providing all other requirements are met.

Making the switch to a zero emissions vehicle

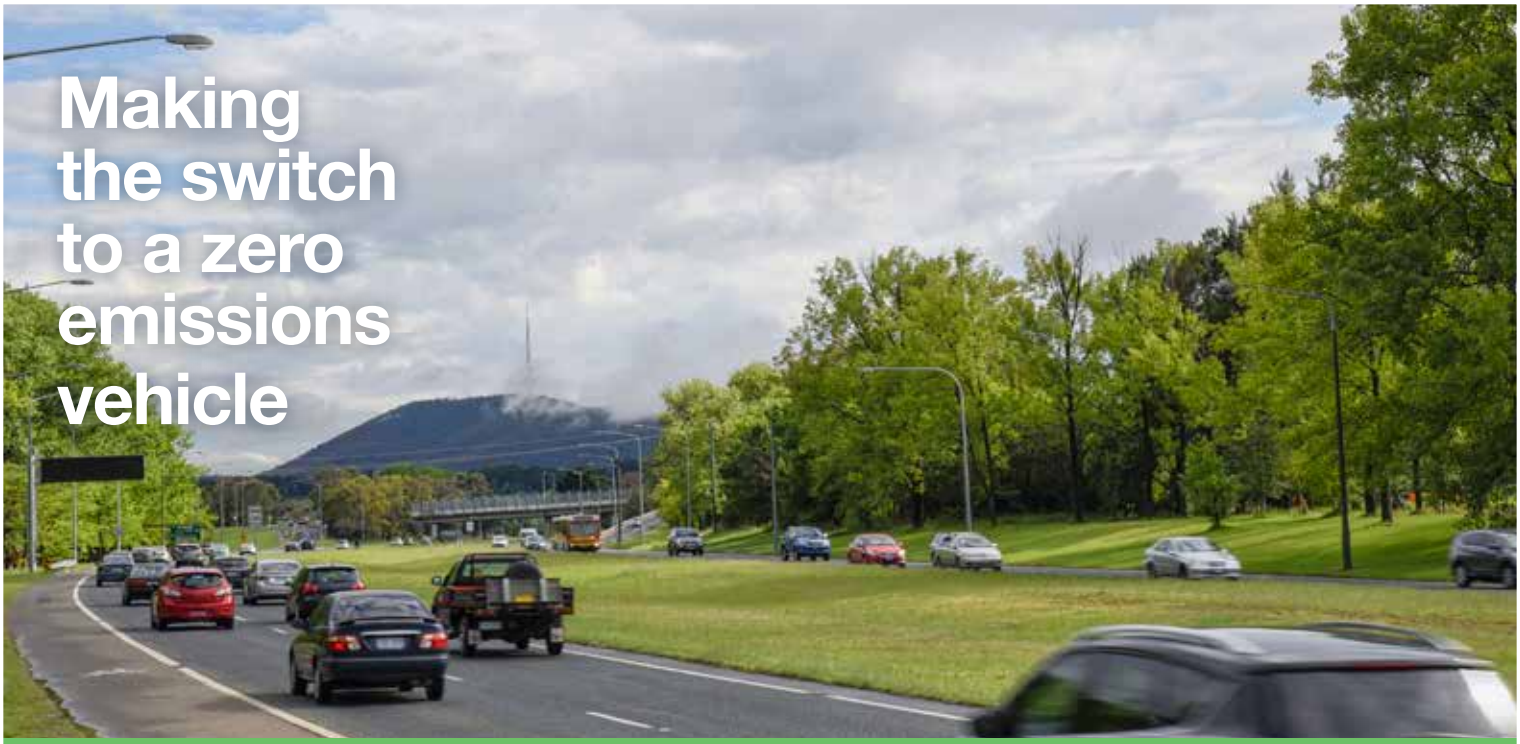
As many vehicles in the ACT grow older and are retired, and as ZEVs continue to lower in price, Canberrans will increasingly be able to reduce their emissions through transitioning to ZEVs. Whether for personal use or for a business or organisation fleet, making the switch to a ZEV can save running and maintenance costs while cutting emissions.

Benefits of zero emissions vehicles

Lower running costs

- Maintenance and fuel costs are lower for ZEVs. These savings are improved for fleet vehicles, such as taxis and delivery vehicles, as they drive further on average.
  - EVs can save the average Australian driver around $1,600 per year on fuel[22].
  - Maintenance costs are lower because there are less fluids to change, less brake wear due to regenerative braking and less moving parts that can wear out.
- There are generous financial incentives available in the ACT to help people purchase a ZEV, including:
  - Stamp duty exemptions for new ZEVs.
  - 2 years' free vehicle registration for new and used ZEVs.
  - Zero interest loans for up to $15,000 for ZEVs and charging infrastructure under the *Sustainable Household Scheme.*
  - $2,000 grants for installation of EV charging in multi-unit buildings (coming soon).

22 'Myth busting', Australian Electric Vehicle Council, [accessed 2022]



Making the switch to a zero emissions vehicle

Better for our air and environment

> Because ZEVs don't have tail pipe emissions and are much quieter on the road, they are much better for our health.

- Air pollution from ICE vehicles, such as petrol and diesel vehicles impact our health, contributing to respiratory disease, asthma, and heart disease.[23]
- Long term exposure to high environmental noise such as traffic, above 53 decibels can result in adverse health effects, including hearing and sleep loss.[24]

23 'The impact of vehicle emissions on human health', Royal Automobile Club, February 2021
24 'Noise Guidelines', World Health Organisation,

More information

With small steps and smart choices, we can all make a big difference for our environment.

To find out more about the ACT Government incentives for ZEVs, visit the Everyday Climate Choices website.

ACT Government

Small Steps. Smart Choices.
climatechoices.act.gov.au/zev