

**SUBMISSION TO ACT GOVERNMENT
INQUIRY INTO GREENHOUSE GAS REDUCTION TARGETS**

**CLIMATE ACTION CANBERRA
9 APRIL 2009**

PART ONE: KEY POLICY PLATFORM

The need to dramatically increase our efforts

Human-induced emissions of greenhouse gases are changing the world's climate systems. These changes may become irreversible due to the triggering of climate 'tipping points' in the near future. It is widely recognised that emergency action is needed to reduce global emissions if we are to minimise the risk of catastrophic climate change.

Due to Australia's high levels of historic and per capita emissions any notion of justice demands that Australia lead the way in reducing its own emissions. The most recent science indicates that a stabilisation target of 300 parts per million of atmospheric carbon dioxide will most likely be required if we are to stay within a safe range of climate scenarios.

Canberra in particular must demonstrate leadership on climate change, given we are the highest per capita carbon emitter in Australia, the country with the highest per capita emissions in the world. With a highly educated population, earning Australia's highest average weekly incomes, Canberrans are both motivated and able to afford this investment in our future.

About Climate Action Canberra

Climate Action Canberra (CAC) is a new grassroots climate action group established in November 2008. In less than six months we have grown to over 50 active members and a broader network of over 400 people. Our purpose is to help catalyse an emergency response in the lead-up to the Copenhagen negotiations in December 2009. CAC has held a number of successful events this year and have observed that community concern about climate change is very high, and growing. This submission has been prepared by the CAC Policy Group, and is divided into two parts:

1. Our key policy platform – covering targets and overarching policy initiatives to drive deep cuts in Canberra's emissions; and
2. A detailed response to the Inquiry Terms of Reference (this will be submitted next week).

CAC is a member of the National Climate Movement, which held a summit at the ANU at the end of January this year. At this summit, member groups endorsed the Climate Movement's three key campaign objectives:

1. To prevent the Carbon Pollution Reduction Scheme (CPRS) from becoming law;
2. Build community-wide action to demand green jobs, a just transition and 100% renewable energy by 2020; and
3. To build community support for a goal of stabilisation at 300ppm CO₂ and strong international agreement in line with what science and global justice demands. To communicate this position to Copenhagen Conference of Parties, and advocate for the Australian government to adopt that position.

Targets

A 300ppm target would require Australia's anthropogenic greenhouse gas emissions to peak during 2010, reduce by at least 60% (on 1990 levels) by 2020, by at least 90% (on 1990 levels) by 2030, and have substantial carbon 'draw-down' efforts in place by 2050.

Many climate scientists have criticised the Australian Government's stabilisation target of 450ppm and 2020 target of 4% (on 1990 levels) as baseless in science and completely inadequate to the challenge of maintaining a safe climate. The ACT Government should publicly declare its support for these scientists and join the growing chorus for the Australian Government to adopt more appropriate targets.

Furthermore, it is important that the ACT adopts targets that either match or exceed national 'safe climate' targets. The moral effect of "Canberra leading the way", and setting an example to the rest of the nation, cannot be underestimated.

Stronger targets in the ACT are also more easily achieved. Emissions released due to the ACT originate almost entirely from the stationary energy and transport sectors. These sectors can be transformed rapidly to meet strong emissions targets using current technology, predictable planning and a rapid but achievable shift in economic practices.

The ACT economy is not based on the extraction of fossil fuels, logging, or unsustainable agricultural practices - unlike many other regions - and so would not be burdened by the need to retrain workers, retool production and regenerate lost capital. We are better placed than other regions, and so should adopt better targets than other regions.

Recommendation One

The ACT Government adopt the greenhouse gas emissions targets of:

- Peaking emissions by 2010
- 60% (on 1990 levels) by 2020
- 90% (on 1990 levels) by 2030
- 100%+ by 2050.

CAC's vision for Canberra

Recommendation Two

The ACT Government provide leadership for the ACT community and beyond, by setting a target of 100% renewable electricity by 2020.

CAC recognises that this recommendation will require significant investment in both energy efficiency measures and renewable energy generation. This doesn't have to imply a huge cost on the community, as the higher cost of renewables can be offset by gains from energy efficiency. There is an enormous opportunity in Canberra to make substantial cuts to our electricity demand through energy efficiency measures. For example:

In 2007-8, a local primary school (Rosary, Watson) upgraded its lighting and implemented a behaviour change ("switch off") program which resulted in savings of around 25% of its total electricity usage. With the savings generated, the school was able to fund the purchase of 100% green electricity from ActewAGL's GreenChoice program, completely within its existing electricity budget.

The Federal Government has a raft of programs and incentives that could fund and/or facilitate much of the required investment. However current efforts by the ACT Government through the HEAT program have not been sufficiently resourced to realise these opportunities.

Recommendation Three

The ACT Government massively increase funding for energy efficiency initiatives, that leverage Federal Government programs across residential, community and commercial sectors. An advisory service, including follow-up and project management should be offered. No and/or low interest loans should be extended across a wide range of energy efficiency investments, and in particular where Federal assistance is not available.

In meeting these science-based targets and to inform its legislation and regulations, the ACT Government will require greater knowledge about where emissions can be reduced at least cost. The energy efficiency of some industrial processes may be able to be improved, while others may require phasing out. For this reason it is important that energy and emissions auditing be expanded to investigate corporate practices and industrial processes, in addition to that of households (as performed by the Home Energy Advice Team).

Recommendation Four

The ACT Government expand its auditing efforts to investigate emissions resulting from industrial processes, investigate opportunities for mitigation, provide advice, and report all findings to the public.

Feed-In Tariff

CAC welcomes the ACT Government's introduction of the 'Feed-in Tariff' as an important first step in Canberra's greenhouse response. However, we believe that much greater abatement outcomes could be achieved through an electricity tariff mechanism, and that the FiT as currently structured will be expensive and largely ineffective.

Current problems with the FiT

The ACT FiT is designed to stimulate investment in rooftop PV, by paying PV owners 50.05c/kWh for the gross (total) electricity produced. The cost of the tariff is met by an increase in electricity prices across the community. CAC are concerned about the high cost, inherent inequities and overall effectiveness of the scheme, as illustrated by the following example:

In the current market, a 2kW system with inverter would require a net investment¹ of around \$12,000. It would return around \$1,400 per annum for 20 years, giving a total liability to the wider community (over 20 years) of \$28,000.

It is difficult to predict how popular the FiT will be. At face value, it looks like a good deal for investors, but the returns are very much dependant on the size array, price paid, eligibility for rebates and depreciation and taxation² circumstances of individual investors. In cases where the capital costs are contained relative to the size array (via rebates or low purchase price), the FiT will either result in large profits to the investor, or significant tax revenues to the ATO (or something in between).

Not all investors will be able to get a great deal, and of course returns are not the only reason people will want to invest in PVs. It is possible that the FiT will be very popular, simply because people want to do something 'tangible' about climate change. There is also some discussion about extending the FiT eligibility to larger (over 30kW) installations that can take advantage of lower capital costs. CAC are extremely concerned that as more people access the scheme, an increasing cost burden will be placed on a smaller and smaller population who are unable to access it. This could conceivably result in a point being reached where liabilities simply cannot be met.

PV's are currently the most expensive form of renewable energy available. The cost of carbon abatement in the ACT FiT (assuming 50c/kWh) is around \$500/tonne (see Attachment A for detailed calculations). The cost to Canberra of investing in 10MW of rooftop PV's via the FiT would be around \$7 million per annum. Worryingly, this would reduce our emissions by less than 0.5%. If however, we re-designed the tariff to purchase greenpower (e.g., via ActewAGL's GreenChoice product), the abatement cost would be around \$60/tonne, with \$7m investment yielding an emission reduction over 8 times that of PV. A similar community investment in energy efficiency could yield even greater carbon abatement outcomes.

A further complication for the operation of a FiT is the abolition of the \$8000 Federal rebate, which will be replaced by the 5:1 Renewable Energy Certificate (REC) scheme in July this year. Currently investors receive 1 REC for every 1MWh of clean electricity produced (or abated via energy efficiency). Under the proposed changes, investors in PV's will be issued with 5 REC's for every MWh of electricity produced. The extra 4 REC's issued do not represent an increase in renewable supply, compromising the effectiveness of the Federal Government 2020 20% RET target. PV owners accessing the 5:1 REC deal will actually contribute to a worse carbon abatement outcome and lower carbon price than if they did nothing, by displacing investment that otherwise would have contributed to actual emissions reduction. It may be appropriate to exclude 5:1 REC's recipients from the ACT FiT, as the former would undermine the FiT objectives.

The Opportunities for an Enhanced FiT

Despite the current problems with the existing FiT design, CAC believes that an electricity tariff mechanism offers Canberra a huge opportunity to rapidly decrease its stationery emissions in a

¹ The gross cost of a 2kW system with inverter would be around \$20,000. The Federal Government currently offers an \$8,000 rebate to householders with income under \$100,000. A 1kW system would cost around \$11,000 gross, requiring a net investment (after rebate) of \$3,000 but giving a total return over 20 years of \$14,000.

² CAC have received informal accounting advice that tariff income would be subject to income tax, and potentially capital gains tax. It is suggested the ACT Government seek a ruling from the ATO to clarify.

transparent, equitable and cost efficient manner. We recommend the following variations to the existing FiT scheme:

1. Increase electricity charges by a set amount per annum over the next ten years, with the maximum charge (in 2020) based on the current total cost of GreenChoice (i.e. black plus greenpower – currently around 20c/kWh residential). The normal safeguards to assist low income groups would apply.
2. The funds raised from the increased charges would firstly be directed toward energy efficiency (see recommendation 2 for details), so that from a natural justice perspective *people will be able to contain their total electricity bills so that they are no higher* with the higher unit charges. Any funds not taken up for energy efficiency can be directed to the purchase of greenpower from the national grid. This will be a flexible mechanism to make sure funds are always available for community energy efficiency needs.
3. Over time, as the demand for energy efficiency funding decreases, the balance of funding will shift toward investment in renewable energy, either through direct contracts with major renewable energy projects, or via greenpower purchase.

CAC acknowledges that the ACT community has a lot of expectations of the current FiT. It is recommended that the existing FiT rate for PV be maintained for the short term but carefully monitored (perhaps every six months) to ensure that liabilities are kept at a manageable level.

To implement such a change would require considerable community consultation, as it will require people to take responsibility for and action on their electricity usage if they are to avoid higher costs. However, the gradual ‘phase-in’ of the scheme over ten years gives plenty of time for the community to respond and adjust. Messaging on any proposed changes is absolutely critical. The community will need to know that the changes are designed to make the scheme ‘financially sustainable’, fair, and above all, capable of **driving deep cuts in Canberra’s emissions**. An appropriate acronym would be the Enhanced Feed-in Tariff, or ‘EFiT’.

Recommendation Five

The ACT Government introduce the ‘EFiT’, as the main vehicle for driving energy efficiency and clean energy uptake in Canberra, thereby enabling the Canberra community to be powered by 100% renewable electricity by 2020.

Public Transport

Private car usage is a significant contributor to the ACT’s greenhouse emissions, and strategies to reduce car usage may actually have a better ‘carbon abatement payback’ than investment in renewable energy. CAC calls on the ACT Government to implement more aggressive strategies to reduce private car usage, e.g. by limiting car parks (and increasing the cost), while improving the attractiveness of public transport by for example increasing the number of bus services on a significant portion of routes to every 15 minutes (similar to other jurisdictions). We note with interest the Government’s request for Federal Government infrastructure funding for a light rail system in Canberra and urge the ACT Government to pursue this option vigorously.

We recognise the long lead times in planning public transport, but are encouraged by recent breakthroughs in battery technologies which could have huge application in clean affordable public transport systems in the future.

Abatement and Adaptation

While 'Weathering the Change' acknowledges the importance of both abatement and adaptation, it does not consider the broader context in which the government can drive these solutions. Climate change is occurring simultaneously with peak oil, and the ACT currently has near total dependence on existing agricultural and transport patterns. In particular, there is an urgent need to consider food and water security, urban design and regulations, and the ACT's sustainable population capacity in times of severe and rapid climate change.

Recommendation Six

The ACT Government update Weathering the Change to reflect the new realities of climate change and its likely implications for all aspects of Canberra's planning, including urban design, food and water security, and sustainable population.

Commonwealth Policies

The Rudd Government's Carbon Pollution Reduction Scheme, if it becomes law, will set a cap on Australia's emissions of 5-15% less than 2000 levels. However, it will effectively prevent Australia from going below this level, as permits will be issued for pollution up to that amount. Any efforts by the community (including the ACT) to reduce their emissions will mean industry will be able to pollute more. The Commonwealth Government is compromising the effective response of all states and territories.

Recommendation Seven

The ACT Government call on the Commonwealth Government to fix the CPRS by:

- setting ambitious emissions reductions targets (at least 60% by 2020),
- removing the anomaly that prevents voluntary action from reducing Australia's overall emissions,
- improving the flexibility of the scheme to allow the cap to be lowered as the Minister sees fit (not every 5 years as is currently proposed),
- Implement a CPRS floor price to ensure a reasonable price reflection of the cost of CO₂ pollution.

Conclusion

CAC appreciates the opportunity to contribute to the development of the ACT's greenhouse targets and urges the Assembly to unite behind ambitious targets that the Canberra community is both ready for and capable of realising.

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**ANALYSIS OF THE COSTS AND BENEFITS OF THE
50.05c/kWh FEED IN TARIFF**

An average 1 kW system will generate ~1400 kWh/year in the ACT.

This will equate to \$700/year.

If we assume 10 MW of installed PV capacity, this will cost the ACT taxpayer ~\$7 million/year.

If we assume 100 000 households, this equates to \$70/year per household.

In terms of abatement, we get 1.4 tonnes of abatement per kW of installed power, so for 10 MW this equates to 14 000 tonnes of abatement.

Cost per tonne of abatement is $7\,000\,000 / 14\,000$
= \$500/tonne

Compare to buying Greenpower which costs about \$60/tonne.
(i.e., greenpower schemes range in price from 3.5c-7.0c/kWh, which equates to \$35-70/MWh.
1MWh roughly generates 1 tonne CO2 emissions).

Canberra's electricity emissions in 2005 were around 3.2 million tonnes.

10MW capacity would abate less than 0.5% of Canberra's (2005) emissions
($14\,000 / 3\,200\,000 = 0.0044$)

Conclusion

The Feed in Tariff as currently structured will be unable to make any impact on Canberra's emissions, but will still have a significant cost to the community. This investment would be better directed toward energy efficiency and lower cost renewable investment.