3. CLIMATE CHANGE – GOVERNMENT DOMESTIC POLICY OPTIONS STATEMENT

RR 9606

Officer responsible Environmental Policy and Planning Manager	**Author** Jenny Ridgen Environmental Resources Officer
Corporate Plan Output: Environmental Health	

The purpose of this report is to advise the Committee of the release of the document "Climate Change – Domestic Policy Options Statement" by the Ministry for the Environment. Submissions are sought by the Ministry for the Environment on three options outlined in the document and these will be used in the development of policy relating to decisions the Government expects to take towards the middle of this year.

BACKGROUND

Although there is a lot of uncertainty with climate change theory there is a real risk of adverse effects, with the potential for considerable economic and social consequences for this country. As a result New Zealand has made an international commitment to stabilise emissions of the six main greenhouse gases at 1990 levels, on average, over the first commitment period of 2008 to 2012. As for other activities which raise threats of harm to the environment, precautionary measures should be taken, even if some cause and effect relationships are not fully established scientifically. Taking action to address climate change caused by people's activities can be likened to buying an insurance policy in the face of an increasingly clear risk.

New Zealand's emissions profile for greenhouse gases is quite different from most countries, in that the predominant greenhouse gas produced in New Zealand is methane (CH_4), rather than carbon dioxide (CO_2). This is due to our agricultural sector and, in particular, emissions from sheep and cows. Due to changes in this sector with a reduction in stock numbers, combined with increases in carbon dioxide emissions, this emissions profile is changing (see Table 1) to more closely resemble those of other countries. In the period 1990 to 1997 carbon dioxide emissions in New Zealand increased by 20.8%. The main sectors responsible for this increase were domestic transport (47.9%), thermal electricity generation (40.3%), and industry (28.6%).

Table 1
Greenhouse gas emissions in CO_2 equivalent kilotonnes (kT)

	Carbon Dioxide CO_2	**Methane CH_4**	**Nitrous-oxide N_2O**	**Hydrofluoro-carbons HFCs**	**Perfluour-carbons PFCs**	**Sulphur Herafluoride SF_6**	**TOTAL**
1990	25,241	35,128	11,503	0	579	24	**72,475**
1996	29,009	33,449	11,626	228	176	24	**74,512**

Source: New Zealand Greenhouse Gas Inventory 1990 – 96. Revised as at May 1998. Ministry for the Environment 1998, unpublished report.

The Policy Options document arises from the Government's commitments under the Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The report states that "Meeting our UNFCCC and Kyoto Protocol commitments will not be achieved without changes to our business-as-usual way of doing things. As such, decisions on climate change policy will affect all New Zealanders."

The report places considerable emphasis on meeting our internal emission reduction commitments at least cost. This process should be assisted once international emissions trading becomes operational (expected to be in 2008). The most cost-effective solution would need to include a domestic (ie within New Zealand) emissions trading regime which covers the largest possible number of emitters, while effectively interfacing with an international trading system.

The first commitment period begins in 2008 but, in order to meet this at least cost, New Zealanders need to start work on reducing emissions as soon as possible to allow for investment certainty and to provide businesses with opportunities to reduce costs. Whatever policy is adopted, it will need to have international credibility and be equitable to all New Zealanders, as well as being practical, durable and flexible.

Proposed Government Options

The Government has proposed three potential options or paths for change, with the main difference between them being the choice of economic instruments, their sectoral coverage, and their scope and timing. These factors will affect the degree of emission reduction and the cost in the pre-2008 period. The nature and extent of complementary measures such as information provision, education, energy efficiency, research, etc will vary with each option.

A requirement of the Kyoto Protocol is that "demonstrable progress" toward meeting the commitments is to be achieved by 2005. Regardless of which option is chosen, a comprehensive domestic emissions trading system would need to be in place by 2008, at which time an international trading market will be established.

The least-cost way for New Zealand to manage its emissions reductions prior to 2008 is through price signalling measures. This is because the international market price will determine the extent to which a particular domestic action is economic, eg whether the cheapest option is to plant a forest or to purchase the rights for additional discharges.

The three options proposed by the Government can be summarised as follows:

Option 1 – Facilitation of a forward market

This option focuses on enhancing awareness of domestic and international trading systems which would operate from 2008 to 2012, ie for the first commitment period. Under this option the Government would announce (possibly as soon as June 1999):

- details of the long-term policy package for 2008-2012;
- which emitters would be obliged to hold assignment amount units (AAUs) to cover their emissions; and
- the timing and method of allocation of AAUs, eg grandparenting, auctioning, or a combination of the two.

There would be no mandatory requirement to reduce emissions prior to 2008, although there could be a possibility of future trading. Education would be especially important for this option to ensure that people are aware of, and have time to plan for, the introduction of AAUs.

For example: a business using coal as an energy source might be allocated an AAU of 2000 tonnes CO_2 equivalent, based on historic emissions. Should the business change to an energy source which produced no greenhouse gas emissions, then it would be able to sell the AAUs. Alternatively, should it expand and wish to continue using coal, it would need to purchase additional AAUs, pay higher carbon charges, or invest in technology that ensures no additional greenhouse gases are produced.

Under this option people would be forewarned of the introduction of such a system, but it would not take effect until 2008 and the business-as-usual growth trends in greenhouse gas emissions could continue until this time.

Option 2 – Pilot emissions trading and a low-level carbon charge prior to a comprehensive domestic emissions trading programme

- as a pilot programme, introduce a hybrid economic industry package for the energy and industrial process sector (including transport), possibly in 2000
- introduce a low-level charge on other emitters (primarily small and diffuse emissions, including road transport)
- introduce a comprehensive domestic emissions trading system by 2005

Provision would need to be made to ensure that participants in the pilot trading system are not forced to make emission reductions that cost more than abatement opportunities which exist elsewhere in New Zealand.

The pilot trading programme would likely be voluntary. Revenue raised could be used to offset other taxes or to retire Government debt. Part of the revenue could be spent on projects aimed at reducing emission levels.

For example: carbon charges would be set early on for energy sector businesses, which would also be assigned AAUs. To offset carbon charges

a business might trade in AAUs or it might decide to invest in a forestry project which would act as a carbon "sink" and provide carbon credits. In the meantime low-level carbon charges would be introduced for other emitters, eg through an increase in petrol prices.

Under this system price signals would affect emitters at an early stage, although they would have time to reduce or abate emissions, and prepare strategies for dealing with a comprehensive domestic emissions trading system before it is introduced in 2005.

Option 3 – Low-level carbon charge prior to a comprehensive domestic emissions trading programme

- low-level carbon charge for energy and industrial process sector prior to 2008
- introduce comprehensive domestic emissions trading system in 2008 (or sooner)

The low-level carbon charge would exclude situations where carbon is exported, where the use of carbon results in no CO_2 emissions, where carbon is absorbed or released as part of a natural cycle, or the transaction costs exceed the benefits. Revenue raised could be used to offset other taxes or to retire Government debt.

For example: a large industrial processing business would be required to pay a low-level charge for greenhouse gas emissions. The business would have to decide whether to absorb the increased costs in their pricing structure or reduce the carbon charges, eg by reducing their emissions.

This system would have little effect on other emitters until a domestic trading system was introduced in 2008, or sooner.

COUNCIL CLIMATE CHANGE POLICY

The following policies were adopted by the Council on 26 April 1995:

1. *That the Council acknowledge that climate change is occurring and adopt a precautionary approach when planning for future activities and works.*

2. *The Council when developing new policies and projects, takes into account the effects of climate change where this is appropriate. Policies that initiate or support activities that counter the causes and effects of those changes, are to be preferred.*

3. *That the Council's response to climate change combine the limitation and adaptation approaches.*

4. *That the Council develop a transportation policy which serves to limit greenhouse gas emissions.*

5. *The Council support ongoing monitoring of climate change indicators such as sea level, greenhouse gas emissions and carbon sinks.*

6. *The information in the report should be used in assessing submissions on the new City Plan during the review period and in addition the report should be reviewed in five years time.*

Climate change is also dealt with as an issue in the City Plan and one of its effects, sea level rise, is the subject of a current study. The information gained from this study will be used to help with long-term planning for low-lying coastal areas, eg Ferrymead and Brooklands.

In a limited way the Council can affect greenhouse gas emissions indirectly through urban design, RMA provisions and transport planning, eg through submissions which have recently been prepared on the Vehicle Fleet Emission Control Strategy.

The Council can also continue to lead by example with respect to energy efficiency and act as an information provider on energy efficiency matters, eg electric shuttle buses.

COUNCIL SUBMISSION

In its submission the Council needs to acknowledge that there are risks associated with greenhouse gas emissions and climate change, and that these need to be taken seriously. The sooner the task of emission reduction is addressed the greater the opportunity to find a least cost solution.

One of the keys to reducing emissions will be to increase awareness of the links between our behaviour as emitters, greenhouse gas concentrations and climate change. Education and information provision will be key elements in effecting change, particularly amongst those responsible for small and diffuse emissions.

In addition, it is critical that people and businesses have alternatives available to enable them to change their behaviour as emitters. Revenue from carbon charges should be channelled into research and development of emission-reducing projects and technology, and not spent solely on reducing other taxes or retiring government debt.

Of the three policy options, the first places most reliance on individuals and businesses becoming sufficiently motivated by an education programme to change their behaviour – this is unlikely to happen when there are few incentives to do so.

The second option maximises the pre-2008 period by trialing a trading programme for large energy and industrial process sector emitters, thus providing an opportunity to sort out the best mechanisms and to develop the skills needed to optimise an international emissions trading system once this becomes operational in 2008. By introducing a low-level carbon charge for other CO_2 emitters, this sends the message that the Government is serious about reducing emissions and provides the best opportunity to achieve a least cost solution which covers the largest possible number of emitters. The sooner more people are affected, the sooner the problem will be taken "on board" by New Zealanders. However, it will be the increase in awareness and not the level of carbon charge that will generate changes in emitter behaviour.

The third option of a low-level carbon charge for the energy and industrial process sector will not send out a strong message to New Zealanders that we need to look at ways of reducing emissions. As with option 1, it is unlikely that the best use would be made of the lead-up period to 2008. Rather, as shown from past experience, individuals and businesses will ignore what they perceive does not affect them until there are direct consequences.

The Intergovernmental Panel on Climate Change (IPCC) have concluded from their investigations that "the balance of evidence suggests that there is a discernible human influence on global climate" and that, even after greenhouse gas concentrations are stabilised, temperatures will continue to increase for decades, and sea level will continue to rise for centuries. Even if the goal of reducing emissions to 1990 levels is achieved, greenhouse gas concentrations will **not** be stabilised – their increase will just be slowed down a bit.

Recommendation:

1. That a submission be made to the Ministry of Environment, supporting Option 2 of the Climate Change – Domestic policy Options Statement.

2. That the Council develop further programmes and projects in respect of its climate change policies, in order to lead by example, with respect to energy efficiency measures.