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Enquiry into Greenhouse Gas Reduction Targets

ACT Legislative Assembly Standing Committee on Climate Change, Environment and Water

Summary

We are concerned citizens and parents and want greenhouse gases reduced to the amount necessary to mitigate the dangerous effects of global warming today and into the future. We urge the ACT Government to adopt the cautionary principle and manage the risks by acting to mitigate the dangers of global warming.

Whilst commending the ACT Government target, as stated in the 2007, of 60 percent below 2000 levels by 2050¹, we urge the ACT Government to continue to demonstrate leadership on climate change, and set targets that contribute to maintaining global warming as far as possible below 2°C of warming, with carbon dioxide equivalent concentrations in the atmosphere, if possible below 350ppm but no higher than 400ppm.

To achieve this, the ACT Government could look to the following range of options of emission reduction targets within the ACT:

Between

2010 being the date for peak gas emissions.

2020, at least 40 percent below 1990 levels.

2050, at least 95 percent below 1990 levels.²

OR

2020, between 25 – 40 percent below 2000 levels

2050, at least 90 percent below 2000 levels³

A smaller, more sustainable carbon footprint is essential for the well-being of our society. As concerned citizens and parents, we are committed to (and see that society as a whole needs to be committed to) pursuing strategies that minimise the impact of human activities on Earth. To achieve this, we are committed to increasing the level of sustainability and environmental awareness throughout society.

¹ ACT Government 2007. *Weathering the Change – ACT Climate Change Strategy 2007-2025*. available at http://www.tams.act.gov.au/_data/assets/pdf_file/0003/63624/Climate_Change_Strategy.pdf

² Climate Action Network Australia, (CANA), *Emission Reduction Targets Position Paper* available at http://www.cana.net.au/Policies_positions/CANA_Emission_Reduction_Targets_PositionPaper_Aug2008v2.pdf

³ Garnaut and Treasury models quoted in Australian Conservation Foundation, (ACF), *Setting the right course on climate change*. available at http://www.acfonline.org.au/uploads/res/ACF_targets_briefer_26-11-08.pdf

Introduction:

We believe that in a world of limited natural resources and increasing population that responsible use of natural resources and the reduction of greenhouse gas emissions to reduce mankind's impact on the planet, is sensible and the only course of action for long term sustainability⁴.

We argue that sustainability is the process of meeting the needs of the present without compromising the ability of future generations to meet their own needs.

The present increasing levels of greenhouse gas emissions and associated rise in global temperatures are unsustainable. Credible assessments such as Stern, Garnaut and the United Nations Framework Convention on Climate Change, (UNFCCC), believe that high-end global warming may produce irreversible catastrophic climatic events. Peer-reviewed scientific analyses since the Intergovernmental Panel on Climate Change, (IPCC) Fourth Assessment report suggest that observed climate impacts and emission increases are tracking at the very top of, or above, IPCC projections⁵. The needs of future generation are at risk if we do not learn how to reduce greenhouse gas emissions cause by human activity.

The Garnaut Final Report made clear that the costs of inaction will be greater than the costs of responsible mitigation. In addition, the aggregate costs of action are modest, and the benefits of action (and the cost of inaction) increase over time, becoming more pronounced in the second half of this century and beyond.

As parents, we are concerned about the environmental issues that our children and their children will face and need to be able to solve in their lifetimes. We encourage the consideration of alternative, more creative and sustainable strategies and solutions for these environmental issues and charge the government to provide, through the education in our schools, many of the skills that our children will require as they in turn grapple with these and many as yet unforeseen challenges.

As parents, we see the increased involvement of our schools and their communities as another crucial part of the overall strategy needed to reduce greenhouse gas emission in the ACT. Schools can educate our children by example, by addressing the environmental issues associated with the physical infrastructure of schools and their surroundings, in school activities, and in the day to day management of schools. Of course the other important skills that our schools can fortify our children with is through the content of the curriculum.

In moving towards sustainability, we, as concerned citizens and parents are attempting to reduce our own ecological and carbon footprint and urge the ACT Government to likewise reduce its own ecological and carbon footprint in all its activities.

⁴ According to the UNFCCC *The average temperature of the earth's surface has risen by 0.74 °C since the late 1800s. It is expected to increase by another 1.8° C to 4° C by the year 2100 - a rapid and profound change - should the necessary action not be taken. Even if the minimum predicted increase takes place, it will be larger than any century-long trend in the last 10,000 years. The principal reason for the mounting thermometer is a century and a half of industrialization: the burning of ever-greater quantities of oil, gasoline, and coal, the cutting of forests, and the practice of certain farming methods. These activities have increased the amount of "greenhouse gases" in the atmosphere, especially carbon dioxide, methane, and nitrous oxide. Such gases occur naturally - they are critical for life on earth, they keep some of the sun's warmth from reflecting back into space, and without them the world would be a cold and barren place. But in augmented and increasing quantities, they are pushing the global temperature to artificially high levels and altering the climate. Eleven of the last 12 years are the warmest on record, and 1998 was the warmest year.* http://unfccc.int/essential_background/feeling_the_heat/items/2917.php (downloaded 9/3/9)

⁵ CANA ibid

Terms of Reference:

We will address the Terms of Reference as follows.

Section (2) (a) & (b) of the Terms of Reference being:

That the ACT Assembly

(2) resolves that the Standing Committee on Climate Change, Environment and Water enquire into and report on

(a) an appropriate target to be established in legislation, including:

(i) an appropriate date for the peaking of greenhouse gas emissions in the ACT

(ii) an appropriate target for the reduction of greenhouse gas emissions in the ACT by 2012;

(iii) an appropriate target for the reduction of greenhouse gas emissions in the ACT by 2020;

(b) appropriate monitoring, reporting and review processes to accompany the target;

We have sought reference to the Australian Conservation Foundation, (ACF), paper on “*The 2020 Target*”⁶ and the Climate Action Network Australia, (CANA), article “*Emission Reduction Targets Position Paper*”⁷. CANA is an alliance of over 50 groups concerned about global warming, including such as the Conservation Council of the South East Region and Canberra, and the Mineral Policy Institute.

Global average temperature has already increased by 0.74°C⁸, causing such events, that are pertinent to Canberra, as dry times growing longer, more frequent and more intense. The ACT Government acknowledges this and states that the ACT Region will experience 4 – 12% wetter conditions in summer and autumn, and 2 – 12% drier conditions in winter and spring⁹. Since our wetter times have been “historically” been in winter, the above figures mean that Canberra’s rainfall is likely to level out across the year, and with summer as the time of higher evaporation rates, any possible increased precipitation is likely to be reduced by greater summer evaporation. We also need to remember that any rainfall statistics we have are a creature of less than the last 200 years. One thing we can say about Australia’s climate is that it is variable and unpredictable. So banking on the rainfall that we have experienced in the short time that we have recordings for, is hardly adhering to the cautionary principle.

To maintain global warming temperatures **below 2°C** (compared with pre-industrial levels), the threshold beyond which the European Union Commission on Environment and Climate Change believes that irreversible and possibly catastrophic changes become far more likely¹⁰, the concentrations of carbon dioxide equivalent in the atmosphere, which are currently at 385ppm, must be maintained at **no more than 400ppm, and reduced to 350ppm**¹¹ concentration.

⁶ ACF http://www.acfonline.org.au/default.asp?section_id=294

⁷ CANA *ibid*. CANA is an alliance of over 50 groups, and in turn belongs to the global Climate Action Network (CAN) which has representative groups in more than 80 nations.

⁸ IPCC (2007a), *Fourth Assessment Report: Summary for Policy Makers*, International Panel on Climate Change, Geneva, available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

⁹ ACT Government 2007. *ibid*

¹⁰ http://ec.europa.eu/environment/climat/home_en.htm (downloaded 7/04/09)

¹¹ Hansen, J., Sato, M., Kharecha, P., Beerling, D., Masson-Delmotte, V., Pagani, M., Raymo, M., Royer, D., Zachos, J. (2008), *Target Atmospheric CO₂: Where Should Humanity Aim?*, Discussion Paper, Goddard Institute for Space Studies (NASA), April. Quoted in CANA *ibid*

The ACF endorses the IPCC argument, that developed countries must reduce their carbon pollution by 2020 by 25-40% of 2000 levels¹².

Modelling has found that at 400ppm, with Australia cutting its emissions by more than a third by 2020, the probability of warming exceeding 2°C is unlikely (a 26 percent chance)¹³. Above 400ppm there is greater likelihood of warming exceeding 2°C. Both Garnaut and Treasury found that only one modelling scenario, that being Australia cutting its emissions from 2000 levels by 25 percent by 2020, would give icons like the Great Barrier Reef a chance of survival. Closer to home for the ACT, weaker targets would also further damage the already suffering Murray-Darling Basin¹⁴, in which the ACT is located.

CANA argues for even stronger targets, namely that Australia, should adopt the following emission targets:

2010 should be the date for peak gas emissions.
By 2020, at least 40 percent below 1990 levels.
By 2050, at least 95 percent below 1990 levels.¹⁵

CANA argues that these are appropriate targets, that can be reached **without** making any technological breakthroughs, lifestyle changes, or investment in public transport¹⁶. Though **with** a combination of energy efficiency measures and accelerated roll-out of renewable energies, the ACT, with its large number of sunlight hours especially in winter¹⁷, could greatly reduce its greenhouse gas emissions.

We do not have the specific scientific knowledge as to appropriate monitoring, reporting and review processes but we see that our schools could be appropriate learning environments at which our children could enhance their understanding of these issues and thus possibly feed information into appropriate monitoring, reporting and review processes.

Also each house could possess a small digital energy usage monitoring screen, that thus could develop to be an educative tool.

¹² ACF ibid

¹³ ACF *Setting the right course on climate change*. http://www.acfonline.org.au/uploads/res/ACF_targets_briefer_26-11-08.pdf

¹⁴ ACF ibid

¹⁵ CANA ibid

¹⁶ Downey, L., Slezak, J., Michael, J. and Wonhas, A. (2008), *An Australian Cost Curve for Greenhouse Gas Reduction*, McKinsey and Company, Sydney, quoted in CANA ibid

¹⁷ ACT Government, *Wash yourself with winter sun*. Available at http://www.heat.net.au/action-advice-page/pdfs/factsheets/old_factsheet_pdfs/winter_sun_web.pdf (downloaded 7/04/09).

Section (2) (c) of the Terms of Reference being:

That the ACT Assembly

(2) resolves the Standing Committee on Climate Change, Environment and Water enquire into and report on:

Part (c) the following associated with achieving the greenhouse gas reduction target:

(i) the efficacy of existing programs within the current ACT Climate Change Strategy Weathering the Change, and the need for additional programs in the Strategy;

Programs in Education

We are very supportive of the current federally funded Australian Sustainable Schools Initiative (AuSSI)¹⁸ and the National Solar Schools Program (NSSP)¹⁹. As parents we are encouraged by the results that have been achieved to date by schools that have signed to the AuSSI.

Also, whilst we are encouraged by and support the “Green Schools – An Environmentally Sustainable Future for ACT Public Schools”²⁰ statement, we are disappointed that within the Curriculum Framework, the Essential Learning Achievement, **ELA No. 20 “The Student acts for an environmentally sustainable future”** has been placed only within the Section of Science, rather than within the **Interdisciplinary Section**. To have greater impact in students’ understanding and well-being, and to enable them to act in strong and healthy ways when faced with these large problems and issues of the world, then acting for an environmentally sustainable future needs to be worked through across all areas of curricula.

As parents, we would like to see the ACT Government enhance these programs by:

(1) providing specific funding directed to professional development for teachers in the area of environmental sustainability.

(2) providing specific funding for a **dedicated position** in the ACT Department of Education and Training to promote sustainability in our public schools through curriculum development and through green programs.

(3) promoting the development of suitable, sustainable curriculum at the college level, as has been done in the junior curriculum.

(4) providing funding for vocational and emerging ‘green industry’ VET courses in addition to curriculum choices already offered to senior students.

Our schools are ideal places to practise and teach environmental awareness and demonstrate and learn sustainable principles. Schools can be models and leaders within their community to show how society can have a more sustainable and low carbon future.

Home Energy Assessment Team, HEAT

We also commend the Heat Program and endorse the mandatory disclosure of the Energy Efficiency Ratings of houses at point of sale. These ratings could be developed to be even stronger and more effective.

¹⁸ <http://www.sustainableschools.act.gov.au/schools>

¹⁹ <http://www.environment.gov.au/settlements/renewable/nationalsolarschools/>

²⁰ http://www.det.act.gov.au/__data/assets/pdf_file/0007/26953/GreenSchools.pdf

Population Policy

We understand that this is a very difficult area, but a formal community discussion needs to be begun and a strategy to hold such a discussion needs to be implemented.

Transport

We commend the ACT Government's acknowledgement that sustainable transport options need to become an integral part of our city design²¹, and the ACT Government's encouragement of bicycle transport, though bicycles need to be appreciated as having the same legitimacy as cars. For bicycles to be viable means of transport, the bicycle pathways (off roads) and the on roads bicycle lane must be maintained to the same safety standards as the car roads. The road surface must be of the same quality across both the car lanes and the bicycle lane. The resurfacing of roads, needs to be extended to include the bicycle lane. The bicycle lane cannot be left as an "old" deteriorating surface, or scattered with the unused and unswept portion of bitumen. Belconnen Way is an example of a well maintained car roadway, but the bicycle lane in places has not been resurfaced and is uneven, broken, and scattered with bitumen rubble and other rubbish. Glass would not be left on car roadways, but bicycle lanes and pathways are not maintained to the same safety level.

Green Waste Collection

We would also urge the ACT Government to introduce Green Waste Bins. Compostable material within the collected waste, forms an unnecessary part of our land fill.

Housing and City Planning

We commend every ACT Government initiative to encourage smart building design, to reduce the amount of resources we use. We also commend the ACT Government's acknowledgement that urban green areas can provide corridors for species to move through and play a role in cooling the city and reducing our emissions²². Our few remaining grasslands and grassy woodlands need to be fully cared for. Our local grassland species should be widely used to green our public buildings and schools. This would reduce water consumption, and increase habitats for local species. Plants are the lungs of our planet reducing carbon dioxide levels. A good example of a small amount of Government money helping a local group green their school is the P&C's Grassy Woodland project at Kaleen High.

(ii) the ACT's future energy supplies, taking account of the draft ACT Government Energy Strategy due to be published in late 2008 and options for sourcing or producing sufficient renewable energy to meet the needs of the ACT;

The entire ACT could become a solar power station. The Government should make greater use of public buildings particularly schools for power production. More help should be provided to all schools to access Federal money through the National Solar Schools Program, for solar cells and solar hot water systems. Schools could become mini power stations with excess power during down times fed into power grid. A good example for this idea is Pittwater High in NSW²³. At this school the solar array is progressively being added to with extra funding from community and business donations, which could be further enhanced by Governments in the future. Roof tops for power, instead of occupying valuable land for power stations.

²¹ ACT Government 2007. *ibid*

²² ACT Government 2007. *ibid*

²³ <http://www.pittwater-h.schools.nsw.edu.au/page18.htm>

(iii) Climate change impacts on the sustainability of existing ecological communities;

Existing ecological communities are under great pressure from increased population, expanding cities, clearing, and loss of biodiversity even before climate change pressures. We,

(1) support the maintaining and enhancing of the integrity and biodiversity of the natural environment by making our schools more sustainable. Small amounts of money can help school communities green their schools with local water wise species that provide previously lost habitat as well as food for local birds, reptiles and insects. Again this provides leadership and education to local communities, far better than through ad campaigns.

(2) recognise our collective responsibility to act sustainably in everything that we do;

(3) and support the creating of a carbon-neutral future for schools, homes and our bush capital by actively promoting sustainable practices through education and behavioural change.

(iv) Social equity and economic issues, costs and opportunities in achieving this target;

We urge, that in the interests of equity, additional funding must be made available to assist disadvantaged schools in achieving sustainability. Also any energy savings achieved through the implementation of sustainability measures must be reinvested within the school to encourage a sense of community ownership and to fund further sustainable initiatives.

(v) the relationship between the ACT's legislated target and policy and measures agreed to and implemented at a national level;

The ACT Government has been a leader in climate change strategies and we encourage it to so continue, and by its actions to reduce greenhouse gas emissions, encourage the rest of Australia to act for the benefit of current and future generations.

***(vi) the acceptability of local and offshore offsets;
and***

(vii) the need to ensure that the ACT does not transfer its greenhouse gas emissions to other jurisdictions;

Developed countries, including Australia, have contributed the majority of greenhouse gas emissions, historically. Australia is currently the fifteenth highest emitter²⁴ – and amongst the highest per capita emitters²⁵. Though the ACT's annual emissions represent less than one month's

²⁴ Herzog, T., Baumert, K. and Pershing, J. (2005), *Target Intensity- An analysis of greenhouse gas intensity targets*, World Resource Institute, Washington DC. Quoted in CANA ibid.

²⁵ CSIRO (2005), *New hope for reducing greenhouse gas emissions in Australia*, Commonwealth Scientific and Industrial Research Organisation, Canberra, <http://www.csiro.au/news/pso2.html>.

growth in emissions from China, we are encouraged that the ACT Government accepts that this is no excuse for inaction²⁶. Australians, including those in the ACT, have the responsibility and the capacity to act to reduce greenhouse gas emissions for the benefit of all the Earth. Passing the responsibility of the problem to others is not morally acceptable.

(viii) the adequacy of existing data collection and methodology for the purpose of establishing a baseline year of 1990 or 2000 and for future monitoring and reporting purposes; and

A few schools are establishing baseline data from their individual time-energy audits. To help and speed up this data collection process schools should be funded to install electronic metering which gives real-time information about energy usage. The cost of electronic metering is not great and the technology is commercial off the shelf technology and widely available. This metering would then be an educative tool.

An ACT database would record baseline data from audits and school profiles and help schools and students monitor their energy consumption. Additional professional development for school staff would be needed to facilitate this process. The AuSSI and NSSP are already helping this process in some registered schools, but more funds are needed to assist all schools.

Recommendations:

We commend the ACT Government for adopting, amongst others, the following principles in addressing climate change, that

- (1) a lack of scientific certainty should not be an excuse for inaction (the precautionary principle),
- (2) early action is more cost effective than late action,
- (3) whilst responding to climate change requires a collective responsibility, the government has a responsibility to lead²⁷.

We urge the ACT Government, to maintain its leadership with regard to climate change strategies, and to adopt the strongest possible greenhouse gas reduction targets to avert the dangers of climate warming, and to continue to support and expand on current sustainability practices. As a society we have the technical capacity and ability to reduce our ecological and carbon footprints. We need to adopt greater social understanding, and the ability to act towards an environmentally sustainable future, not to be overwhelmed by the issues. Education of the entire community is one step along this path and environmentally sustainable education, within our schools across the entire curriculum, an important support for our children.

²⁶ ACT Government 2007. *ibid*

²⁷ ACT Government 2007. *ibid*