

ACT'S CLIMATE STRATEGY: TO A NET ZERO EMISSIONS TERRITORY

RESPONSE BY 350 CANBERRA TO THE DISCUSSION PAPER

6 APRIL 2018

INTRODUCTION

350 Canberra¹ is part of a global movement which is acting to halt the climate crisis. We value our collaboration with other groups in the ACT as we work with them in online campaigns, grassroots organising, and mass public actions aimed at keeping fossil fuels in the ground and supporting a transition to a cleaner and fairer economy.

The number 350 means climate safety: to preserve a habitable planet, and to protect our own and future generations from dangerous climate change, scientists tell us we must reduce the amount of CO₂ in the atmosphere from its current level of 407 parts per million (ppm) to below 350 ppm^{2,3}.



We applaud the ACT government's commitment to, and national leadership on, climate change action. We are privileged to take part in community consultation on the Discussion Paper.

We recognise that the ACT Government understands the severity of the climate crisis. We welcome the Minister's Introduction to the Discussion Paper, which cites the effects of climate change globally and in the ACT, including record temperatures, heightened bushfire risks, more severe storms and more variable rainfall. And we strongly endorse the Minister's view that "there is no time for delay" (Page 1).

We note that in some countries, such as the United Kingdom, policy consensus by all parties has been a key reason for success in driving down emissions. Consequently, we are gratified that all parties represented in the ACT Legislative Assembly have expressed support for the same

¹ 350 Canberra website: <http://world.350.org/canberra/about-us/>

² James Hansen et al. Assessing dangerous climate change. <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0081648>

³ James Hansen et al. Target atmospheric CO₂: where should humanity aim? <https://arxiv.org/abs/0804.1126>

emissions reduction and renewable energy targets. We endorse the comments of the Conservation Council ACT Region that “the pathway to ... Zero Net Emissions needs to be owned by the community and led by tri-partisan political support” ⁴.

Our submission will address all of the sectors covered by the Discussion Paper. While we understand that different sectors represent varying proportions of the ACT’s greenhouse gas emissions, we strongly urge that concerted action be taken concurrently across all of the sectors. We see strong linkages between reducing energy consumption, responsibly managing materials, reducing waste, and improving land use and living infrastructure ⁵.

KEY MESSAGES

The key messages in this submission are as follows:

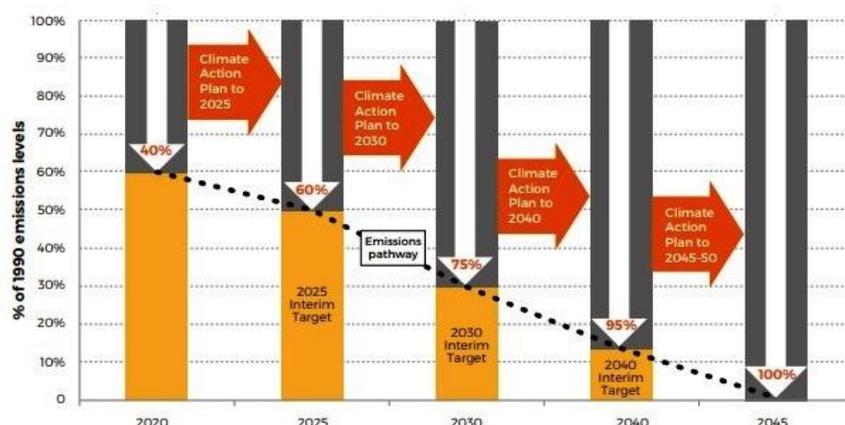
- While recognising that the emission reduction targets proposed in the Discussion Paper compare well with those of other jurisdictions, we urge stronger action to meet the Zero Net Emissions (ZNE) target earlier than 2045, and concerted measures to achieve the highest proposed emissions reduction target for the year 2030 (ie a 75% emissions reduction).
- We urge the ACT Government to continue to provide leadership to the community by explaining and promoting the strong linkages between energy consumption, waste reduction, active transport, living infrastructure and emissions reduction.
- In order to address transport emissions, we urge the ACT Government to take measures to “kick-start” the market for electric vehicles at the earliest possible date - measures comparable to those being taken in many other countries, including a purchase rebate and an EV Roadmap.
- We urge the ACT Government to take measures to accelerate the transition from natural gas for space heating - including financial support for households least able to fund their own transition.
- We urge the ACT Government to adopt measures to reduce waste (and associated emissions) far below current landfill volumes, and to promote source separation.
- We urge the ACT Government to continue its open engagement with the ACT community, including conducting further regular roundtables and funding a position to support consultation.

THE PROPOSED TARGETS

This section will respond to Pages 6-11, and Questions 1-3, in the Discussion Paper.

The ZNE target

350 Canberra notes that the proposed “2045 or earlier” target for ZNE compares well with the many jurisdictions which have a target of ZNE by 2050. Sweden is one of very few countries with a 2045 target, so the proposal in the Discussion Paper would keep the ACT near the forefront of the world’s best practice ^{6 7}.



⁴ Conservation Council ACT Region. Draft submission, 21 February 2018. Private communication.

⁵ Bill Sheehan. Zero waste and climate change. Grassroots Recycling Network. <http://www.grrn.org/page/zero-waste-and-climate-change>

⁶ Sweden legally commits to reaching net-zero emissions by 2045. <https://qz.com/1007833/swedens-climate-act-legally-commits-the-country-to-reach-net-zero-emissions-by-2045/>

However, since the ACT will already achieve 40% emissions reduction by 2020, we believe that (given concerted effort by the community and the Government) it should be possible to achieve ZNE earlier than 2045. We take the Discussion Paper's wording of "2045 or earlier" to mean that the ACT Government should not and will not relax its efforts, even if it is on track to achieve the 2045 target. This would be in keeping with the message of urgency conveyed by the Minister's Introduction. Given that our national government has been very reluctant to act on climate change, we urge the ACT Government to "go hard early" as a more economically effective strategy, provided that vulnerable groups are not adversely affected.

As a British academic recently commented: "By delaying significant carbon emission reductions, we risk handing both an impossible financial and technological burden to future generations. Our children and grandchildren may be unable to understand how we negotiated such an arrangement on their behalf" ⁸.

We note that the ACT Greenhouse Gas Inventory excludes emissions associated with products or services that are generated outside the ACT but are consumed in the ACT. (These are called "Scope Three" emissions). We endorse the proposal in the submission co-ordinated by the Conservation Council ACT Region that a separate strategy be developed to address these emissions ⁹.

350 Canberra recognises that achieving the "2045 or earlier" target will require a significant change in the behaviour and lifestyle of ACT residents, including our choices in matters such as personal transportation, our degree of materials consumption, our attitudes towards waste, and the manner in which our dwellings are climate controlled.

But we draw attention to the fact that some families are currently leading this behavioural change, and are publishing accounts of their progress. To take the most accessible example, the Southgate family of Bruce, ACT has:

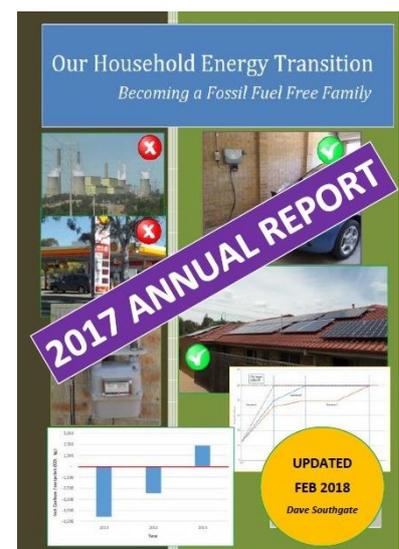
- installed and extended an array of solar panels;
- installed battery storage;
- purchased an electric car and an electric bike; and
- converted from gas to electricity for space heating.

This family is continuing to drive down its carbon emissions, and is now issuing annual reports on its progress. It recently reported that "we are now in the situation where we have no net household energy costs – our income from our solar PV exports more or less equals our costs for grid electricity plus petrol" ¹⁰. Stories like theirs can inspire other Canberra households to reduce their own emissions.

The interim targets

350 Canberra supports the need for interim targets, and we respect the expertise of the ACT Climate Change Council in framing them. We suggest that the ACT Government regularly review its interim emission reduction targets, ensure that such reviews are independent and public with strong community involvement, and modify its actions in response to the reviews.

We consider that the lower end of the 2030 target (a 65% cut in emissions) is an inadequate objective. The ACT Government commissioned Energetics to analyse the costs and benefits



⁷ Sweden's Climate Act commits that country to reduce its absolute emissions by at least 85% below 1990 levels by 2045. For the remaining 15%, it plans to offset the emissions by investing in projects that contribute to reducing pollution in Sweden and elsewhere.

⁸ James Dyke. Inaction on climate change risks leaving future generations \$530 trillion in debt. [Based on research led by James Hansen]. The Conversation, 19 July 2017. <https://theconversation.com/inaction-on-climate-change-risks-leaving-future-generations-530-trillion-in-debt-81134>

⁹ Conservation Council ACT Region. Draft submissions, 21 February 2018. Private communication.

¹⁰ Dave Southgate. Becoming fossil fuel free: tracking my family's decarbonisation. <https://fossilfuelfreedom.com/>

associated with a range of climate change mitigation and adaptation measures¹¹ in the context of the interim target of a 65-75% reduction in emissions by 2030. While a 65% reduction in emissions looks at first glance to be a strong target, it actually cuts emissions only from a 2030 “business as usual” level of 1.30M tonnes to a level of 1.12M tonnes, using the reference year of 1990 as the baseline for emissions reductions. Energetics found that the 65% reduction could be achieved with a very modest range of measures with a total cost of \$5.8M - which works out to a mere \$15 for each resident of the ACT. From our perspective, this is too tame an approach. We favour action to meet at least the 75% reduction target by 2030, which would mean an emissions level of 0.80M tonnes. In the sections below, we will suggest potential measures to achieve this outcome by 2030.

Achieving the 75% reduction target by 2030 would open up the real possibility of achieving full ZNE by 2040.

Alternative to offsets

The Discussion Paper proposes that any residual emissions (in cases where the shift to zero emissions is not fully possible) be abated, not by investing in offsets, but by investing in "real emissions abatement activities in the ACT region" and that the size of that investment should be based on the "social cost of carbon", which the Discussion Paper puts at \$65 per tonne of carbon dioxide. We applaud the proposal not to buy carbon offsets, as buying them contradicts the core value of social responsibility.

We note that some research implies that the social cost of carbon (SCC) could be as high as US\$220 per tonne¹². We also note that the Energetics study clarified¹³ the factors that were included in and excluded from the SCC, and that it observed that SCC estimates are likely to be revised upwards as methods of costing some climate impacts are further developed.

Recommendations

Recommendation 1a. That the ACT Government, in partnership with the ACT community, make a concerted effort to achieve Zero Net Emissions earlier than 2045.

Recommendation 1b. That the ACT Government develop, at a later date, a separate strategy to address emissions associated with products or services that are generated outside the ACT but are consumed in the ACT.

Recommendation 2a. That the ACT Government regularly review its interim emissions reduction targets, ensuring that such reviews are independent and public with strong community involvement, and modify its actions in response to the reviews.

Recommendation 2b. That the ACT Government aim to meet the upper end of its interim target range for 2030, namely an emissions reduction of 75%.

Recommendation 3a. That the ACT Government plan to abate any residual emissions by investing in real emissions abatement activities within the ACT region.

¹¹ Energetics. Climate mitigation and adaptation in the ACT: costs, benefits and implications. 22 February 2018.

¹² Estimated social cost of climate change not accurate, Stanford scientists say. Stanford news, 12 January 2015. <https://news.stanford.edu/2015/01/12/emissions-social-costs-011215/>

¹³ As cited above. See Page 34.

ENERGY SECTOR

This section will respond to Pages 14-15, and Questions 4-8, in the Discussion Paper.

Transition from gas

If the ACT is to achieve ZNE by 2045, it must transition from the use of gas for heating homes and commercial buildings. The Discussion Paper notes that, by 2020, gas will be the second largest source of emissions in the ACT (21%) and that reducing emissions from this source will therefore be a high priority. We endorse this view.

Beyond Zero Emissions (BZE) has highlighted the potential to transform the way that we use energy in our buildings¹⁴, including the opportunities to transition to modern, highly efficient electric appliances for heating and cooking. A report¹⁵ by the Alternative Technology Association (ATA) found that the combination of increasing gas prices and improving electric appliance efficiency is making electricity a cheaper option for many traditionally gas-fuelled energy needs – including space heating, water heating and cooking.

In Canberra, gas consumption for space heating dwarfs that for cooking. However, given the supply charges of around \$300 per year which apply even if consumption is zero, many households will wish to exit the natural gas grid if they move to an alternative to gas for space heating.



In our view the ACT Government must challenge the community acceptance of gas, and remove its legislative mandate. While gas networks could also play a part in relaying future clean energy (such as hydrogen) into homes, and might be seen as potentially valuable infrastructure as the technology changes, we prefer a complete transition from gas to electricity.

We recognise that the broad agreement in the ACT Legislative Assembly across party lines on climate change policy has been, and will remain, critical to delivering the required improvements in emissions reductions. We consider it vital that this approach is applied to the difficult area of natural gas transition.

This transition will be difficult for many households. For example, while modern electric induction cooktops represent a highly responsive heat source and are becoming more affordable, they can still cost from \$2500 to \$4000, and additional costs may be incurred by a need to undertake electrical work to provide an outlet with the required amperage. Households will need reliable, independent advice, and in many cases financial assistance, to make this transition.

Awareness raising and advice

The Melbourne Energy Institute examined the future of domestic gas in southeast Australia¹⁶ and suggested that the state and territory governments can play a valuable role by informing gas consumers of the advantages of switching to other energy sources, providing incentives for

¹⁴ Beyond Zero Emissions, Buildings Plan, p 12. http://media.bze.org.au/bp/bze_buildings_plan.pdf

¹⁵ Alternative Technology Association. Are we still cooking with gas? http://www.ata.org.au/wp-content/projects/CAP_Gas_Research_Final_Report_251114_v2.0.pdf

¹⁶ Melbourne Energy Institute. Switching off gas, August 2015. http://energy.unimelb.edu.au/_data/assets/pdf_file/0007/1993309/switching-off-gas-an-examination-of-declining-gas-demand-in-eastern-australia.pdf

households to switch, and strengthening the regulatory oversight of the marketing of gas and gas appliances.

One way of encouraging the transition from gas to electricity could be to fund some pilot or demonstration transition projects in order to gain better public support. In such pilot projects, preference could be given to households with less ability to fund their own transition. "All-electric" suburbs can play a similar role in informing the public and encouraging the transition. We point to the example of Ginninderry, which is aiming to be the first Canberra suburb without natural gas¹⁷. We support implementing this vision (under which houses would be designed to include solar PV, battery storage and EV charging) for all new suburbs at an early date.

We also note the example set by some ACT families such as the Southgate family, which has trialled the use of far infrared (FIR) heating panels as an alternative to gas, and has adopted a philosophy of "heat yourself, not your house"¹⁸. As a result, they reduced their winter heating energy use by 90%, without sacrificing personal comfort. Local action-based groups like SEE-Change could help publicise and promote such strategies.

Financial support

The Energetics report¹⁹ modelled an option to accelerate the replacement of gas space heaters by providing a modest incentive for households to transition to reverse cycle air conditioners, and a parallel incentive to transition from gas water heaters. The proposed incentive would be targeted at heaters with five years or less remaining in their expected life - presumably meaning heaters aged 15 years or greater. The "welfare cost" (the cost to the ACT economy) of providing all of these incentives was estimated at about \$6.95M²⁰.

According to the Discussion Paper, natural gas will account for 21% of ACT emissions in 2020, or around 400 kt of CO₂ equivalent²¹. The measures proposed in the Energetics report would abate a total of 84.5 kt, amounting to 21% of the abatement challenge. We argue that a more aggressive response is needed to tackling the emissions from natural gas over the next 12 years. A simple "straight line" reduction to reach zero by 2045 would require a 40% abatement by 2030.

We certainly favour financial support to assist households to make the transition from gas, but we urge the ACT Government to model a program that would aim to abate at least 40% of natural gas emissions by 2030. If the ACT Government can budget for a \$25 million program to support the installation of battery storage in ACT homes and businesses²² we consider that a similar level of expenditure is justifiable to drive the gas transition.

We endorse the concept of focussing on older heaters. We also suggest that the program could be directed to households that are least able to fund their own transition, and that the replacement appliances should be required to meet defined energy efficiency criteria.

Energy efficiency

There is clearly an imperative to reduce emissions by improving the efficiency of energy consumption in households, businesses and commercial buildings. Building research and plans by Beyond Zero Emissions²³ and the Victorian Government²⁴ have shown that retrofits to existing

¹⁷ Sydney Morning Herald, 3 February 2018. <http://www.smh.com.au/environment/climate-change/ginninderry-to-be-first-canberra-suburb-without-natural-gas-20180202-h0sm7c.html>

¹⁸ Dave Southgate. Becoming fossil fuel free: residential heating. <https://fossilfuelfreedom.com/residential-heating/>

¹⁹ Energetics, cited above. See page 12 and Appendix C.

²⁰ Derived from the table on page iv by adding the four proposed elements, in each case multiplying the unit welfare cost of abatement by the volume of abatement.

²¹ These figures are derived from the charts on pages 13 and 7 of the Discussion Paper.

²² ACT Government. Next Generation Renewables. <https://www.environment.act.gov.au/energy/cleaner-energy/next-generation-renewables>

²³ Beyond Zero Emissions, Buildings Plan. http://media.bze.org.au/bp/bze_buildings_plan.pdf

building stock can significantly reduce energy use and emissions, can produce cost savings for households, and can create jobs.

We commend the work that has already been done in the ACT on retrofitting houses and helping low income households access the benefits of lower energy bills via solar and battery storage. We also believe that retrofitting can offer substantial job opportunities for the ACT economy.

There is no doubt that emissions can be abated by retrofits such as double glazing, ceiling and wall insulation. Although the Energetics report commented on the relatively lengthy payback periods and the relatively high per tonne abatement costs of such retrofits²⁵ we urge the ACT Government to examine strategies, other than actual subsidies, to encourage households to undertake them.

In addition, construction of new homes (including those being built under the "Mr Fluffy" replacement program) provides an opportunity to ensure improvements in Canberra's residential energy efficiency.

To improve the efficiency of climate control in buildings, existing energy efficiency standards will need to be enforced and audited, and more stringent design codes will need to be introduced. For example, street alignments should be designed to maximise and encourage passive solar building design. Such design codes take a long while to bear fruit, so early legislative action should be a priority. In addition, living green infrastructure must be prioritised in order to mitigate the urban heat island effect and provide essential shade to buildings. (This is discussed further in the Land Use section).

The National Energy Productivity Plan (NEPP) is an important policy instrument in this area. . Some commentators²⁶ have noted that no funding exists under NEPP to support incentives and transition assistance, and that there is no well-resourced national agency to lead it. Since the NEPP is overseen by the COAG Energy Council, we urge the ACT Government to argue for the strengthening of the NEPP.

Alternative gas sources

The Discussion Paper also sought views on alternative gas sources, such as biogas or hydrogen. We are doubtful whether the injection of up to 15% of hydrogen into the existing gas network would represent a significant step forward, since the aim is to cut emissions from natural gas by 100%, not 15%.

We note that the issues involved in blending hydrogen were examined by the US National Renewable Energy Laboratory²⁷ which identified some safety concerns. We would favour further evaluation of these issues, including technical standards development and cost-benefit analyses.

Recommendations

Recommendation 4a. That the ACT Government implement a "Transition from Gas" campaign which would (a) inform ACT residents of the benefits of switching from natural gas; (b) support demonstration or pilot transition projects, and (c) provide advice on the practical steps required to make such a transition.

Recommendation 4b. That the ACT Government plan to replace natural gas with electricity in all new suburbs, linked to updated building codes that would encourage solar PV, battery storage and EV charging.

²⁴ Sustainability Victoria, Victorian Households Energy Report. <http://www.sustainability.vic.gov.au/services-and-advice/households/energy-efficiency/toolbox/reports>

²⁵ Energetics report. Cited above. See page iv.

²⁶ Alan Pears. Australia's energy productivity plan promises more bang for our buck, but lacks commitment. The Conversation, 29 January 2016. <https://theconversation.com/australias-energy-productivity-plan-promises-more-bang-for-our-buck-but-lacks-commitment-53734>

²⁷ Blending hydrogen into natural gas pipeline networks: a review of key issues. Technical report NREL/TP-5600-51995, March 2013. <https://www.nrel.gov/docs>

Recommendation 4c. That the ACT Government model a program that would aim to abate at least 40% of the current level of natural gas emissions by 2030.

Recommendation 4d. That the ACT Government develop a program to support the transition of households from gas to electricity, with funding directed to the replacement of older heaters and to households that are least able to fund their own transition, with a requirement that the replacement appliances meet defined energy efficiency criteria.

Recommendation 5. That the ACT Government, through its participation in the Council of Australian Governments (COAG), press for the strengthening of the governance and funding of the National Energy Productivity Plan (NEPP).

TRANSPORT SECTOR

This section will respond to Pages 16-17, and Questions 9-11, in the Discussion Paper.



The transport emissions challenge

The ACT Government has identified that, after it achieves 100% renewable electricity in 2020, the transport sector will be the largest contributor to the Territory's greenhouse emissions, with around 60% of total emissions. There is clearly a strong imperative to reduce emissions in this sector.

We recognise that Canberra's low population density creates significant transport challenges and a strong reliance on private car use. Actions to create a more "compact" city through urban infill will gradually and partially mitigate these challenges but any significant reduction in private car use could take decades.

While urban infill can lead to reduced transport emissions, current infill practices are destroying green space and it is clear that infill planning must be improved. We discuss this further in the Land Use section.

The ACT Government commissioned AECOM to undertake a feasibility study of options to reduce the ACT's transport sector emissions²⁸. AECOM modelled five scenarios, the most aggressive of which (the "Leading Edge" scenario) was illustrated by a chart²⁹ which shows transport emissions falling from about 1100 kt in 2020 to about 600 kt in 2030 and to zero by 2048. Under this scenario, the emission reductions would be achieved by a combination of an increase in the public transport mode share, the uptake of electric vehicles (EVs), making public transport carbon neutral (eg through light rail and electric buses), efficiency improvements to conventional vehicles, an increase in the active travel mode share, and avoided trips (including commuter trips avoided through increased teleworking).

²⁸ AECOM. Strategic options for reducing emissions in 2030, 2040 and 2050. Final report, August 2017.

²⁹ On page 31.

We consider that some of the assumptions underpinning that scenario (especially those concerning mode share) are very challenging, but we do believe that it should be possible to reduce transport emissions by at least 300 kt through many of these measures, and especially by encouraging the uptake of EVs.

Many other countries, and sub-national jurisdictions, are taking action to reduce transport emissions and to encourage the transition to EVs and hybrid vehicles. For example, they are:

- implementing and strengthening fuel efficiency standards;
- offering purchase and registration incentives for EVs;
- establishing roadmaps and targets for the take-up of EVs; and
- announcing sunset dates for petrol and diesel vehicles.

Ideally in Australia, both levels of Government (State/Territory and Federal) should collaborate to implement such measures. Unfortunately, the absence of bipartisan concern about climate change in the Federal Parliament is currently inhibiting such collaboration.

Fuel efficiency standards

The AECOM report found that there is the potential to reduce ACT transport emissions by up to 95kt by 2030 through improved fuel efficiency standards³⁰.

Fuel efficiency standards have the potential to encourage the uptake of lower-emitting petrol vehicles, as well as hybrid vehicles and EVs. Such standards have been under consideration for two years by the Ministerial Forum on Vehicle Emissions (MVFE), and we cannot understand why action has not been taken by now, especially as the proposal being considered by the MVFE is weaker than measures planned by the EU, US and South Korea for the same timeframe³¹. We urge the ACT Government to press, through COAG, for action in this area.

The key role of EVs

Most of the ACT's transport emissions will be generated by private passenger vehicles. In our view, this implies the need for determined action to encourage ACT residents to replace petrol and diesel vehicles with electric vehicles (EVs) or with low-emission hybrid vehicles.

A good place to start this transition is with two-car households. The issue of "range anxiety" for EVs really does not apply to households with one petrol car and one EV, if the EV is charged at home and dedicated to shared family use for local travel needs.

The Energetics report, while recognising the crucial role of EV take-up in abating the ACT's emissions, modelled only modest measures to encourage this take-up, such as public provision of charging stations, use of EVs in the Government fleet, and electrification of the bus fleet³². It assumed that the ACT Government would wait for car buyers to make the transition once the price of EVs had fallen to price parity with conventional vehicles. We think that there is great merit in seeking to bend the "early adoption curve" upwards in order to kick-start the EV market. This could make a significant difference to the EV take-up rate (and hence emissions abatement) by 2030, which the Energetics report estimated at 15% based on its modelling.

In the AECOM report, the "Leading Edge" scenario assumed that, by 2030, 50% of newly purchased passenger vehicles would be EVs. It estimated that this would lead to an emissions reduction of 188 kt by 2030.

Our vision includes a significant uptake of EVs during the period 2018 to 2025, in order to raise community acceptance and encourage widespread marketing and maintenance of EVs by local

³⁰ AECOM report. In its "Transport for Canberra" scenario. See page 17, Table 4.

³¹ For more detail on this point, see the 350 Australia submission to the MFVE: <http://world.350.org/canberra/ministerial-forum-on-vehicle-emissions-submission-march-2017/>

³² Energetics report. Cited above. See pages 16-21.

dealers. This could provide a springboard to achieve 50% of light vehicle purchases by 2030. We see this uptake being achieved through awareness raising, purchase incentives, development of an “EV Roadmap”, and other measures.

Awareness raising

One of the barriers to EV uptake is lack of awareness and lack of basic information on the part of the community. The ACT Government could play a useful role by supporting an EV education campaign. For example, an annual “Electric Vehicle Expo” at (say) Exhibition Park could allow motorists to try out a range of EVs, test drive them in a safe environment, and receive basic information about EV charging, costs of EV ownership and the performance of EVs. Stakeholders such as the EV Council, Canberra EV (the local branch of the Australian EV Association) and car dealers could participate in such an expo.

At a recent meeting of Canberra EV, several EV owners enthusiastically supported the idea of such an expo, where they could bring their own EVs for other motorists to trial. The ACT Government could play an extremely useful role by underwriting the public liability insurance associated with such events.

Purchase incentives

The ACT has already implemented limited stamp duty and registration concessions for low-emission vehicles, but in our view stronger measures are needed to encourage the purchase of EVs, and to encourage manufacturers of EVs to sell their products in

Canberra. There are several EV models, including the Hyundai Ioniq and Renault Zoe, which can be purchased in many countries overseas, but are not (as of April 2018) available to the public in Australia, because the absence of meaningful purchase incentives sends a negative signal to the manufacturers. As evidence for this, we cite recent statements by the Australian CEOs of Nissan, Tesla and BMW³³. As the CEO of the BMW Australia group said: “we need, urgently, a set of short and medium term support options to kick-start our market: things like strong electric vehicle targets, CO₂ emission targets, extended infrastructure and tax incentives”.

Purchase rebates are widely used internationally. (In many cases rebates are offered only to the first cohort of applicants to stimulate the initial take-up of EVs). For example, the United States has a federal tax credit of US\$7500, plus state or local incentives. The United Kingdom has a Plug-in Car grant, capped at £5000, subject to the vehicle meeting certain criteria. Many other examples can be cited³⁴.

In Norway, until recently EVs have been exempt from purchase taxes and VAT, making them price competitive with conventional cars. They are also exempt from the annual road tax, public parking fees and road tolls, and are permitted to use bus lanes. These incentives are now being phased out, since in Norway EVs now represent 5% of the vehicle fleet and almost 40% of new car sales.

In the light of these international comparisons, we propose that the ACT Government, working through COAG, should encourage a limited-term incentive program, uniform across states and



³³ Nissan, Tesla and BMW urge Australia to up EV support. Inside EVs, 12 March 2018. <https://insideevs.com/nissan-tesla-bmw-urge-australia-to-up-ev-support/>

³⁴ Government incentives for plug-in electric vehicles (Wikipedia article).. http://en.wikipedia.org/wiki/Government_incentives_for_plug-in_electric_vehicles

territories, for EVs priced below the Luxury Car Tax threshold³⁵. As an example, a rebate of \$5000 would align broadly with the level of rebates in Europe and North America. Such a rebate could expire after these vehicles represent (say) 3% of the state or territory vehicle fleet. This could replace the stamp duty concessions for those states that have them. We comment on the cost of this measure in the “Cost issues” section, later in this submission.

An EV Roadmap

Many countries have targets or "roadmaps" for the take-up of EVs. For example, the New Zealand Electric Vehicles Programme³⁶ includes:

- a target to double the number of EVs in NZ every year to reach approximately 64,000 by 2021;
- road user charge exemptions for EVs;
- encouragement of bulk purchase of EVs for Government and private sector fleets;
- support for roll-out of public charging infrastructure;
- a nation-wide EV information and promotion campaign;
- funding for innovative low emission vehicle projects; and
- an EV leadership group across business, local and central government.

According to a recent news article, only 191 EVs were sold in Australia during the past year, which equals half of the number sold in New Zealand in the single month of January 2018³⁷.

While ideally the Federal Government (perhaps through the MFVE) should lead the development of a similar roadmap for Australia, we suggest that in the absence of such action the ACT should go it alone, or in cooperation with like-minded states.

Other EV related measures

We urge the ACT Government to continue to electrify its own fleet, which will assist in encouraging relevant dealers (Nissan, Renault, Hyundai etc.) to market EVs in Canberra, and to provide local EV maintenance services.

While EV owners living in stand-alone dwellings can easily charge their vehicles at home, apartment dwellers are usually faced with significant challenges in installing EV chargers at their overnight parking spaces, and attributing the cost to their own electricity account. While we do not have a simple solution to this, we urge the ACT Government to convene meetings with relevant stakeholders (for example, the NRMA, Canberra EV, and representatives of body corporates) to develop a solution to this issue.

Investing in public charging infrastructure for EVs will also assist apartment dwellers (as well as encouraging EV owners in other states to visit the ACT). For this reason we support the proposal in the Energetics report to invest \$1.06M in such infrastructure, thus abating 27.5 kt of emissions. Many charging stations could be located at designated EV parking places in shopping centres.

We also urge the ACT Government to enter into discussions with surrounding local governments to encourage the provision of public rapid EV charging infrastructure on the highways linking Canberra to Sydney, Batemans Bay, Wagga and Albury, as this will allay “range anxiety” for households that choose to rely solely on an EV.

While this part of the submission has been directed at light passenger vehicles, we note that there are opportunities to encourage emissions reductions in the commercial vehicle space. For

³⁵ It would help matters if the Federal Government were to reform the Luxury Car Tax by, at the very least, restoring the 31% gap between the thresholds for fuel efficient vehicles and other vehicles which existed in 2009. That gap has now shrunk to 16%.

³⁶ New Zealand Ministry of Transport. Electric vehicles. <http://www.transport.govt.nz/ourwork/climatechange/electric-vehicles/>

³⁷ See the *Inside EVs* article (12 March 2018) cited above.

example, Linfox has signalled its intention to electrify its fleet of trucks and vans once there are sufficient public charging stations on Australia's highways³⁸.

Planning for on-demand transport

We argue that, in the longer term, there are real opportunities (and needs) for a significant reduction in the number of vehicles on ACT roads through a trend away from car ownership and towards the use of on-demand services. We see this trend being facilitated through the future deployment of autonomous vehicles (driverless taxis) which have the potential to provide on-demand services at relatively low cost³⁹. And currently, services like Uberpool promise to provide more affordable, on-demand, ride-sharing services⁴⁰.

Our view is that the key issue for transport in the ACT lies in travel to and from the suburbs. Express transit through light rail or electric buses plays an important role, especially for commuting to and from work, but it is not the core issue. Until fleets of driverless taxis become a reality for on-demand transport, private vehicle ownership will be seen as essential by most ACT residents.

We also believe that the era of driverless taxis should be planned for now. Urban and transport planning deals with horizons of decades, not years. Autonomous cars are likely to be sanctioned for travel on public roads by the mid 2020s⁴¹, and their implications for private car ownership, public transport and urban planning will be profound. If the transition from car ownership to on-demand transport were to run to completion, the estimate of the Canberra Autonomous Car Simulation is that the number of cars on the ACT's roads could be reduced by up to 90%⁴².

Public transport

The Transport for Canberra strategy aims to increase the mode share of public transport for the journey to work from its current level of about 8% to 16% by 2026⁴³. This is to be achieved through the development of the "Frequent Network", the roll-out of light rail, expansion of Park & Ride and Bike & Ride, greater use of ride sharing and (though not explicitly stated) through the impact of higher parking fees.

We support any workable proposals to increase the use of public transport in the ACT. We note that the Energetics report estimated that each additional 2% mode shift to public transport would abate about 23 kt of emissions⁴⁴.

The AECOM report, in its scenarios, assumed an increase in the public transport mode share from the current level of 8% to levels ranging from 16% to 34%. The higher end of these assumptions strikes us as decidedly optimistic.



³⁸ Linfox to be "first mover" on electric vehicle technology. Logistics and materials handling, 16 February 2018. <https://logisticsmagazine.com.au/linfox-to-be-first-mover-on-electric-vehicle-technology-peter-fox/>

³⁹ For more details on the feasibility of fleets of autonomous vehicles in Canberra, see the Canberra Autonomous Car Simulation: <http://canberraautonomoucars.info/>

⁴⁰ Uberpool to target commuters as it launches in Sydney. Financial Review, 29 March 2018. <http://www.afr.com/business/transport/ubers-carpooling-service-uberpool-to-target-commuters-20180323-h0xw0b>

⁴¹ How long, really, until self-driving cars hit the streets? The Drive, 7 December 2017. <http://www.thedrive.com/tech/16768/how-long-really-until-self-driving-cars-hit-the-streets>

⁴² Canberra Autonomous Car Simulation. <http://canberraautonomoucars.info/>

⁴³ Transport for Canberra: transport for a sustainable city, 2012-2031. See page 58.

⁴⁴ Energetics report. Cited above. See page v.

Our view is that Park and Ride facilities are an effective measure for encouraging greater use of public transport, especially for daily commuter travel, and we urge the ACT Government to introduce more of them.

Active travel

We commend the attention given to Active Travel (walking and cycling) in the *Transport for Canberra* strategy. Active travel leads to clear health benefits as well as being a low-cost and low-emission form of transport.

Walkability is an important attribute for Canberra's suburbs. Organisations such as Walk Score⁴⁵ have developed criteria to measure how accessible stores and services in neighbourhoods are by foot or bike. Designing more walkable neighbourhoods can reduce pollution from greenhouse gas emissions generated by vehicles. We urge that the design of new suburbs take account of walkability criteria such as those used by Walk Score.

We urge the ACT Government to continue to improve Canberra's network of bicycle paths, and to maintain it to a high standard. We urge the ACT Government to address the priority issues identified by Pedal Power ACT⁴⁶, including:

- major missing links in the bicycle path network;
- separation of bicycle infrastructure;
- improved bicycle infrastructure within Civic, Woden, Tuggeranong and Belconnen; and
- increasing the budget allocation to bicycle path maintenance.



In order to improve safety for cyclists, we urge the ACT Government to continue to monitor its implementation of the recommendations of the Inquiry into Vulnerable Road Users⁴⁷.

We urge the ACT to discourage "dockless bicycle" rental schemes such as those which are creating issues in Sydney and Melbourne⁴⁸.

While many Canberrans may find it arduous to cycle to work using a conventional bicycle, they could well find that their daily commute would be more practicable on an electric bicycle. For example, they would arrive at work less tired (and less sweaty) than on a conventional bike. They would find it easier to undertake multiple trips or errands in a day. An e-bike's ability to carry a heavy load (such as shopping) also helps make it a practical substitute for a second car. Recharging an e-bike does not put an unusual electrical load on the grid, so the charging infrastructure (a power point) already exists or can be easily added to bike cages and parks.

Overall, e-bikes can reduce the need for a second car, and can lead to lower carbon emissions, financial savings; and often significant door-to-door travel time savings. We urge the ACT Government to support an education and awareness raising campaign to convey the benefits of electric bicycles.

⁴⁵ Walk Score. <https://www.walkscore.com/score/>

⁴⁶ Pedal Power Advocacy Infrastructure Group: Priority issues 2017. www.pedalpower.org.au/advocacy/

⁴⁷ ACT Legislative Assembly. Inquiry into Vulnerable Road Users: ACT Government Response. <https://www.parliament.act.gov.au/in-committees/previous-assemblies/standing-committees-eighth-assembly/Planning-Environment-and-Territory-and-Municipal-Services/inquiry-into-vulnerable-road-users>

⁴⁸ Dockless bicycles are trashing Sydney and Melbourne streets and rivers. Business Insider Australia, 27 September 2017. <https://www.businessinsider.com.au/dockless-bicycles-are-trashing-sydney-and-melbourne-streets-and-rivers-2017-9>

Recommendations

Recommendation 6a. That the ACT Government, through its participation in the Council of Australian Governments (COAG), press for early action to implement fuel efficiency standards aimed at reducing greenhouse gas emissions from conventional vehicles.

Recommendation 6b. That the ACT Government support an EV education and awareness raising campaign, for example by facilitating and underwriting any EV Expo events.

Recommendation 6c. That the ACT Government, through its participation in the Council of Australian Governments (COAG), press for the adoption of a limited-term incentive program in the form of purchase rebates, uniform across states and territories, for EVs priced below the Luxury Car Tax threshold.

Recommendation 6d. That the ACT Government take active steps to achieve the maximum possible use of EVs in its own government fleet.

Recommendation 6e. That the ACT Government establish a roadmap for the take-up of EVs in the ACT, similar to that implemented in New Zealand.

Recommendation 6f. That the ACT Government work with appropriate stakeholders to establish a regime in which apartment dwellers are able to charge EVs at their overnight parking spaces and attribute the cost to their own electricity account.

Recommendation 7. That the ACT Government:

- continue to monitor developments in autonomous vehicles;
- encourage and approve trials of autonomous vehicles on Canberra's roads; and
- commission research to test, and verify or modify, the estimates of the Canberra Autonomous Car Simulation.

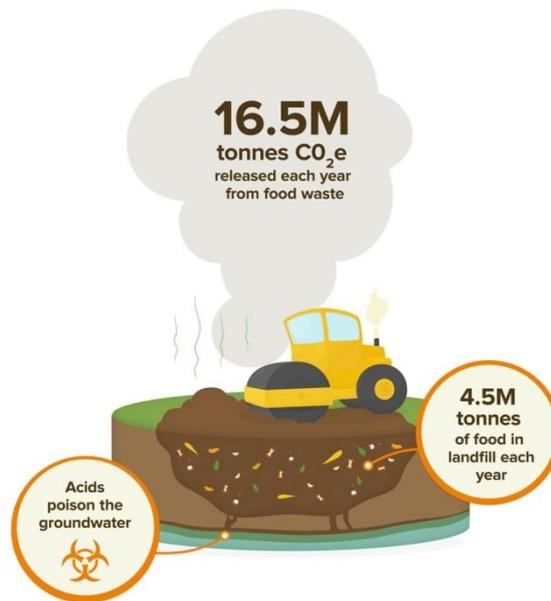
Recommendation 8. That the ACT Government continue to introduce additional Park and Ride facilities in order to encourage greater use of public transport.

Recommendation 9a. That the ACT Government to continue to improve Canberra's network of bicycle paths, and address the priority maintenance issues identified by Pedal Power ACT.

Recommendation 9b. That the ACT Government support an education and awareness raising campaign to convey the benefits of electric bicycles.

WASTE SECTOR

This section will respond to Pages 18-19, and Questions 12-14, in the Discussion Paper.



Waste strategies

We urge that due importance be given to the waste sector in finalising the ACT's Climate Strategy. While we understand the importance of tackling those sectors which produce the greatest emissions, we strongly urge a combined approach to all sectors that takes account of the interconnectedness of these issues. *It is also a fundamental truth that the attainment of net zero emissions depends on net zero waste.*

We also note that the ACT was a leader in zero waste initiatives up to 2010 when it abandoned the ACT NO Waste strategy. We strongly urge the government to reclaim this essential ground by thinking long term on the more difficult areas of consumption reduction, the promotion of a truly circular economy and a mindset that sees waste as genuine resources to be recovered.

Two important framework documents are the *ACT Waste Management Strategy* and the *ACT Waste Feasibility Study*. It is welcome that the *ACT Waste Management Strategy 2011-2025* takes account of climate change and identifies a broad set of strategies to reduce the quantity of waste generated, to increase the proportion of waste that is recovered, to ensure a cleaner environment and work towards a carbon-neutral waste sector. However, this Strategy is becoming dated. As we are now halfway through its timeframe, we recommend an assessment of whether the targets in the Strategy are being met. This could lead to an update of the Strategy.

There has been a long and unacceptable delay in making available the *ACT Waste Feasibility Study*. Community groups need early access to all such studies in order to evaluate them properly.

We call on the ACT Government to establish a community reference group to engage in meaningful consultation to respond to the implications of this report across a period of time commensurate with the highly technical nature of the waste problem. It is not sufficient to rely on comments posted via the YourSay website as such comments can be based on poor information, and yet be given weight that they do not merit.

Methane capture is not the answer

The Discussion Paper's subheading under Waste reads "Reducing waste generation and capturing emissions". We commend the priority given to reducing waste generation, but we do not favour a central role for methane capture from landfill. We would strongly oppose "waste to energy" scenarios such as incineration, combustion, gasification, pyrolysis and plasma arc for the disposal and treatment of our waste and/or electricity generation.

We accept that the capture of methane emissions to generate electricity has a positive outcome at current volumes of waste generation. However, we recommend that ultimately landfill should be viewed as an unavoidable solution only for very low volumes of waste which remain at the bottom of the inverted waste triangle. Methane capture is never complete: as evidence, we note a 2009 report prepared by the Irish Environmental Protection Agency stated that "a fully engineered and capped landfill may achieve 85% recovery of landfill gas" (page 32)⁴⁹. The capture method commonly used (vacuum extraction) is effective only within a given range of the piping system. Even if the capture rate were 90% it would mean that for every 100 tonnes of methane generated, 10 tonnes would be lost to the atmosphere, which (since methane is 30 times more potent than carbon dioxide as a heat trapping gas) equates to 300 equivalent tonnes of carbon dioxide. This is unacceptable within a policy of Zero Net Emissions of greenhouse gases.

Source separation as a key measure

To attain genuine sustainability, we need to see waste not as a problem but as a resource to be used in a world context where all resources are finite. Approximately 70% of all waste is organic, which if source separated and turned into high quality compost could be used where appropriate in poor quality ACT soils to raise soil organic matter and increase soil carbon. This in turn could provide carbon offsets for the Zero Emissions target.

To assist in reaching the Zero Net Emissions target, we favour a major behavioural shift away from unbridled consumption that assumes an endless supply of resources, to a much more considered consumption that takes account of this reality. It will require a change away from a linear economy that sees products relegated to landfill when their initial use is exhausted, to a circular economy that readily reassigns new uses for what is traditionally viewed as "rubbish".

Much of the technology for this change already exists and government needs to embrace this technology through legislation and public education. Such technologies rely essentially on source separation, so government needs to provide the means for source separation through differentiated bins and the encouragement of businesses to collect the content for genuine reuse. The composting of organic waste for quality compost has already been mentioned, but food waste along with garden waste or green waste could also be turned into biogas through anaerobic digestion.

A further reduction in the size of bins would also give a clear signal on the need to reduce consumption. The pricing of waste collection by weight might be an option for government to consider in the future.

While free standing homes can more readily compost in their own backyards, residents in apartments will need more careful planning of facilities to source separate waste, such as effective biodegradable bags for kitchen benches and space in common areas to accommodate a range of bins and enough room for trucks to enter and exit the common area.

Jurisdictions that already source separate have noted a level of "excitement" in residents who feel they are doing something positive towards improving their environment. Waste in the form of litter is highly visible and therefore readily understood, as opposed to wider climate change problems which have often been difficult to grasp and overwhelming in their dire predictions. As examples, we point to the Kaleen wheeled bin trials of 1992, the Queanbeyan City to Soil initiative of 2003-2004 and the current ACT Green Waste collection trials where accurate source separation has been achieved, as

⁴⁹ Environmental Protection Agency (Ireland). Estimates of methane recovery in landfill gas flaring and utilisation. https://www.epa.ie/pubs/reports/research/climate/CCRP_3_Timoney_MethaneLandfill_web.pdf (Page 32)

well as the enthusiastic reception of the education officer employed, to illustrate the level of excitement possible through the thoughtful treatment of waste.

Strategies to improve source separation are being developed in many Australian cities and towns including Wollongong, Cooma, Armidale and Bungendore. For example, the City of Wollongong⁵⁰ is planning to implement differential waste pricing to incentivise waste generators to source separate materials (organics and recyclables) and to charge a higher rate for those who elect not to source separate. We also note that there are many examples of zero waste strategies in Europe^{51 52}, while in New Zealand, the Waikato District Council has achieved 75% diversion from landfill through its “Xtreme Zero Waste” project, a community enterprise in partnership with business⁵³. These initiatives rely on accurate source separation of waste.

Other measures

Any sense of community that can be engendered via a joint tackling of the reworking of waste is also likely to contribute to a strengthening of the social licence for other behavioural changes that will be needed for the transport and gas sectors.

Packaging is a major contributor to our waste challenge. Current packaging laws impose no responsibility on the producer for the treatment of its packaging after use. The cost of this treatment is borne by taxpayers who pay for the disposal of packaging through rates to cover landfill fees. While the best opportunity for change may rest with the federal government (because of the national distribution of packaged products), much can be done at an ACT level - and is being done already - to reduce supermarket waste. Examples are the collection of “best before” but still edible food to be turned into nutritious meals or delivered to charities, as seen in the excellent work done by Oz Harvest in Canberra, and persuading supermarkets to reduce plastic packaging, especially of fruit and vegetables. Recent ACT government support of Oz Harvest through a small grant that enabled Oz Harvest to purchase a refrigerated van is highly commended.

The ACT Government should invest in a community awareness-raising program to reduce waste (such as coffee cups, plastic bottles, straws, plastic bags) through a public advertising campaign and a school campaign. In addition, the ACT Government could lead by example by reducing the waste generated in its own buildings and sponsored festivals. This could include stopping the purchase of coffee pods in government buildings for example (following German local government examples) and providing reusable cups and plates at festivals and conferences.

Fresh food chains such as Harris Farms which do their own promotion of reusable carry bags, and stock small or misshapen fruit and vegetables (“Imperfect Picks”)⁵⁴ should be encouraged to set up in the ACT. Consumers in the ACT are interested in quality produce and responsible consumption, and are therefore likely to offer opportunities for a sustainable business.



The current handling of Construction and Demolition waste seems to be working well in that genuine recycling is taking place through Canberra Concrete Recyclers at Pialligo and Samarkos at Mugga, even though some illegal dumping persists. As in so many areas, regulation and enforcement are critical to combat the inclusion of waste that includes asbestos or heavy metals

⁵⁰ Wollongong Waste and Resource Recovery Strategy. Action 1.14.

⁵¹ Zero Waste Europe. Case studies. <https://zerowasteurope.eu/case-studies/>

⁵² Government of Wales. Towards zero waste. http://gov.wales/topics/environmentcountryside/epq/waste_recycling/zerowaste/?lang=en

⁵³ Waikato District Council. Xtreme Zero Waste. <http://xtremezerowaste.org.nz/about/>

⁵⁴ Harris Farm Markets. <https://www.harrisfarm.com.au/blogs/campaigns/imperfect-picks>

and that has the potential to add to methane emissions, given that the material going to landfill is organic.

In the absence of accurate oversight and enforcement, we urge the ACT Government to make the importers of waste from outside the ACT carry insurance that guarantees funds for any future clean-up operation, so that yet again government, and ultimately, rate payers, are not left with the bill.

Recommendations

Recommendation 10a. That the ACT Government review and where necessary update the *ACT Waste Management Strategy 2011-2025*.

Recommendation 10b. That the ACT Government urgently make available to community groups the *ACT Waste Feasibility Study*.

Recommendation 10c. That the ACT Government establish a community reference group to undertake meaningful consultation on the implications of the *ACT Waste Feasibility Study*.

Recommendation 11a. That the ACT Government give priority to waste reduction over methane capture.

Recommendation 11b. That the ACT Government reject proposals for “waste to energy” such as incineration, combustion, gasification, pyrolysis and plasma arc for the disposal and treatment of our waste and/or electricity generation.

Recommendation 11c. That the ACT Government ensure that its waste management policies include incentives to source separate materials (organics and recyclables).

Recommendation 11d. That the ACT Government develop a campaign to further encourage the community (including business) to reduce packaging and related waste.

Recommendation 12a. That the ACT Government legislate against the importation of residual waste, commercial and industry (C&I) waste, and construction and demolition (C&D) waste into the ACT in a context where the effective oversight of waste is unlikely.

Recommendation 12b. That, in the absence of accurate oversight and enforcement, the ACT Government make the importers of waste from outside the ACT carry insurance that guarantees funds for any future clean-up operation.

LAND USE SECTOR

This section will respond to Pages 20-21, and Question 15, in the Discussion Paper.

Living infrastructure

We commend the ACT Government for highlighting the importance of “living infrastructure” as part of a holistic approach to making Canberra more liveable in a changing climate. We appreciate the attention given to this issue in the 5th Climate Change Roundtable⁵⁵, in the recent Living Infrastructure Information Paper⁵⁶, and in the CURF report⁵⁷.

As the Information Paper states, we should cherish and capitalise on Canberra’s “open space system” including the hills, ridges, wetlands and waterways, as well as our developed infrastructure of tree-lined streets and parks.



We are concerned that urban infill development is being carried out in a manner which involves excessive removal of mature trees.

Discussion at the 5th Climate Roundtable, and subsequently, has identified many ways that we can build on this legacy and develop our living infrastructure. These measures include:

- ensuring that building codes prescribe adequate plot ratios and setbacks, and these rules are enforced;
- retaining mature trees in residential or commercial developments or when parks are built or modified;
- a community campaign to encourage householders to focus on native plants rather than European ones in their gardens;
- better community advice concerning plant species which are resistant to higher temperatures;
- ensuring that planning makes provision for “blue infrastructure” with natural water cycles;
- transformation of more storm water drains and creeks into rain gardens to filter water and cater to a more diverse ecosystem;
- enforcement of parking regulations which aim to preserve trees and shrubs on verges and nature strips;
- enforcing upper limits on hard, impermeable surfaces in apartment complexes;
- a soil improvement program;
- community education concerning composting techniques;
- encouragement of community gardens;
- removal of perverse regulations (including some rainwater restrictions);
- greater use of low albedo surfaces;
- encouragement of green walls and roof gardens on residential and commercial buildings;

⁵⁵ Through the presentation given by Catherine Kiernan.

⁵⁶ ACT Government. Canberra’s Living Infrastructure: Information Paper. February 2018.

⁵⁷ University of Canberra. Canberra Urban and Regional Futures. Living Infrastructure, May 2017. <http://www.curf.com.au/storage/1-final-living-infrastructure-curf.pdf>

- initiatives such as “Canberra Transition Town”, promoted by SEE-Change;
- the City to the Lake plan should prioritise adequate landscaping and green verges on the lake shore;
- greater scope for involvement and consultation with relevant community groups (the Farrer Ridge Parkcare Group is one of many examples); and
- employment of additional arborists to advise on tree health.

Local priorities for action could also be informed by studies such as the CSIRO report on mapping Canberra’s urban heat⁵⁸.

Many Australian cities have developed urban forest strategies. To take an example, the City of Greater Geelong is aiming to increase the city’s tree canopy cover from 14% to 25% over a 30 year period. It will focus on vacant nature strips, city approaches, revegetation of greenways, wetland reserves and other conservation areas, and the renewal of plantings in avenues and boulevards⁵⁹. The City of Melbourne also has an excellent urban forest strategy⁶⁰. We suggest that the ACT Government examine these other Australian urban forest strategies to mitigate the urban heat island effect and to cater to a thriving native ecosystem, with a view to identifying ideas which are likely to work well in Canberra.

Recommendation

Recommendation 13. That the ACT Government develop an urban forest strategy, drawing on the recent local studies relating to Living Infrastructure and urban heat, and where appropriate on ideas from similar strategies developed by other Australian cities.

COST ISSUES

This section will respond to Questions 16 in the Discussion Paper.

We have already argued for strong action in the 12 years to 2030, well beyond that modelled in the Energetics report⁶¹, which found that a 65% reduction in emissions (from the 1990 level) could be achieved with a very modest range of measures with a total cost of \$5.8M. We have argued that the ACT Government should aim for a 75% emissions reduction by 2030, which would mean an emissions level of 0.80M tonnes.

While we, as a community group of volunteers, do not have the resources to develop a financial model for this objective, we can make some observations about costs.

One of the costlier measures proposed by us was an incentive for electric vehicle purchase, in order to kick start the market for EVs in the ACT. We argued that early EV uptake could be encouraged by a purchase rebate of (for example) \$5000, which would align broadly with the level of rebates in Europe and North America. We envisage this rebate applying to cars whose sale price is lower than the Luxury Car Tax threshold. We also suggested that the rebate could subsume the current stamp duty concession.

In addition, we proposed a sunset arrangement for this rebate, so that it would cease after EVs comprised (say) 3% of the Territory’s vehicle fleet. In other words, this measure would not be a long-term, structural impost on the ACT budget.

The cost of providing this rebate to 7650 vehicles (about 3% of the ACT vehicle fleet in the mid 2020s) would be about \$38M. This does not seem excessive when compared with the current

⁵⁸ Jacqui Meyers et al. Mapping surface urban heat in Canberra. CSIRO Land and Water, 6 December 2017.

⁵⁹ City of Greater Geelong. Urban Forest Strategy, 2015-2025. <https://www.geelongaustralia.com.au>

⁶⁰ City of Melbourne. Urban forest. <http://www.melbourne.vic.gov.au/community/parks-open-spaces/urban-forest/Pages/urban-forest.aspx>

⁶¹ Energetics. Climate mitigation and adaptation in the ACT: costs, benefits and implications. 22 February 2018.

budget for battery storage subsidies of \$25M. Of course, the Government, were it to proceed with this proposal, could decide on a lower sunset threshold, such as 2%.

In relation to energy, we proposed that the ACT Government fund a program to assist eligible households to make the transition from gas to electric space heating. We suggested that this might be funded at a similar level to the current \$25 million program to support the installation of battery storage in ACT homes and businesses, and noted that this latter program is likely to terminate by 2020.

COMMUNITY ENGAGEMENT

At the beginning of this submission we stressed that “the pathway to ... Zero Net Emissions needs to be owned by the community”. In this section, we explore measures through which the ACT community could be motivated to participate in the behavioural changes that will be needed to drive down emissions.

The consultation process

We have appreciated the open manner in which the ACT Government has consulted the community on its climate strategy, including the roundtables led by the Environment, Planning and Sustainable Development Directorate (EPSDD) and the release of the Discussion Paper. We urge the ACT Government to continue to commit to such transparency, and to ensure that any findings are not delayed, as occurred with the Waste feasibility Study. We would like to see the Roundtable process continue, and suggest that the Directorate convene another roundtable within the next 6 months, to highlight the key ideas from the submissions, and to flag the next steps.



Subsequent roundtables (eg annually) could track the progress on interim targets and review key issues in implementation, especially the effect of implementation on vulnerable groups in the community.

We advocate increased funding to the community engagement process. In particular, we urge the ACT Government to fund a full time staff member of the EPSDD to work exclusively on coordinating community responses to emissions reduction initiatives, and to be the visible, permanent “go-to” person that groups and individuals recognise as the key communicator and facilitator in promoting behavioural change.

We would like to see wider use of the YourSay website as a place for time-poor people to contribute to major decisions on key issues such as housing choice and infrastructure development, via simple surveys which have a concrete outcome that can improve the lives of citizens. We accept that we, and other climate groups, should work to promote the use of this website to groups such as ethnic community groups that are often overlooked in consultations about policy changes.

Key to the success of any consultation is the feeling that people have been heard. Surveys that find that people want pleasant, green space in urban renewal plans, but which then result in ugly developments with no significant green infrastructure, can erode public confidence and breed cynicism

We welcome the publication of the *Whole of Government Communications and Engagement Strategy 2017-2019*⁶², and look forward to collaborating with a wide range of Government staff working on achieving successful policy outcomes to combat climate change.

Initial New Focus: Waste

While Waste makes a lower contribution to our emissions than Transport and Gas, it may be effective to focus our efforts on community engagement for behavioural change on this area. Our Recommendation 11d (in the Waste section above) can be used to motivate such engagement.

Waste is a highly visible problem and one that is ripe for immediate, practical and community based action. Action on climate change has been hindered by many factors, especially its reliance on difficult scientific concepts that many people do not even now fully understand and the paralysing enormity of the problem which has often generated a sense of powerlessness and subsequent detachment.

The issue of plastic waste in our oceans is also an emotional one that voters can readily link to the future lives of their children, just as the survival of the Great Barrier Reef has resonated with many people who have failed to react to more general predictions on climate disruption, terrifying though they are.

The proper managing of waste via accurate source separation and strong opportunities offered to businesses for genuine recycling is initially reliant on relatively cheap and simple technology that can be carried out by people themselves, while other changes such as the wide adoption of EVs, ride sharing and the phasing out of gas rely on more complex technological change and infrastructure investment. Just as Canberra's major drought prompted community engagement on the need to reduce water use drastically, so a territory wide campaign on waste reduction and source separation of waste could, with relatively modest financial input, engender a similar acceptance of behavioural change.

Other observations on engagement

Improved consultation on planning rules, backed up by the enforcement of these rules, will be essential if urban infill and renewal are to generate a genuine social licence for change in the ACT. In too many cases 'development' and 'developers' have come to be associated with very negative outcomes, as can be witnessed in discussions at any community council meeting. The attendance of members of climate groups at these meetings can provide an important voice to challenge widely held notions (such as those protecting car use and focus on car parking spaces) and to promote the acceptance of a future, denser, city that offers rapid and pleasant public transport.

Climate change groups are also time poor and resource poor, and will therefore benefit from closer collaboration amongst themselves to achieve critical mass on wider efforts to foster behavioural change in the ACT. It should be noted that while 350 Canberra has a core aim of working to erode the social licence for fossil fuels, it sees great political value in maintaining the ACT national lead in action to reach zero net emissions and recognises the contribution it can make in achieving this goal.

We see value in groups such as SEE-Change exposing (through meetings, open days and hosted talks) examples of household change, such as adoption of EVs, alternatives to gas heating, induction cooktops, improved composting and better waste management.

Reaching a wider audience through stalls at local festivals such as the Multicultural Festival, the Folk Festival, the Harvest and Living Green festivals should continue to be the aim of the climate change groups, but the ACT government and the EPSDD also benefit from engaging with the community at these events. Being visible at a wide range of community events can slowly add to a

⁶² Whole of Government Communications and Engagement Strategy. https://www.act.gov.au/data/assets/pdf_file/0004/1163983/ACT-Whole-of-Government-Communications-and-Engagement-Strategy-2017-2019.pdf

broader acceptance of the changes necessary to reach Zero Net Emissions. Face to face contact with people is the necessary complement to electronic consultation.

Currently the EPSDD lists only one category of award, the ACT Smart Business Sustainability Awards⁶³, which have a commendable focus on sustainability and better waste management. We urge the creation of a more general Climate Champion Award to motivate the wider public and arouse interest in action from individuals and the broader community. Such an award could focus public attention on success stories in what has been seen as a difficult area. Rather than have the EPSDD judge it, we suggest that this award could be opened to a panel of citizens and emissions reduction leaders and that their deliberations should be published.

Recommendations

Recommendation 14a. That the ACT Government commit wholeheartedly to government transparency so that lengthy delays in releasing key findings, such as occurred with the Waste Feasibility Study, do not occur.

Recommendation 14b. That the ACT Government convene another Climate Roundtable to respond to the current round of submissions on the Discussion Paper and to highlight key ideas which arose from the submissions.

Recommendation 14c. That the ACT Government convene subsequent annual Roundtables to track the progress on interim targets and review key issues in implementation, especially the effect of implementation on vulnerable groups in the community.

Recommendation 14d. That the ACT Government fund a full time staff member of the EPSDD to work exclusively on coordinating community responses to emissions reduction initiatives, and to be the key communicator and facilitator in promoting behavioural change.

Recommendation 14e. That the ACT Government create a Climate Champion Award to focus public attention on success stories in this area.

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⁶³ Ibid, p. 27