# Slowing the Burning: New Zealand's Climate Change Policy Approach

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This note is a critique of Alexander Gillespie's "Burning Follies: The Creation and Failure of the New Zealand Response to Climate Change".

Gillespie's review of New Zealand's climate change policy in his article "Burning Follies: The Creation and Failure of the New Zealand Response to Climate Change"<sup>1</sup> (published in the previous issue of the *NZJEL*) is well intentioned but poorly informed. The aim of this critique is to summarise the current state of play in the development of New Zealand's climate change policy and to set the record straight on some key issues.

#### A Summary of the Current International State of Play

In response to growing evidence of the risks of climate change, the United Nations Framework Convention on Climate Change (FCCC) was developed, opened for signature at the Rio de Janeiro "Earth Summit" in June 1992, and came into force in March 1994. The objective of the Convention is to avoid dangerous human-induced interference with the climate system. A central commitment for Annex I Parties (mostly "developed" countries) is to limit emissions and to protect and enhance sinks of all greenhouse gases.

A key conclusion to emerge from the First Conference of the Parties (COP1) in April 1995 was that commitments at that time were insufficient to achieve the Convention's objective. COP1 agreed to the Berlin Mandate, which set up a process for developing additional commitments for developed country parties for the period beyond 2000 (reflecting their responsibility for historical emissions of greenhouse gases). The Second Conference of the Parties reached a decision that targets coming out of the Berlin Mandate process should be legally

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<sup>1</sup> Gillespie, A., "Burning Follies: The Creation and Failure of the New Zealand Response to Climate Change" (1997) 1 *NZJEL* 43.

binding and that, on the basis of existing scientific evidence, significant greenhouse gas reductions would be justified.

New Zealand promoted a "least-cost" approach to the development of new commitments, on the basis that increased flexibility to meet different circumstances would provide for a more durable outcome from the Berlin Mandate negotiations. The least-cost principle includes comprehensive coverage of greenhouse gases and the availability of flexible mechanisms such as international emissions trading (so that the lowest-cost emission reductions can be made wherever they occur, rather than solely behind national borders). New Zealand also strongly promoted the recognition of carbon removals (absorption by growing plantation forests) in a manner that allows absolute changes in carbon stock to be counted against reduction targets.

### **The Kyoto Protocol**

The Berlin Mandate negotiations culminated at the Third Conference of the Parties (COP3) in Kyoto in December 1997. Under the Kyoto Protocol to the FCCC ("Kyoto Protocol"), developed country parties bind themselves not to exceed a specified amount of emissions of the six main greenhouse gases (carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons and perfluorocarbons). Gases would be combined on a CO<sub>2</sub>-equivalent basis, averaged over a commitment period (2008–2012), and compared with a baseline of emissions in 1990. The overall reduction commitment for Annex I parties is 5.2% below 1990 levels; country targets vary between 8% below and 10% above 1990 levels. Carbon absorption from forest activities since 1990 can be counted in meeting commitments. The Protocol provides for emissions trading, but calls upon the Fourth Conference of the Parties (COP4) to define the relevant principles, modalities, rules and guidelines for emissions trading, particularly in relation to verification, reporting and accountability.

New Zealand has been allocated an emissions reduction commitment of *stabilising* emissions of the six gases at 1990 levels, taken together on a  $CO_2$ -equivalent basis, on average over the first commitment period. Depending on the outcome of additional work to be completed at the COP4 in November 1998 (for example, on international emissions trading), New Zealand may consider taking on a "deeper" target in the future.

# **Gillespie's Review**

With this background, it is possible to examine some of the key arguments Gillespie advances. In an otherwise well-researched article, Gillespie puts forward the following erroneous propositions:

- (a) that New Zealand's stance on sinks (the net approach) is isolated and misguided and is not an appropriate policy to take to the negotiating table;
- (b) that the international focus is currently only upon carbon dioxide and that a wider focus will leave New Zealand very exposed;
- (c) that New Zealand is one of the few Organisation for Economic Cooperation and Development (OECD) countries that does not have greenhouse emission controls for cars; and
- (d) that the government has gone to "extreme lengths" to avoid imposing an economic instrument that would internalise the environmental costs of greenhouse gas emissions.

# Is New Zealand's Stance on Sinks an Isolated and Misguided One?

On the sinks issue, New Zealand's negotiating stance contributed to the outcome at Kyoto that removals of  $CO_2$  from the atmosphere by forest sinks can count toward meeting commitments. Changes in forest carbon stock over the first commitment period can be counted where these arise from a limited set of land use change and forestry activities taken since 1990. Permitted activities are afforestation and reforestation, less emissions from deforestation. Additional activities will be subsequently negotiated for the second commitment period.

Gillespie also argues that New Zealand's stance on sinks is "helping to gridlock further attempts at successful international negotiations".<sup>2</sup> This is false. Negotiation of the articles relating to carbon sinks has been complex and difficult, but there was no gridlock. In respect of *other* issues, namely developing country participation and emission trading, the talks have at times (for example, at Kyoto) approached gridlock.

Gillespie goes on to argue that reliance (globally) on planting is misguided, because:

... the sheer magnitude of the planting required makes this option wholly unfeasible, as a primary method to reduce global carbon dioxide emissions.<sup>3</sup>

However, no one is suggesting that it would be the primary method. Emission reduction must be primary. But simply because at a global level the magnitude of possible removals is relatively small compared with the scale of emission reductions required, it does not follow that the contribution of New Zealand, with its rapidly expanding planted forests, should be ignored.

<sup>2</sup> Ibid 53.

<sup>3</sup> Ibid 55.

# Will New Zealand be Exposed when the International Focus Broadens?

Gillespie argues that the international focus is currently only upon  $CO_2$  and that a wider focus will leave New Zealand very exposed.<sup>4</sup> Admittedly Gillespie wrote this before Kyoto and, with the wisdom of hindsight, we can note that the Protocol covers all six gases or gas groups. Does this leave New Zealand "very exposed"? The answer is clearly no.

From the environmental point of view, inclusion of all greenhouse gases is desirable (as exclusion would probably weaken incentives to control the excluded gas). In New Zealand's case, methane emissions have declined. In 1990, methane emissions from ruminant livestock (sheep, beef cattle, dairy cattle, goats, and deer) and their wastes were 1,513 gigagrams (Gg, or thousand tonnes); in 1996, they were approximately 7% below 1990 levels at 1,412. This decline is due principally to a reduction in sheep numbers in response to removal of price subsidies and prevailing world market conditions.

Overall, it is expected that total livestock numbers in New Zealand will continue to decrease. This is due to a number of factors, including expected low prices for beef and sheep meat and the increase in pasture land being used for planted forests. While the degree of uncertainty in estimating livestock emissions beyond 2000 is high, methane emissions from ruminants and their wastes are predicted to rise from 1,390 Gg in 2001 to 1,425 Gg in 2020, still well below their 1990 levels.

Compliance with the target commitments from the Kyoto Protocol is assessed against 1990 baseline emissions of the six main greenhouse gases, aggregated on a  $CO_2$ -equivalent basis. The point for New Zealand is not that this allows us to "hide our disproportionate methane emissions",<sup>5</sup> but that it permits us to pursue a least-cost strategy for reducing *overall* emissions. The principles of the FCCC (Article 3) recognise that countries will have a different mix of greenhouse gas emissions, depending on national and economic circumstances, and that actions to reduce emissions in one country may be inappropriate in another. Reducing methane emissions may prove to be more or less costly in the New Zealand context than reducing emissions of other greenhouse gases. Whether our per capita methane emissions are comparatively high is irrelevant in the assessment of New Zealand's compliance with its binding greenhouse gas target.

Interestingly, methane has a significantly shorter atmospheric lifetime than  $CO_2$  (14.5 years rather than 50–200 years). This means that a reduction in atmospheric concentrations of  $CO_2$  will occur a considerable time after a slow-

4 Ibid 59.

5 Ibid 60.

ing of the rate of  $CO_2$  emissions is achieved. This suggests that, to avoid the risks of climate change, action on  $CO_2$  emissions may be more pressing than on shorter-lived methane emissions.

# Is New Zealand One of the Few Countries not Controlling Car Emissions?

Gillespie is correct to point out that transport emissions are a critical area to contain if overall emissions are to be reduced. However, his claim that New Zealand is one of the few OECD countries that does not have greenhouse emission controls for cars gives too positive an impression of success in other countries.

Most OECD countries recognise that transport sector emissions need to be reduced if overall emissions are to come down. They have tended to tackle the issue with a range of policy responses, addressing both demand management (such as via price signals) and technical improvements to vehicle performance. In general, these measures seem to have had relatively little effect.<sup>6</sup>

The growth in greenhouse gas emissions from New Zealand's transport sector is principally driven by increasing vehicle numbers and trip length. Because the transport sector is unresponsive to price changes, both an economic instrument and other policy measures may be needed to make an appreciable difference to transport sector emissions. However, again the principle of least-cost is relevant. It may be lower cost to make reductions in other sectors — and an economic instrument would demonstrate where the lowest costs lie.

Gillespie implies that requiring cars to be fitted with catalytic converters would be beneficial; in fact, while catalytic converters reduce emissions of some greenhouse gases and of some other air pollutants, they *increase* emissions of  $CO_2$ . The cleanest technology comes from the integrative "drive cycle" approach, which minimises engine emissions overall. An increased rate of vehicle fleet turnover may contribute to accessing the benefits of technological improvements. The Vehicle Fleet Emissions Control Strategy suggests that New Zealand adopt similar standards to Europe with a lag of two to five years, reflecting the reality that New Zealand is largely a technology taker.

<sup>6</sup> See, eg, Solsbery, L., "Projected Greenhouse Gas Emissions" in Flannery and Grezo (eds), IPIECA Symposium on Critical Issues in the Economics of Climate Change (1997) 201, 206.

#### Is the Government Avoiding the Use of an Economic Instrument?

Gillespie rightly points to the need to address the provision of clear price signals attaching to the use of carbon. This would provide the necessary incentives to reduce current use of fossil fuels to a minimum, and encourage a shift to new investment in low or no carbon technologies. But he is wrong in his assertion that the government has gone to "extreme lengths" to avoid imposing an economic instrument that would internalise the environmental costs of greenhouse gas emissions.

Climate change policy is essentially an internationally driven policy issue. New Zealand policy has stayed closely aligned to the pace of international developments on the basis that to do otherwise would incur economic cost for no appreciable improvement in atmospheric concentrations of greenhouse gases. In 1994 the government adopted a policy involving the threat of a carbon charge if, in mid-1997, New Zealand was not on track to achieve its target of stabilising net emissions of  $CO_2$  at 1990 levels by 2000. The assessment was to be made on whether New Zealand was set to achieve a 20% reduction in gross emissions below "business as usual" by 2000, with the remainder of emissions being offset by carbon absorbed by increases in planted forest biomass. On the basis of this policy, a carbon charge would have been triggered. However, the government deferred that decision last year until the size and nature of future commitments from the Kyoto negotiations were known. In the meantime, considerable effort has been put into exploring and analysing emissions trading.

The process from here is that the government is currently looking at policy options in the light of the Kyoto Protocol, and it is expected that a public consultation document on domestic policy choices will be released later in 1998. An economic instrument will be included among these options.

# Conclusion

The policy challenges in the climate change area are considerable, given the integral role that carbon (particularly fossil fuels) plays in the economy. One challenge is to advance domestic *understanding* of the policy issues and of the international context, so that New Zealanders are aware of the pace at which international progress on addressing climate change is occurring. The pace is set by advances in the understanding of the science of climate change and, more particularly, in international policy development. Gillespie's article does assist to some degree in increasing understanding, but at the expense of some matters of fact.

Another major challenge is to ensure that New Zealand *domestic* policy makes sense, both in terms of the government's overall environmental, eco-

nomic and social strategy, but also in terms of the international policy context. Kyoto made clear that, with the prospect of international emissions trading, New Zealand would have an opportunity to develop a compatible domestic emission trading regime. Gillespie's article does not address trading, yet it is a central part of the developing stance of New Zealand, both domestically and internationally.

Finally, perhaps the biggest policy challenge is to help to push forward positive solutions to what *New Scientist* recently described as the biggest environmental issue of our time. In the widest sense, Gillespie's article helps — to raise the level of debate — and is welcomed. Our view is that New Zealand has made (particularly in the international context) a good contribution to solution development, and will continue to do so, both on the international and domestic fronts, as we work on and try out innovative ideas that can make a difference. .