

Submission#2 – Towards Zero Net Emissions in the ACT

April 2018



Please note this is our second submission. Our first is available here.

Please also note this submission has been developed in collaboration with our member groups: Australian Youth Climate Council (AYCC), Beyond Zero Emissions (BZE), Canberra Environment Centre, Climate Action Canberra, Frank Fenner Foundation, SEE-Change and 350Canberra; as well as with Australian Religious Response to Climate Change. BZE has not yet formed a view on waste to energy proposals and so makes no comment on recommendation 33.

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1. Overview

Our vision is for: a liveable, friendly and sustainable city doing its share to protect our global climate.

Our various, diverse communities work in partnership to get the ACT to zero net emissions in a just transition that is fair, socially just, economically viable and respectful to nature.

We need to do this for the planet, for our children and their children, for a liveable climate friendly future for all species. We are proud to take local action to address a global issue.

2. Building Community Engagement in achieving a Zero Net Emissions Community

Note: this section has been developed with <u>Canberra Alliance for Participatory</u> <u>Democracy</u> (CAPaD).

In this section we reiterate our views from our first submission that, in order to achieve a zero net emissions city, the process will need to be collaborative, undertaken in partnerships across sectors and at different levels. Therefore the community engagement will be different from traditional Government-led communications around government policy and its implementation. Ideally it should be community-led, collaborative and empowering. Some principles and models are the International Association for Public Participation "Spectrum".

A key factor in making it work, however, is accepting the different layers of involvement, the need to create conversations and feedback loops via some form of "backbone structure" that means that stories can be shared and messages taken up in a strategic and consistent way.

Recognition and respect for traditional owners

The ACT must recognise that Aboriginal and Torres Strait Islander people are being impacted first and worst by climate change, and are often at the frontline of the extraction process of fossil fuels. Aboriginal and Torres Strait Islander communities need to be bought into the consultation process and be present in shaping policy solutions to ensure traditional owners' land rights are not further jeopardised, and sovereignty is respected.

Involvement of Youth

It is youth that will inherit the consequences of decisions made today. They are the future leaders that will maintain and face the impacts of these policies. We recommend that youth must be an integral part in solving the climate crisis, and in empowering the ACT to achieve net zero emissions sooner. Clear consultation and engagement with youth is necessary to ensure decisions made today do not negatively and unfairly affect the ACT's future generations.

New Whole-of-Government Communication Strategy

We are very pleased to see the recently released Whole of Government Communication and Engagement Strategy¹ for the ACT Government, and recognise the Government's commitment to a more inclusive democracy. We believe that engagement on climate change should be an identified priority in the next iteration, with tangible engagement strategies and measurable goals.

We believe that climate change will impact every facet of life in Canberra, and there are immediate opportunities to find mutually-beneficial outcomes through the current priority campaigns.

¹ <u>https://www.act.gov.au/___data/assets/pdf_file/0004/1163983/ACT-Whole-of-Government-Communications-and-Engagement-Strategy-2017-2019.pdf</u>

In addition to strategies regarding transport and land use, other opportunities exist such as:

- adaptation to climate change being included within the health and mental health reform agendas, and the preventative health strategy;
- climate change messaging being included in Canberra Bushfire Ready and Storm Safe campaigns;
- a regular climate change education column within 'Our Canberra', focussing on the desired outcomes from a zero net emissions ACT;
- inclusion of climate change in Housing Choices and the Planning Strategy; and
- the creation of a Climate Champion Award.

Purpose of Community Engagement

The purpose of the community engagement is to develop a shared vision and subsequent Zero Net Emissions Strategy and Action Plan which delivers.

Action on climate change will require ongoing community support for government policies and for engagement in necessary changes by individuals and organisations to implement measures, some of which might be challenging for current approaches.

Given its enormity and seriousness, we need to work together to decide (subject to expert advice) on what we as a community need to collectively do to achieve the necessary emission reductions, decide and plan how we are to do this across all sectors, and decide how we will measure and monitor achieving our targets. This needs to have the appropriate balance between community collective ownership and the ACT Government's leadership being held to account.

This will require a multi-faceted approach, recognising that different people and groups will have different levels of engagement. Key stakeholders need to put forward their sectoral interests, however at the end of the day we need cross-sectoral support for timeframes, targets and measures for delivery. This needs to be informed by expertise and technical advice. While most will not be interested or have time for this discussion, the broader community and stakeholders need to trust this process. Many will want to assist, but will need to know how. Overall people will want to know the impacts. The Community Engagement <u>schematic</u> in this document highlights some of these differing levels and groups of engagement.

Overall the community engagement needs a 'backbone' structure or Secretariat so that various activities are coordinated for consistency and feedback loops and sharing at different levels. This should be a facilitating role, not a centralised dissemination or simple promotion of the ACT Government Strategy or Action Plan. This is outlined in the <u>Community Engagement Governance Model</u>.

This model recognises the existing players engaged in climate policy and action while also recognising the need for governance and coordination with new players to facilitate engagement across the community. A key challenge will be to avoid a simple "selling" of the Government policy and Action Plan, and to have mechanisms in which community responses and conversations are listened to.

Cross-sectoral and tri-partisan support

Current policies on climate change actions, along with support for targets including zero net greenhouse emissions by 2050 at the latest, are supported by all three political parties represented in the ACT Legislative Assembly. This tri-partisan support is a huge advantage for the ACT in developing future actions to reduce our impact on climate change and to develop adaptive measures to existing climate change. It is important that the political parties continue to work together for the benefit of the community and that they remain informed on developments in knowledge of climate change and measures being considered for adoption in the ACT.

Mechanisms to maintain this tri-partisan consensus might include: Assembly processes such as an Annual Report on how the chamber has engaged on climate change issues (debates, legislation, questions etc); ongoing provision of information to all MLAs, particularly through the Government providing access to advisory bodies such as the ACT Climate Change Council, and; for the Legislative Assembly to seek and consider a resolution from the <u>ACT Parliament of Youth</u> or other young people's forums², given that youth today will in 2050 be dealing with the consequences of decisions made now.

Recommendation 1. ACT Legislative Assembly develops mechanisms to provide for information and cooperation between parties to maintain tripartisan consensus on climate change actions and support for climate change targets.

Community Engagement and Social Change

Key to successfully implementing the ACT Zero Net Emissions Climate Strategy is meaningful community engagement in the planning and implementation processes. Implementing the Strategy is a social change process; engaging people on design and implementation of change ensures more commitment and less resistance.

Involving the community in developing the strategy and particularly success indicators, and then participating in monitoring, both builds the long term, ongoing social licence for action to address climate disruption and maximises community support for the change process, building community ownership that in turn supports government leadership.

The process of engagement also has two aspects: engagement and recruitment, with different methodologies for both phases. These are discussed below.

Further engaging the community in this way builds an ongoing process for future

² Other young people's organsiations and forums might include Australian Youth Climate Coalition, student associations, YWCA.

revisions of the Zero Net Emissions Strategy, noting this will have to happen.

Current Community engagement approach

The current consultation on the Discussion Paper has been very traditional. A discussion paper, roundtables and other community meetings, various consultancy "expert" reports and charts of the timelines for input.

A focus on community outreach featured presentations to the existing Community Councils. However, consultation on climate change is only ever likely to be a small part of a full community consultation process. These councils are under-resourced and are used to focus on a limited range of local planning and development matters. While it remains important to engage Community Councils, community engagement will need to be much broader and deeper.

A potential weakness or tendency with traditional consultations is the `DAD' outcome, where Government – **D**ecides, **A**nnounces and then **D**efends its policy and action plan.

There is a significant difference between messaging for the development of a Government policy and action plan, and that for building up an ongoing 'social license' for the needed action – in this case ongoing systemic action to address climate change.

Thus the community engagement aspect of the strategy is the most important element for achieving the reductions and supporting changes required to reach zero net emissions.

Recommendation 2.

Develop a comprehensive community engagement strategy using deliberative processes, community conversations and empowerment in parallel to the technical and regulatory aspects of the Zero Net Emissions Strategy and Action Plan to enable the implementation phase, and which can build into an ongoing process for subsequent revisions of the long-term strategy.

Principles of engagement and associated indicators for deliberative democracy and other community engagement mechanisms

These principles are:

1. The drivers, process, outputs, recommendations and response processes must be transparent and enable accountability.

Indicator: Sponsors provide a public description of the purpose and process (including how the public will be kept informed and how recommendations will be considered and responded to), before the jury or other facilitating body or process is convened so everyone knows what is proposed.

2. Commitment is made to build broad community confidence in the process.

Indicator: The public is regularly updated on progress and receives prompt responses to questions about the process.

3. Sponsors and decision makers have not already made up their minds - they are open to advice and consider it seriously.

Indicator: There are no fixed positions on the outcome on the public record from sponsors and decision makers. The public is kept informed, the jury or other facilitating body or process is given access to available points of contesting advice and government includes the advice in their considerations and responds publicly.

4. Sponsors and decision makers back the process and commit to responding.

Indicator: Sponsors provide a public description of the purpose and process (including how the public will be kept informed and how recommendations will be considered and responded to), before the jury or other facilitating body or process is convened so everyone knows what is proposed.

5. Recruitment and facilitation are conducted by neutral actors with a transparent process.

Indicator: Community feedback trusts the process.

6. A fair spread of evidence/information is provided and drawn upon, and sufficient time is allowed for deliberation.

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Indicator: The public is regularly updated on progress and receives prompt responses to questions about the process.

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9. Sponsors and decision makers back the process and commit to responding.

Indicator: Sponsors provide a public description of the purpose and process (including how the public will be kept informed and how recommendations will be considered and responded to), before the jury or other facilitating body or process is convened so everyone knows what is proposed.

10. Recruitment and facilitation are conducted by neutral actors with a transparent process.

Indicator: Community feedback trusts the process.

11.A fair spread of evidence and information is provided and drawn upon, and sufficient time is allowed for deliberation.

Indicator: Participant and community feedback confirms that a fair spread of information was provided, and sufficient time was allowed.

12. It is clear how the deep deliberative process relates to broader engagement.

Indicator: Sponsors provide a public description of the purpose and process (including how the public will be kept informed and how recommendations will be considered and responded to), before the jury or other facilitating body or process is convened so everyone knows what is proposed.

13. Evaluation, learning and feedback are demonstrated to the community to be used to continuously improve the process. *Indicator: A public and transparent evaluation process is used to gather and share information about the success and failures of the process.*

Processes of effective engagement

The process of engagement has two aspects.

- 1) **methodologies** to use for engagement, and
- 2) recruitment strategies.

Various methodologies exist to engage citizens. Indicator development lends itself to a participatory, deliberative mini-public approach. Other aspects of the implementation and monitoring processes fit well into having a series of ongoing community peer-led conversations using the Climate for Change approach (www.climateforchange.org.au) or a variation on that, to support both development and longer term implementation of the strategy.

www.climateforchange.org.au

Climate for Change's mission is to create the social climate in Australia for effective action on climate change. We know that social change happens when ordinary people start having conversations with those they know and trust. We are specifically focussed on helping people to have conversations with their peers on climate change – something that is now being recognised by experts as key to building public support for the action we need on climate change.

Mini-publics have established methodologies and the ACT Government knows about this, at least for citizen juries. Several consultants are available to run them. The novel aspect of this are the methodologies for the ongoing citizen partnership in the strategy, and the community peer-led conversation. Both the stakeholder groups and the community members will need to be acquainted with, and learn how to use them. Any of these will need a commitment from ACT Government to support, including financially. Given Mr Barr's commitment to community engagement, this may have some prospect. We would frame it within the *engage, deliberate and consult* core activities.

With the principles underpinning the engagement strategy clear, and the process of how that engagement might be run set out, the recruitment strategy takes off as described below.

Early recruitment to an open and transparent process will help build the community's confidence in the process. A commitment from the major stakeholders (including the ACT Government if appropriate) to listen and act on, or justify why it is not acting on, the outputs from the citizen engagement process, will support that confidence and support ongoing citizen involvement.

Key questions:

- 1. How do we create awareness of the "policy setting" i.e. getting to zero net emissions?
- 2. What are the high level policy measures that need to be adopted by the ACT Government and the ACT community to deliver the long-term outcome?
- 3. What is a shareable, inspiring common visionary narrative of our city and community in 2050 (or earlier)?
- 4. How do we get the community to own this vision?
- 5. What are the key barriers?
- 6. What are the key opportunities?
- 7. How do we do this efficiently and effectively?
- 8. How is it all coordinated?
- 9. Feedback loops to make it all work in an ongoing manner?

The narrative must say what needs to change (that is the need to get to zero and why), how that change is going to be made, and how do you as citizens get involved in making that change happen. Most people get the "why" of emission reductions; it is the practical steps of "how" that has so many people stumped.

Behavioural Change

While "individual behavioural change" is important to make the transition to zero net emissions, it needs to be considered in the context of and supported by a broader series of changes in society. The community needs to see that they are not doing all the heavy lifting nor can they leave it up to government. The purpose of community engagement is to raise awareness of the need for, and processes of change. It both provides a social licence for the change and facilitates people in households and communities in making the changes at those levels to drive the overall change. In parallel, government, business, industry and other organisations also need to be building change in their operations to support emission reduction.

Community Engagement Schematic



Community Engagement Governance Model



3. Comments on the Economic Modelling

The economic modelling consultancy: <u>climate mitigation and adaptation in the ACT:</u> <u>costs, benefits and implications³</u> was released in March 2018.

The report models 16 measures and actions in order to achieve 65 - 75% reductions in GhG emissions by 2030 as recommended by the ACT Climate Change Council.⁴

To achieve a 65% reduction target by 2030 we need to achieve 181 kilotonnes of abatement. The modelling suggests this can be achieved for \$31.95 per tonne. This assumes that the measure to retrofit existing houses is not included and there is no regional land use abatement. [page 27]

However, the 65% target is only just above the current 'Business as Usual' delivery and so therefore does not contain the necessary impetus for faster reductions.

To achieve a 75% reduction target by 2030 we need to achieve 501 kilotonnes of abatement. The modelling suggests this can be achieved at \$126 per tonne. This includes retrofitting existing houses and regional land-use abatement. It is important to note that in this scenario the model indicates 50% of abatement is from regional land use. [page 29]

The report also notes the 75% reduction target can be met at \$8.40 if 423 kilotonnes of abatement – i.e. 84% of the abatement is from regional land use. [page 28]

The modelling seems rigorous; however our key question is why some measures / actions are modelled and not others. Then as always with modelling the other question is the assumptions and we query some of these. We note the caveat in the report that the "selection of measures for detailed analysis was informed by discussions with the ACT Government" [page 8].

Some questions and comments in this regard include:

Transport – why wasn't mode shift to walking or cycling included as a measure / action, particularly given the substantial emissions reductions they offer. The modelling allows a very modest increase of achieving an increase in public transport of 2% by 2030 – i.e. by then 18% of travel to work will be via public transport. Given the importance of transport as the key emissions sector this seems a significant oversight not to have included some modelling on increased uptake of walking or cycling. Likewise 18% seems a low level of ambition for public transport

³ Climate mitigation and adaptation in the ACT: costs, benefits and implications Final report February 2018 https://www.yoursay.act.gov.au/application/files/5915/1988/5834/ACT_climate_change_strategy_eco nomic_modelling_report.pdf

⁴ <u>http://www.environment.act.gov.au/___data/assets/pdf_file/0004/1135876/20171019-Letter-from-</u><u>ACT-Climate-Change-Council-to-Minister-Rattenbury-interim-targets.pdf</u>

Conservation Council Climate Change Liaison Group Submission#2 – April 2018 – ACT's Climate Strategy to a Net Zero Emissions Territory Discussion Paper

- Transport modelling for uptake of private electric cars varies and includes Business as Usual at 10% or 15% by 2030 (modelling report page 18) yet according to AECOM Transport for Canberra already has a target of 26% by 2030 [AECOM report, table 3, p17-18]
- Gas does not allow for a faster more proactive phase-out of gas, particularly for residential gas hot water – i.e. it assumes a 35% increase in residential gas hot water.
- Waste modelling shows a reasonable price of abatement in addressing abatement from taking 'organic' waste out of landfill however does not seem to include commercial food waste or municipal 'organic' waste or an assessment that 90% of garden waste is already well composted using the 'green waste facilities' at Mitchell, Belconnen or Mugga sites.
- Land-use it is unclear why regional land use has been included as a measure when the Climate Council has recommended no offsetting

Transport for Canberra

(2012) says that 'we will create a city where active travel is the easy choice' (p39). This includes targets of 7% walking, 7% cycling and 16% public transport (total non-car of 30%) by 2026 for journeys to work. Transport for Canberra says 'these targets are an important part of reducing transport greenhouse gas emissions in line with the 2020 and longer term emissions reduction targets' (p58)

and the general issues around land use abatement (see below).

Recommendation 3. Provide greater transparency into why some measures are selected for economic modeling and the basis of assumptions around those which informed the economic modelling.

It is important to recognise that a range of measures have not been modelled. So there could be other pathways to achieve the targets with other measures / actions.

Recommendation 4.

Undertake additional modeling for measures omitted from the economic modeling report, particularly:

- increase in walking to 7% by 2030*
- *increase in cycling to 7% by 2030**
- increase in public transport to 34% by 2030*
- increase in electric passenger vehicles to 50% by 2030*
- active transport to deliver 60% mode share by 2030
- *improved vehicle emissions in non-electric vehicles*
- phase out use of all gas by 2028 (i.e. ten years)
- *including retrofitting existing houses in modeling for achieving 65% emissions reduction target*
- any other stand-out measures / actions particularly in regard to transport emissions

* Note: these figures above are based on the AECOM report "Leading Edge" scenario at page 29-30 which indicates a 48% active transport mode share in 2030.

In regard to community ownership, engagement and 'co-design' we suggest that more creative mechanisms could have been used in order to determine the actual measures to be modelled prior to the commencement of this consultancy. We note the <u>contract</u> value was approx. \$164,000. This seems very high for an update on a limited range of measures and actions many of which have been previously costed.

Recommendation 5. Future economic modeling should engage the community on selection of measures, in an understandable and accessible format

Measures and actions need to be assessed against a range of criteria, not just the cost of abatement. Other criteria should include:

- Co-benefits
- Magnitude of abatement
- Ability to verify
- Measurability
- Permanence / longevity
- Additionality
- Lead time

The report rightly notes that the cost of abatement needs to be linked to co-benefits of particular actions. For instance, greater mode shift to active transport, particularly walking and cycling has significant improved health outcomes, which in turn has eonomic and other benefits to the ACT community.

However the modelling report does not specify other criteria for determining the suitability of measures / actions. In this regard we propose that land-use 'fails' on meeting several of the above criteria – i.e. permanence, measurability, verification and additionality. In addition it takes away our responsibility to reduce our emissions. The economic modelling does note that "relying solely or predominantly on land sector abatement to achieve the ACT targets would be risky" [page 24].

These land use options could be considered for other policy outcomes: adaptation by building ecosystem resilience, improved biodiversity etc, however they should not be included as measures to achieve our zero net emissions targets (even if data for other measures is unavailable for modelling). If actual abatement arises from these that should be seen as a bonus.

Recommendation 6.

Ensure that measures are assessed against clearly articulated criteria focused on reducing emissions and creating a better future.

Recommendation 7.

Regional land use should not be included as an abatement measure to achieve targets, however could be used to deliver other policy outcomes.

4. General ongoing governance and modelling

The Greenhouse Gas inventory is a very important tool for telling us past performance. However it does not tell the story of what led to changes, i.e. what interventions worked or didn't. Noting that in 2010 the ACT Independent Competition and Regulatory Commission recommended that the ACT Government undertake a cost-benefit analysis of various measures to reduce GhG emissions, it is disappointing that this has not occurred. We need ongoing information and advice on:

- 1) measures that work and measures that do not work
- 2) their costs; and
- 3) their level of abatement.

Given the urgency of the need to act – we need to have greater assurance about measures that will deliver outcomes. We note the GHG Protocol has developed the set of methodology across different sectors for assessing the effectivenesss of measures in delivering greenhouse gas abatement. We propose that this be used as a tool; refer to <u>http://www.ghgprotocol.org/policy-and-action-standard</u>. This protocol should assist in learning and making decisions about what works and what doesn't

Recommendation 8. The GHG Protocol Policy and Action Standard be used to assess efficiency of various measures to reduce GhG emissions.

All new major policy proposals such as the forthcoming Waste Feasibility Study, review of Transport for Canberra and an updated Planning Strategy should be assessed for how they assist in achieving zero net emissions by 2050 at the latest. The Government should not be supporting or accepting proposals that will produce greenhouse gas emissions. In addition as part of a broader "Sustainability Assessment" we understand all Cabinet papers include a Climate Impact Assessment.

Recommendation 9.

The Waste Feasibility Study, Transport for Canberra and Planning Strategy should clearly articulate measurable actions and GHG abatements in order to achieve zero net emissions and interim targets.

Recommendation 10. Provide an update on how Climate Impact Assessments are being included in Cabinet processes.

In addition it is important that we keep up with the science and the ACT Government should regularly review how our local targets are delivering in order to assist with keeping global temperature to well less than the 2^{0} target and the 'aspirational' aim of 1.5^{0} in line with best-available science at that time.

Recommendation 11. Regular review of how our local targets are delivering in line with global aspirations to keep warming to no more than 1.5° and the commitment to well less than 2°.

Measure	Action	Private cost of	Welfare cost of	Volume of abatement
		abatement (\$/tonne)	abatement (\$/tonne)	in 2030 (ktCO2-e)
Gas	Replacement with room heater 5 years before end of life	\$11.61	\$9.61	11.8
	Replacement with ducted heater 5 years before end of life	\$16.61	\$12.82	12.5
	Upgrade to solar hot water systems	\$41.34	\$32.85	30.1
	Upgrade to heat pump storage systems	\$238.66	\$189.06	30.1
Building energy efficiency	Retrofits to the building shell of existing houses	\$1,564.31	\$1,241.73	37.0
	More stringent building energy standards for new residential buildings	\$0.00	\$0.00	5.4
	More stringent energy standards requirements for new commercial buildings	\$0.00	\$0.00	12
Electric Vehicles	Provide public access to EV charging stations	\$69.00	\$38.75	27.5
	Use EVs in ACT government fleet	\$1548 (2020) to - \$470 (2025)	\$869.33 to - \$263.95	1.6
	Electrification of ACT bus fleet	-\$81.25	-\$45.49	34.7
Public transport	Achieve an additional 2 percentage point mode shift to public transport above 'Transport for Canberra' target	\$86.55	\$94.93	23.4
Waste	Compost residential food and garden organics	\$75.00	\$11.71	7.2
Land use	Increase urban canopy cover within ACT	\$626.12	351.62 1	12.8
	Increase afforestation and reforestation within 100km ACT	\$25.00	\$14.04	0
Renewable Electricity	Maintain 100 percent renewable energy supply			0
	Purchase additional renewable energy to prevent shortfall in renewable energy supply (if req)	\$0.00	\$0.00	26
	I otal Abatement from measures			259.3

Extract from modelling: Table E3: Emission Reduction measures – costs and volume of abatement, page iv

5. Climate Change Adaptation

The Discussion Paper – *ACT's Climate Strategy to a Net Zero Emissions Territory* notes the importance of adaptation. The ACT Government adopted a <u>Climate</u> <u>Change Adaptation Strategy – Living with a Warming Climate</u> in 2016. The Discussion Paper flags the possibility of additional adaptation measures to be included in the forthcoming Net Zero Emissions Climate Strategy and Action Plan. Some Government officials have also flagged the possibility of merging the two strategies.

While recognising the need for adaptation to climate change, the first priority has to be stopping emissions (mitigation). However, as we increasingly feel the impacts of change it is important that we also continue to look at implementing adaptation measures in more detail.

Without considering the potential costs of lawsuits, it is generally more cost-effective to mitigate than to adapt, yet both need to occur and it has been important to focus on mitigation rather than bypass it and go straight to adaptation without dealing with emissions, the cause of the problem.

At the same time we recognise that greenhouse gas emissions since the mid-1800s have built-in a level of climate change for the next few hundred years even if net emissions were to reduce to close to zero in a short space of time.

Some adaptation measures will also reduce greenhouse gas emissions and have other co-benefits.

These reasons are why we support the linking or merging of the two strategies, noting that the Adaptation Strategy should also be a long-term strategy.

Recommendation 12.

We support linking or merging the two strategies noting that both need to be long-term Strategies and ongoing priority needs to be given to reducing emissions to zero as a matter of urgency.

Recommendation 13.

The adaptation strategy be renamed to: 'Living with a Changing Climate' rather than 'Living with a Warming Climate'.

A key feature of climate change adaptation needs to be on building of resilience through adaptation measures. It is also important to note that this resilience needs to be developed and enabled for human and non-human systems and through tangible and intangible assets.

Although the Adaptation Strategy states that: "It identifies that some people in our community and some ecosystems in our region have a higher vulnerability to the risks from climate change and therefore warrant particular consideration", it nonetheless seems to have an emphasis on engineering solutions, especially the

'Mainstreaming' and 'Leadership' objectives, rather than ecological and human considerations.

It is very important to consider the impact of climate change on humans and human systems. At the same time, humans are also part of a larger ecosystem that connects us with non-human life. The current adaptation strategy could be enhanced by greater recognition of this in the Strategy's objectives.

Ecological considerations should also be considered as a key objective of an adaptation strategy or else they will be overwhelmed. There should be a specific objective relating to the need to enhance biodiversity resilience as a way to address climate change impacts and for enhancing and building ecosystem resilience to our changing climate and its consequences.

Recommendation 14. In any revised adaptation strategy or measures, include as an objective enhancing capacity and resilience for biodiversity adaptation to climate change impacts.

In regard to impacts of climate change on humans, it is useful to acknowledge some vulnerabilities including age, health (including mental health), education, income. We are aware that many people feel the impacts of climate change already. We know our most vulnerable are likely to unfairly carry the additional impacts and costs of climate change, whether from exposure to extreme weather events and sea level rise, unequal rises to costs of living, threats to health and security, or increased (domestic) violence.

Global warming, changing climate and climate change

There is sometimes confusion between global warming and climate change *and* climate change does not always appear as 'warm'.

Flood events, for example, might be caused by warming but their immediate characteristic might be cold and wet.

Some people also welcome warmer weather and might not relate to calls for action around a warming climate. ACT region <u>NARCLIM models</u> (pp12-13) show that perhaps the key climate change impact might be shifting rainfall patterns which have far-ranging consequences ahead of the impacts of increased temperature *per se*.

In regard to adaptation it might be better to refer to a **changing climate** rather than a **warming climate**.

It is important that adaptation strategies clearly target disadvantage and vulnerability in populations. Up to a point, wealthier humans will have better mobility and capacity to avoid some of the earliest impacts of climate change. Therefore adaptation strategies should be aimed at establishing processes to assist broader and more vulnerable groups and systems.

Recommendation 15. Ensure that the Strategy identifies issues of social vulnerability and consider adaptation measures to deal with vulnerability.

6. Transport

In 2020 transport will be the source of 62% of our greenhouse gas emissions compared with 25% in 2012.

Given the significance of transport emissions, this sector needs to have a clear focus and high level of priority in the net zero emissions strategy. We want to focus on the benefits that active and public transport offers Canberra and its residents, workers and visitors. While we recognise the potential role of electric vehicles, we also have a broader and related objective of making Canberra less dependent on or dominated by cars. Anyone in Canberra should be able to do their standard day-to-day activities – travel to work, shopping, kids to school – without a car and do so easily.

In addition we note that Canberra is not high on the sustainable cities mobility index (see https://www.arcadis.com/assets/images/sustainable-cities-mobility-index_spreads.pdf) as well as other aspects of sustainability (eg the amount of land taken up by roads & carparks and how this is unsustainable and works against people using active transport and contributes to heat islands).

Reducing transport emissions to zero will not only come from changes to vehicles, there will also need to be changes to the way people travel and how the city is structured to reduce the need or desire for vehicular travel. Even zero emissions



vehicles can create congestion, danger to pedestrians and other vehicles, and result in a misallocation of resources to roads for individual travel.

The reverse traffic pyramid illustrates that emissions are lowest for the most human modes of transport: walking and running, and highest for a journey in a narrow aluminium tube with wings filled with volatile fossil-derived fuels.

Transport for Canberra (Transport Strategy) is being reviewed during 2018. We seek to be involved in the review, particularly from the perspective of how it will address GhG reductions and possible scenarios for that to occur. Recommendation 16. Review of Transport Canberra (Transport Strategy) should include public consultation including with climate change groups and advisers.

The Transport Strategy should be developed as a document to drive (oops) the transport sector to zero net emissions.

Recommendation 17. Develop Transport Strategy with a main objective to drive the transport sector to zero net emissions.

Active Transport Canberra – targets and actuals – can we get to 30% by 2030? or even better 60% by 2030?

The leading edge scenario in the AECOM Report on "Strategic Options for Reducing Emissions in 2030, 2040 and 2050" in the transport sector included [page 29]:

- 50% rate EVs for passenger cars
- 7% walking mode
- 7% cycling mode
- 34% public transport

This is equivalent a 48% active transport share. Additional work needs to be undertaken on the measures – infrastructure etc to ensure delivery of actual targets, However given the co-benefits of active transport we should aim for a higher ambition than included in the economic modelling. The Conservation Council has previously proposed that we aim for 60% Active Transport by 2030. In the first instance, we suggest the targets as shown in the *Active Transport targets* graph be modelled as well as the 'leading edge' figures from the AECOM report.



Targets for travel to school and travel in general should also be developed. Targets should be monitored and additional initiatives developed if they are not being met.

Recommendation 18. Priority must be given to measures that promote the uptake of active transport. The targets for active transport by 2030 need to be higher in the range of 48% - 60%.

Recommendation 19. Electric vehicle uptake should be modeled at different levels including 50% and75% for 2030.

Measures to deal with transport emissions might include managing and reducing emissions from fossil-fuelled vehicles, transforming transport systems to less reliance on individual vehicles (mass transit or human-powered transport), and transformation of vehicles (e.g. electrification and use of renewable electricity).

Manage-reduce fossil fuel vehicle emissions	Transforming systems	Transform vehicles
Ν	Y	Ν
Y	Y	Ν
Y	Y	Ν
Y	Ν	Ν
Y	Y	Ν
Ν	Y	Y
Y	Ν	Y
Y	Ν	Y
Ν	Y	Ν
Ν	Y	Ν
	Manage-reduce fossil fuel vehicle emissions N Y Y Y N Y N Y N Y N N N N	Manage-reduce fossil fuel vehicle emissionsTransforming systemsNYNYYYYYYYYYYYYYYYYNYNYNYNYNYNYNYNYNYNYNYNYNYNYYNYNY

Some of these proposals are discussed below but they should be discussed as part of the review of the Transport Strategy to compare and consider approaches to achieve zero net emissions from the transport sector.

Moving people from cars to public transport could be assisted through improvement in use and adoption of information and communication technology in public transport services to raise their efficiency, effectiveness, attractiveness and level of use.⁵

⁵ <u>https://www.polisnetwork.eu/uploads/Modules/PublicDocuments/polite_eurotransport_issue-4-2013.pdf</u>

Moving people from cars to bicycles and walking can include increasing the convenience of bicycles and walking relative to cars. This can include prioritising walking, cycling and public transport in budgeting and expenditure decisions, on roads and at intersections; restricting car access to areas; and increasing the costs of parking.

Moving people from public transport to bikes and walking is achievable through a number of means including through planning the public transport system and public spaces to assist and encourage walking and bicycling.

Anti-idling laws will reduce emissions and improve public health. Such laws exist in 19 US States where: "Some of the most extreme are in Utah, where a first-time idling violation brings a \$1,000 fine and/or up to six months in prison, and New York state, where a first-time violation can bring a fine up to \$15,000." ⁶ Anti-idling laws might be most effective near school zones where proposals have been considered in Victoria to reduce the impact of emissions on children.⁷

Congestion levies or charges would apply to all vehicles whether emitting or zero emissions. In this way funding for roads could come from congestion charges – useage charges – rather than reliance on fossil fuel excises. Congestion charges can be more fair – progressive – than registration fees and fuel taxes. Although electric vehicles have zero emissions they can contribute to congestion just as much as fossil-fuelled vehicles.⁸

Electrification of bikes might assist people to use bicycles where they might otherwise be limited by distance or geography.

Electrification of private vehicles has been most comprehensively taken by Norway⁹, and <u>*The ACT's Transition to Zero Emissions Vehicles – Action Plan 2018-21*</u> provides some early steps and Australian leadership on encouraging zero emissions vehicles.

Electrification of public transport has advantages not only in reduced emissions but also reduced noise and expected lower maintenance costs.

Traffic calming – measures to slow or restrict vehicles – can assist to make spaces better for walking and cycling and can also assist people to move from their cars to walking and cycling.

⁶ <u>http://www.sustainableamerica.org/blog/anti-idling-laws-around-the-nation/</u>

⁷ <u>https://www.theage.com.au/national/victoria/call-to-fine-parents-who-idle-car-engines-near-school-and-childcare-zones-20170410-gvhvky.html</u>

⁸ <u>http://www.abc.net.au/news/2017-11-23/congestion-tax-road-use-how-might-it-work-in-australia/9169032</u>

⁹ <u>https://www.theguardian.com/environment/2017/dec/25/norway-leads-way-electric-cars-green-taxation-shift</u>

Recommendation 20. We support the uptake of electric vehicles; however, this needs to be in the context of a broader policy objective of the need to reduce our car dependence and car dominance.

Recommendation 21.

The ACT public transport fleet of buses should be electrified as soon as possible and current orders for diesel buses should be terminated if possible.

Recommendation 22.

*Priority measures to increase active transport could include: * introduction of a congestion tax*

* implementation and enforcement of anti-idling measures commencing with schools, then other areas

* make Civic a car-free area (except freight and taxis and people who are mobility impaired)

* hold a regular car-free day or week

* people-friendly streets, with wider nature strips and narrower streets

* measures to slow or restrict vehicles in particular streets to make spaces better for walking and cycling

7. Gas

In 2020 gas will be 21% of our greenhouse gas emissions compared with 10% in 2012. Furthermore, the gas use is methane, a potent and fast-acting greenhouse gas that leaks into the atmosphere during extraction and transmission. Rapid phase-out of gas reduces damage to our climate faster than phasing out other sources carbon dioxide emissions and would buy time for making changes in sectors in which it is harder to reduce emissions.

Current uses of gas have electrical alternatives. Gas is more effective than electricity in some cases, but gas has emissions, and renewable electricity does not. Gas needs to be phased out in order that the ACT can achieve a target of zero net emissions. While a complete phase out of gas could not occur overnight given the costs of changeover and dislocation, there needs to be a clear end to gas in order that residents and business can make informed decisions about heating and cooking when they make initial purchases or replace appliances and so that businesses and tradespeople can make informed decisions about transitioning to other sources of income.

Gas appliances have a lifespan of generally 15 years and the economic modelling provides a scenario of bringing forward the business as usual lifespan by 5 years. It therefore seems reasonable that a phase-out in ten years by 2028 should be possible. The most important thing though is that a clear timetable is put in place and "new" gas is actively discouraged as a matter of urgency.

Recommendation 23. We support a rapid phase out of gas in the ACT, with a target of no gas by 2028 at the latest.

Recommendation 24. The Territory Plan be amended as a matter of urgency so that it is no longer mandatory to install gas infrastructure in new developments, starting with Ginninderry and Canberra Brickworks Precinct.

Recommendation 25. Community education program on the need to transition ASAP away from gas (while acknowledging its benefits in the past).

Recommendation 26. Support all-electric suburbs with own electricity supply.

Recommendation 27. Support for an ongoing 100% renewable energy target.

8. Built environment

The ACT Government should be working to improve local building standrards and working in inter-government forums to improve national building and appliance standards.

Australia's energy efficiency policy and regulation is not keeping up with international market realities and best practices and the ACT should be prepared to take steps to both lead and be ready for the transition to low-carbon then zero-carbon built environment of the future.

In the first instance the ACT Government should conduct a review of existing regulatory measures which impact on energy performance standards for buildings, and look at international policy models to develop better practice to be implemented through local measures.

This review and rationalisation of policies and regulations should aim to build a policy framework for the ACT's future zero-carbon built environment.

The ACT Government should be a leader in requiring that all its office accommodation meets the highest standards. This leadership should be leveraged into development of new industry opportunities for the ACT, in a similar way to the renewable energy targets and subsequent contracts for electricity being used to bring industry to the ACT. Such market transformation initiatives might help bring essential skills to the ACT and down the cost of high-performance materials with a broad benefit to the community.

Recommendation 28.

Conduct a review of existing regulatory measures which impact on energy performance standards for buildings, and adopt global best practices in built environment policy and regulation to be implemented through local measures.

Recommendation 29.

Require that all ACT Government office accommodation meets the highest standards for energy efficiency and zero-carbon emissions.

Recommendation 30.

Develop new industry opportunities for the ACT to help bring essential building skills to the ACT and help bring down the cost of high-performance materials. *Recommendation 31. Provide encouragement for developers to produce zero-emissions buildings including through energy efficiency and energy generation.*

Recommendation 32. Undertake community information program on the benefits of high energy efficiency and of zero-emissions buildings

Recommendation 33.

ACT Government amend or add regulation to encourage worldclass energy efficiency and zero-emissions buildings and to improve the energy efficiency of existing buildings, particularly housing stock.

Recommendation 34. The ACT Government set minimum standards for insulation of buildings.

9. Waste

In 2020 waste will be 6% of our greenhouse gas emissions compared with 2% in 2012.

According to the Point Advisory modelling: emissions from landfill are expected to account for 79% of emissions from the waste sector to 2050, if the only policy measure taken into account is the impact of the domestic garden green waste [current third bin].

This relative increase in proportion is due to the large decrease in emissions associated with electricity production: actual emissions from waste have not increased at the same rate.

The key priority is to reduce organic waste to landfill. Domestic kitchen food waste and organic commercial waste amounts to about 16% of our waste to landfill – whereas garden organics is about 2% of our waste to landfill.¹⁰

Organic Waste

However it is very clear that reducing organic waste (domestic foods scraps and waste, commercial food scraps and waste and green garden and municipal waste) going to landfill will make a difference to emissions at a relatively cheap cost of abatement, in addition it is a policy with significant co-benefits.

Co-benefits of reducing organic waste to landfill include:

- better use of food organics for compost and other useful products
- reduction of odours from landfills
- there is limited (finite) space available for landfill.

The ACT Government's economic modelling suggests that applying the measure "Compost residential food and garden organics" could reduce equivalent CO_2 emissions by 7200 tonnes by 2030 at a cost of \$75.00 a tonne or only \$11.71 a tonne taking account of other benefits. (p. v)

Reducing all forms of organic waste to land fill should be an initial short-term priority. This includes generating less organic waste, especially food waste, as well as diverting organic waste to composting and other uses.

Recommendation 35.

Priority should be given to taking organic waste out of landfill as a matter of urgency. This needs to include providing pathways for residences and business to separate their food and garden organics at the source, and re-using municipal organics.

¹⁰ See *Getting to zero waste to landfill: Managing our green garden and organic kitchen waste* <u>https://conservationcouncil.org.au/wp-content/uploads/2017/11/201711001-Reducing-Waste-Green-Waste-Briefing-Paper1.pdf</u>

Recommendation 36. The Government should facilitate establishing composting facilities to deal with organic (putrescible) waste rather than these ending up in landfill.

Recommendation 37. Establish reduce food waste program providing funding for delivery by community organisations.

Recommendation 38. Establish mechanisms to facilitate re-use of autumn leaves, along the lines of the Great Autumn Leaf Exchange organized by Mark Carmondy a few years ago.

Waste reduction

There is a need to focus on waste reduction as a priority: if we produce less waste then we will have fewer emissions, however treated. Waste reduction is not only an individual or household responsibility. Governments and business have to assist with pathways for managing waste, especially for organic materials.

We need initially to ensure waste generation in the ACT is less than the rate of population growth. The Government's economic modelling assumes that per capita waste generation will not substantially change however this is before better community engagement and product stewardship have been implemented.

Provide for better 'product stewardship' of materials in order to drive waste reduction. Much waste is derived from manufactured materials which have not been considered over their life-cycle including what happens when they have been used. Some countries - e.g. Austria - have applied strict packaging controls, including returning materials to the manufacturer. Some materials might be inappropriate such as single use non-recyclable materials such as polystyrene cups and cling-wrap packaging and these should be considered for banning in the ACT. The waste hierarchy also applies in the dealing with emissions from waste: if we reduce waste we have less emissions than sending waste to landfill.

Disposal is a last resort not necessary with closed-looped systems.

Recommendation 39.

Embed hierarchy: Avoid, reduce, reuse, recycle, recover, treat, dispose – in waste management policy, objectives, outcomes and contracts, and encourage and communicate to residents and businesses. Strengthen the waste hierarchy in education through the ACTSmart schools program.

Waste to energy – NO

There have been various waste to energy proposals floating around the ACT for the last few years at least. However, none have stood up to scrutiny. While the ACT currently uses methane from 'wells' on existing landfill sites to generate electricity this is a relatively low contribution and would reduce as waste reduction measures are implemented. There should be no new waste-to-energy facilities given that any burning of waste or generation of gas from waste will result in further emissions which is contrary to the goal of zero net emissions.

Such proposals are also likely to build a "feed the furnace" mentality whereby other materials with carbon value will potentially be burnt in the mistaken guise that they are "generating" electricity from waste products. Some very small scale – at very last resort – may be appropriate, however this consideration is a long way down the track.

All new waste management proposals should be assessed for how they assist in achieving zero net emissions by 2050 at the latest. The Government should not be supporting or accepting proposals that will produce greenhouse gas emissions.

Recommendation 40. There should be no Government support for waste to energy proposals.

Recommendation 41. All new waste management proposals should be assessed for how they assist in achieving zero net emissions by 2050 at the latest.

Waste exports – NO

Our comments on Offsets in our first submission indicated our support for the ACT taking responsibility for its own emissions. Consistent with this, the ACT should not export our waste and associated emissions to landfill or equivalent disposal outside the ACT.

Recommendation 42.

Consistent with supporting the principle of taking responsibility for our own emissions, any proposal to export waste from the ACT to landfill or equivalent disposal outside the ACT should be rejected.