



Climate Change – The World, New Zealand & You

“Some things are bigger than politics.”

*Ilam Greens Listening Forum –
22 April 2008*

This backgrounder addresses the three themes of tonight’s Ilam Greens Listening Forum.

The three themes are:

- the global challenge of climate change and the current state of the global negotiations to combat it;
- New Zealand’s national policy on climate change to date, and the policy of the Green Party;
- The challenge to the individual and his/her household to do what one can to combat climate change.

The backgrounder is designed to generate a dialogue among Ilam residents as to what we, as a local community, can do about climate change.

I look forward to discussing this issue, and others, with you in the course of this 2008 election campaign.

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Ilam Green Candidate
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Contents

- 1. The Global Level: Climate Change & the World – *Planetary Roulette***
- 2. The National Level: Climate Change & NZ – *‘Confronting the Ethical Imperative’***
- 3. The Local Level: Climate Change & You – *What Can Each of Us Do?***

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1. Climate Change & the World: *'Planetary Roulette'*

The Facts

- Climate change is due to the warming of the planet's atmosphere, caused by anthropogenic greenhouse gas (GHG) emissions since the Industrial Revolution (18th c.) – carbon dioxide, methane and other gases.
- The atmospheric GHG concentration has increased by almost 50% since 1750 (to 430 ppmv CO₂e), causing the global greenhouse effect, and an average annual temperature increase of 0.8°C. A further 0.5°C rise is guaranteed from past emissions through 'lag' – a total warming of 1.3°C.
- This is now leading to severe natural phenomena – weather disturbances, ice melt (in Antarctica, the Arctic and Greenland), thawing of the tundra, coral reef bleaching, and sea-level rise (SLR).
- Any excess above 550 ppmv CO₂e concentration and 3.0°C warming could result in 'dramatic and potentially irreversible' catastrophic climatic change – the so-called 'tipping point'.
- 'Business-as usual' for the global economy is expected to result in carbon concentration of 560 ppmv. CO₂e by 2060, with warming of 3.0°C and SLR of 0.35 m. If 'positive feedback loops' occur, the temperature could rise by 6°-11°C with SLR of anything between 6 and 17 m.

The Global Policy Challenge

- The Kyoto Protocol calls for an average of only 5% cuts on 1990 GHG levels (during 2008-12) by the 36 developed countries. Each country's 'responsibility target' can be met through any one, or combination, of (i) direct reductions, (ii) mutual cooperation (through the Clean Development Mechanism or Joint Implementation Scheme) or (iii) an Emissions Trading Scheme. The Protocol is of limited effect; even if successful, it would result in only a 0.2° C curb in the temperature rise.
- Negotiations are underway for a 2nd commitment period (probably 2013-2020), and discussions have also started on a long-term solution. A 'warming cap' of 2.0°C increase (at 450 ppmv CO₂e) has become the policy focus (0.7°C above the current guaranteed level). This requires that global emissions peak around 2020, then reduce by 66% by 2050 on 2000 levels (developed country emissions by 90%). The most likely scenario is about 500 ppmv -- with a 50% chance of 3.0°C.
- This requires in turn a global consensus over collective GHG cuts through the 'common but differentiated responsibilities' of all 192 nations based on the principle of equity. A tension thus exists between total national GHG emissions and *per capita* emissions. The annual global 'personal allowance' to achieve 90% GHG cuts, for example, is under 1.0 tonne *per capita*.
- In 2006 China eclipsed the US in *national* GHG emissions as the largest national polluter (6.2 b. tonnes, to 5.8 b). Yet China emits 3.5 tonnes p.c., whereas US emits 23 tonnes p.c.. If equity and democracy are to mean anything, there must be some 'contraction and convergence' whereby the West reduces its p.c. emissions, allowing the South to increase theirs to a reasonable limit. The global population is set to increase from 6.7 billion today to 9.0 b. in 2050.
- In the negotiations for a post-Kyoto GHG emissions regime, the EU leads the way with a commitment to 20% cuts by 2020 (30% if reciprocated) and 60% by 2050. The US refuses to accept any binding target, claiming that market incentives will solve the problem. China and India assert that it is for the West to accept binding cuts while they have the right to increase their emissions on a *per capita* basis provided these remain below those of the West. But at what stage might developing world emissions reasonably be expected to peak? There is thus currently a global stand-off – a form of planetary roulette, with our grand-children's futures at stake....

2. Climate Change & NZ: 'Confronting the Ethical Imperative'

New Zealand plays a small role in international affairs generally, including climate change. But we have a moral obligation, and a political self-interest, to contribute our share in solving global problems.

The Facts

- NZ emissions in 2006 were 78 m. tonnes (1990 = 62 m.), which is under 0.3% of the global total.
- Our *per capita* emissions are 19 tonnes, the 11th largest in the world – twice that of the British or Swedes, five times that of the Chinese (though less than Australians or Americans).
- NZ faces a special problem – 50% of our GHG is methane or nitrous oxide from agriculture (compared with 15% globally), mainly ruminant livestock, with no known solution. But even subtracting those emissions, our annual GHG *per capita* is 10 tonnes – ten times above the 'global personal allowance'.
- Under Kyoto, NZ committed to curbing its emissions at 1990 levels from 2008-12 = our Assigned Amount for the five-year period of 310 m units. Our projected net excess is 45 m. units, for which we will incur a financial liability (at US\$10/tonne = US\$0.45 b; at US\$30/tonne = US\$1.4 b.). On 18 April, the Govt. announced that NZ's GHG emissions increased 1% in 2006 (3% in 2005).
- Reaching our 'responsibility target' will require a '*national compact*' in climate change that engages the main economic sectors of NZ society – the public sector (governmental agencies); the private sector (farming and business); and the personal sector (households and individuals). In terms of economic function, the three main areas are: energy, agriculture and forestry.

NZ Govt. Policy

- Kyoto was signed by the National Govt. in 1997 and ratified by the Labour Govt. in 2002.
- Since 2005 when the Protocol came into force, governments were expected to prepare for the commitment period (2008-12). The EU developed a pilot Emissions Trading Scheme (ETS) with a preliminary European carbon price – the two essential components for successfully meeting national 'responsibility targets'. Canada has introduced a national ETS recently. Australia, having just signed the Protocol, is introducing its ETS. The Govt. has only recently introduced New Zealand's ETS (currently in Select Committee).
- The NZ Govt. will not commit to any percentage target for post-Kyoto reductions. It has, however, announced sectoral targets – (i) 90% renewables for electricity by 2025; (ii) 50% *per capita* transport emission cuts by 2040; (iii) 250,000 ha. net increase in forests by 2020; (iv) carbon-neutrality (through offsetting) for electricity (by 2025), energy (2030), and transport (2040).
- The Govt. has twice rejected proposals to apply levies on emissions (rejection of the Animal Emission Levy in 2003; and the Fuel Carbon Charge in 2005).

Green Party policy is:

- (i) Accept for the post-2012 negotiations (and subsequent national planning), a climate stabilization target of 2°C maximum increase in the average global temperatures, with a related carbon concentration target of 450 ppm CO₂e.
- (ii) Declare that it will accept a binding obligation to remain within its proportionate share of that target, having regard to the 'contraction and convergence' principle, in which people in the South are as important as those in the North.
- (iii) Recognise that, for the above objective, a national target of 33% GHG reductions on our 1990 level is necessary by 2020 and 60-90% reduction by 2050; and that, however difficult this will be, every effort has to be made to achieve those targets for the sake of the next generation.

Green Party principles are:

- (i) Polluter Pays: those producing GHGs should be responsible for their cost;
- (ii) Carbon Pricing: urgently, to make clean alternatives cheaper and fossil fuels dearer;
- (iii) Fairness: all sectors of the economy must face the same price, with no free-loading;
- (iv) Sound Business: Genuine sustainable businesses to be encouraged; with no 'green-wash'
- (v) Internationalism: the NZ carbon price must be linked with the global price under Kyoto;
- (vi) Social Justice: Govt. programmes to assist those who suffer most when energy prices rise;
- (vii) Future Focus: the system designed now must leave us in better position, post-2012.

3. Climate Change and You: What Can Each of Us Do?

NZ household emissions are low compared to Kyoto Annex I Parties, but high compared to the global average. It is therefore up to us, as individuals and families, to do what we can to curb our emissions.

A. My Carbon Level

Transport

1. What is the fuel efficiency of my car; can I improve it?
2. How often / how far do I drive each week; can I reduce it?
3. How much do I use a bicycle or walk, instead; can I do more?
4. Will I take a bus or train to work – what 'level of inconvenience' will I accept?
5. Would I consider car-pooling, or 'car-sharing' (as in Europe)?

Housing

6. How big is my house – how many square metres per occupant?
7. How big is my power bill? (Main cost components = hot water (33%); cooking (6%)? Do I wash at off-peak time? Is my dishwasher full? What temperature do I keep in our house during winter?
8. Have I investigated solar panels for my hot water? In how many years would I 'break-even'?
9. Do I still use incandescent bulbs – should I change them to eco-bulbs now or at a bulb's end?

Food

10. Do I grow my own vegetables; and do I eat fruit & vegetables seasonally?
11. How often do I eat red meat; can I eat less?
12. Is there sufficient space, and natural rainwater, for me to grow fruit trees?

Long-distance Travel

13. How many air-miles have I flown in the past 5 years? Can I reduce this?
[One NZ-Europe-NZ flight incurs 10 tonnes CO₂ *per capita*, which = 50% of the Kiwi average annual emission; and is 10 times the global *per capita* share.]

B. My Ecological Footprint **[Carbon plus waste]**

Transport

14. When should I upgrade my car to a more efficient type – given its embodied energy and the problem of disposal?

Housing

15. Do I separate my waste and recycle the recyclable; if not, can I start?
16. Do I compost my own organic food waste; if not, can I start?

Food

17. Do I bring re-usable bags to the market to reduce plastic bags and wrapping?

Recreation

18. Am I aware of the water-consumption of golf courses?
19. Do I engage in a motor-sport, using fossil fuels (water-skiing or skidoos; car / motor-bike racing)?

C. My Policy towards the Global Footprint

20. Do I buy food from distant countries – what is the food mileage of that country/commodity?
21. How do I balance (i) 'Buy Kiwi Made' v. (ii) Food miles v. (iii) Support for developing countries?

Find out your individual ecological footprint – <http://www.ecofoot.org/>

If I am a business leader / investor, are any of the above questions also relevant to my business / investment?

Refer also to www.greens.org.nz/climatechange