



Inner South Canberra Community Council

climatechange@act.gov.au

Submission on the ACT's Climate Strategy to a Net Zero Emissions Territory

Introduction

The ISCCC welcomes the opportunity to contribute to the ACT government's paper on achieving Net Zero Emissions. Global warming is already affecting many countries around the world and the evidence that carbon emissions are the major contributors to the recent increases in temperature is now well documented. If the world is going to achieve a maximum global temperature increase of less than 2° C then these emissions must be reduced, to avoid the worst impacts of global warming.

Canberra is already affected by the steady increase in average daily temperatures over the last 50 years and more variable and unpredictable rainfall pattern. The average daily temperature is now more than one degree higher than it was in 1900.

Although it only contributes a very small percentage to global emissions, Canberra could lead the way in reducing emissions and creating skills and jobs associated with the new technologies. We also have the opportunity to establish world's best practice in urban adaptation and mitigation.

The ISCCC therefore supports the government's policy of reducing our greenhouse gas emissions. To be successful we must have strong government leadership and are recommending a series of actions that should be taken towards achieving the Zero Emissions goal.

These actions are discussed below and along with the main recommendations.

Summary of recommendations

1. In all new suburbs and major residential redevelopments (such as at Red Hill, Stuart Flats and Gowrie Court), the streets and blocks should be properly aligned to optimise solar access and passive solar building design.
2. The solar access and solar envelope rules currently contained in the building codes should be made mandatory.
3. For major new redevelopments such as those at Red Hill, Stuart Flats and Gowrie Court, and for all new public housing developments, passive solar design, and photovoltaic panels for generating electricity and heating water, should be mandatory.
4. The building code should be enforced to ensure that new buildings are energy efficient, of optimal passive solar design, and meet the appropriate building standards.

5. Standards to minimise greenhouse gas emissions be set for all new high-rise buildings being planned.
6. Incentives be provided to upgrade the energy efficiency of rental properties.
7. ISCCC supports the government's trial at Ginninderry to determine if electricity can solely power new developments.
8. To cater for an increasing population, urban intensification should be focused in and around Town Centres (including Civic), Group Centres and Local Centres, where RZ2 zones are not fully utilised.
9. The government should provide financial incentives to encourage people to use electric vehicles.
10. The government should continue with its policy of introducing electric buses throughout the city.
11. The government should support efforts to improve household compliance in the allocation of waste to the appropriate bins and accelerate the roll out "green bins".
12. The government should continue to extract methane from land-fill areas to generate electricity.
13. There should be a mandatory area of 35 percent of permeable land for each block in residential zones.
14. More trees should be planted and maintenance resources increased for our urban parks, particularly with respect to water supply for trees.
15. The government should continue reviewing what are the best street trees to mitigate global warming and adapt the planting program accordingly.

Energy

All the electricity we use is expected to be from renewable sources by 2020, but there is a lot we can do to reduce our per capita energy consumption and improve the efficiency of our energy use. These include:

Better siting of buildings on their blocks

During the early development of Canberra, and for much of the 20th century, buildings were usually aligned parallel to the streets and these were not always sited to obtain good solar access.

We therefore recommend the following:

- In all new suburbs and major residential redevelopments (such as at Red Hill, Stuart Flats and Gowrie Court) the streets and housing blocks are properly aligned to optimise solar access (R1).
- The solar access and solar envelope rules in the building codes should be made mandatory (R2). At present, plans are being approved and buildings constructed that do not comply with the very reasonable rules in the codes. This is unacceptable and should be changed.
- Require all new public housing dwellings be designed to optimise passive solar design features and provide all such dwellings with photovoltaic panels for generating electricity and heating water (R3).

Better building standards

Much can be done to improve the existing building stock and ensure that new buildings are more energy and water efficient. We will not go into any detail on what can be done, but issues like: storage areas for batteries, embedded photovoltaic panels into roofs, incentives for

property owners to install ceiling insulation and solar panels generating electricity and heating water (more people are renting rather than buying). We therefore recommend that the building code be examined to ensure that new buildings are energy efficient and meet the appropriate building standards (R4).

For major new redevelopments such as those at Red Hill, Stuart Flats and Gowrie Court, we recommend that provision be made for photovoltaic panels to generate electricity and heat water (R3).

Several large buildings throughout the world are now almost self-sufficient in power and water. The ISCCC encourages this trend and recommends that standards to minimise the greenhouse gas emissions be set for all new high rise buildings being planned (R5).

Because an increasingly large number of people are renting their dwellings, incentives should be provided to upgrade the energy efficiency of existing dwellings, including those occupied by renters (R6).

The ISCCC notes that Ginninderry will become the first Canberra suburb without natural gas, in a trial that could determine if other new developments will also be solely powered by electricity. The ISCCC supports this trial because natural gas will become a large component of the ACT's emissions and it would be beneficial if this component can be reduced (R7).

Transport

Transport is expected to be the largest source of emissions post-2020 and it is important that steps be taken to reduce these emissions. We recommend the following:

To cater for an increasing population, urban intensification should be focused on Town Centres (including Civic), Group Centres and Local Centres (R8), where RZ2 zones are not fully utilised. This will enable more people to live close to their work and close to public transport and minimise the need to use cars to get to work.

There must be more encouragement for people to use electric vehicles (R9). The Australian Government has the main responsibility for this, but the ACT government can provide fast charging outlets throughout the city; reduce the annual registration costs for electric vehicles and reduce the costs of registering new electric vehicles.

If we encourage the use of electric vehicles Canberra could become a regional hub of expertise and services for these vehicles.

We also recommend that the government continue with its policy of introducing electric buses throughout the city (R10).

Waste

Reducing waste generation and capturing emissions is probably the most challenging issue. At present Canberra generates approximately 1 million tonnes of waste every year and it has proved difficult to increase the re-cycling component to greater than 75 percent per annum. However, our collection regime could be improved. The recycling bins often contain plastic and non-recyclable items and there are no penalties for putting material in the wrong bins.

The government should investigate approaches to improve compliance by households in disposing of waste in appropriate bins, and accelerate the roll out of “green bins” for organic waste, reducing the availability of feedstock for methane generating bacteria. (R11). A bit of carrot and stick (through the hip pocket) should lead to improved behaviour. People should be encouraged to reduce the amount of waste that can only go to land fill – perhaps by providing a smaller bin. And there should be more opportunities for residents to take larger items that can be re-cycled to waste management centres. We think of things like fluorescent tubes that contain mercury, and mattresses.

We encourage the government to continue extracting methane waste material to generate electricity (R12).

Land Use

More trees need to be grown in Canberra. In the urban areas they are efficient reducers of heat on very hot days and deciduous trees can improve solar access in winter months. A study by CSIRO on Mapping Surface Urban Heat in Canberra (http://www.environment.act.gov.au/__data/assets/pdf_file/0005/1170968/CSIRO-Mapping-Surface-Urban-Heat-In-Canberra.pdf) found that areas with above-average surface temperatures are characterised by large expanses of impervious surface cover such as rooftops and paving, and few trees, common in commercial and industrial areas, carparks and new housing developments (See Figure 1). Areas that have been cleared for development or have low, sparse, dry vegetation cover, such as in grasslands, pasture and at Canberra Airport are also hotter as are many artificial playing surfaces. We therefore need more trees planted, because the urban forest is waning.

The current application of Plot Ratio requirements does not result in enough space on a residential block to plant trees. It seems to permit the whole block to be covered by impermeable material. The image below (Figure2) shows four RZ1 blocks in Griffith, which presumably comply with the Plot Ratio rules, but do not provide any space for any plants or trees. We therefore recommend that a mandatory area of 35 percent of permeable land be required for each block in residential zones (R13).

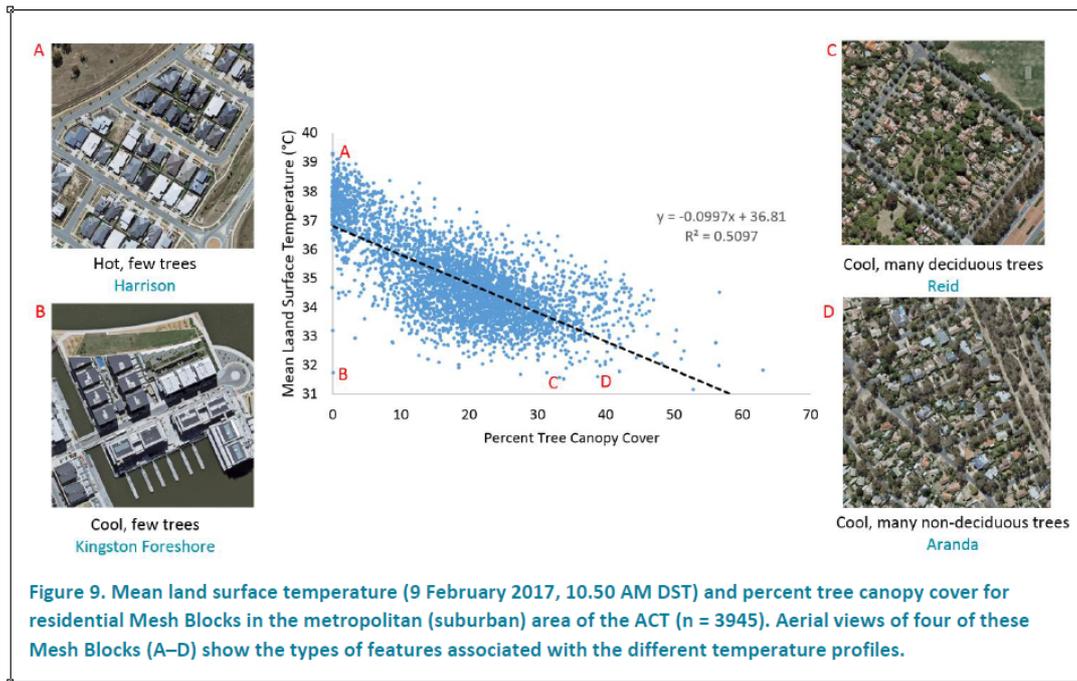


Fig. 1, from CSIRO's study on Mapping Surface Urban Heat in Canberra (see the text for details).



Fig. 2. Four blocks in Griffith (RZ1) where each block has hardly any space for trees or shrubs. There are thousands of trees in Canberra's urban forest and many of them will soon be dead. We need to maintain our street trees and encourage people with gardens to also plant trees. With intensification, our urban parks will become very important places for our fauna and flora. We need more trees planted and also a review of what trees should be planted to cope with increased temperature and rainfall variability (R14). For example, eucalyptus species may be best for our urban parks, but deciduous trees should be planted as street trees. The government should continue to review what are the best street trees to mitigate global warming and develop a city-wide planting program accordingly (R15).

Conclusions

We have listed above some suggestions for the government to ensure that Canberra reduces its greenhouse gas emissions. We will be very happy to discuss any of these issues if more information is required.



Marea Fatseas
Chair ISCCC
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PO Box 3310, Manuka ACT | www.isccc.org.au | info@isccc.org.au