

LEGISLATION AND TREATY NOTES

Kyoto Protocol to the United Nations Framework Convention on Climate Change

The Road to Kyoto: FCCC and the Berlin Mandate

This note canvasses the salient provisions of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (FCCC),¹ adopted on 11 December 1997 at the Third Conference of the Parties to the FCCC, in Kyoto, Japan. The note concludes with a few tentative comments about the implications of the Protocol for New Zealand. The Kyoto Protocol aims to impose, for the first time, legally binding greenhouse gas (GHG) emission reduction obligations on certain nations, and provide an improved framework for implementing, monitoring and verifying emission reductions. New Zealand is a party to the FCCC, and signed the Kyoto Protocol on 22 May 1998. However, it is presently unclear whether New Zealand will ratify the Protocol given the fragile consensus behind this instrument. The Kyoto Protocol is likely to be amended at further meetings of its signatories, although a protocol of some form will almost certainly enter into force eventually.

The adoption of the FCCC at the United Nations Conference on Environment and Development in June 1992 was made with the expectation that additional legislative instruments would eventually be formulated to provide more stringent and detailed obligations to address climate change issues. This would occur principally in response to improved scientific knowledge about the magnitude of global climate change and its ecological sequelae, and with reconciliation of differences between states, especially between developing and developed countries, over the allocation of responsibilities to mitigate GHG emissions. Article 2 of the FCCC provides, in part, that the:

... [U]ltimate objective of this Convention and any related legal instrument that the Conference of Parties may adopt is to achieve ... stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved in a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

1 37 ILM 22 (1998); FCCC 31 ILM 849 (1992).

Thus, the overall objectives of the treaty regime have been framed narrowly in anthropocentric terms of managing and containing climate change so that human economic systems can adjust with minimal disruption.² Despite this focus, negotiations to draft the FCCC were severely hampered by profound differences between developing countries and the advanced industrialised states over their respective responsibilities to address the problem. Many developing countries (eg, Malaysia and Brazil) have argued that responsibility lies overwhelmingly with Western countries because the threat of climate change is the result of their polluting economies and only they have the technological and financial capacity to mitigate the problem.³ Because the negotiating parties were unable to agree to precise commitments to reduce GHG emissions, they chose to follow the successful model used in the ozone treaty regime,⁴ involving establishment of a framework convention and development of subsequent protocols containing hard obligations, adopted as scientific consensus and political will improved.

The FCCC attempted to unify parties through the concept of “common but differentiated responsibilities and respective capacities” according to which developed country parties “should take the lead in combating climate change and the adverse effects thereof” (Art 3(1)). Thus, developed country parties (listed in FCCC Annex I — hence known as “Annex I countries”) are required to adopt national policies and measures to limit anthropogenic emissions of GHG emissions and protecting and enhancing greenhouse sinks (Art 4(2)(a)). These actions are to be made with “the aim of returning individually or jointly to their 1990 levels” these anthropogenic emissions (Art 4(2)(b)).⁵

The FCCC entered into force on 21 March 1994, with one hundred and sixty-nine states parties (including the European Community) by the time of the Kyoto meeting. In recognition of the preliminary nature of the FCCC achievements, the Convention provided in Article 4(2)(d) for a review of the adequacy

- 2 For more detail, see Bodansky, D., “The United Nations Framework Convention on Climate Change: A Commentary” (1993) 18 *Yale Journal of International Law* 451; Taylor, P., *An Ecological Approach to International Law: Responding to Challenges of Climate Change* (1998).
- 3 See, eg, Zheng-Kang, C., “Equity, Special Considerations, and the Third World” (1990) 1 *Colorado Journal of International Law and Policy* 57, 61–63.
- 4 Vienna Convention for the Protection of the Ozone Layer [26 ILM 1516 (1985)], Montreal Protocol on Substances that Deplete the Ozone Layer, as amended [26 ILM 1541 (1987)]. See Lawrence, P.M., “International Legal Protection for Protection of the Ozone Layer” (1990) 2(1) *Journal of Environmental Law* 17; Downie, D.L., “Road Map or False Trail? Evaluating the Precedence of the Ozone Regime as a Model and Strategy for Global Climate Change” (1995) 7(4) *International Environmental Affairs* 321; Oberthur, S., “Montreal Protocol: 10 Years After” (1997) 27(6) *Environmental Policy and Law* 432.
- 5 Other obligations assumed by developed country parties rather than all parties include responsibility for financing technology transfer to developing countries (Art 3(3) and (5)), and for providing financial aid to help developing states to fulfil their reporting requirements (Art 4(3)).

of the FCCC at the First Conference of the Parties (COP; COPs are identified by adding a number to the end, so thus the first COP is designated COP 1). At COP 1 in Berlin, in April 1995, the commitments in Articles 4.2(a) and (b) of the FCCC were generally acknowledged as inadequate to achieve the FCCC's objective, and there was felt a need to "set quantified limitation and reduction objectives within specified time frames ... for anthropogenic emissions by sources and sinks of greenhouse gas emissions". Between 1990 and 1995, global carbon dioxide (CO₂) emissions grew by 12%, partly because of significant rises from developing countries including a 30% increase in the Asia-Pacific region (excluding Australia, New Zealand and Japan).⁶ The Berlin meeting also saw a need to revise existing international law because the FCCC contained no provision relating to GHG emissions for the period after 2000. Although there was an absence of consensus at Berlin to allow the negotiation of a supplementary protocol, the participants did agree to initiate a process to revise the FCCC known as the "Berlin Mandate". This process would be governed by, inter alia, the following principles:

- allow for the legitimate needs of developing countries for the achievement of sustained economic growth and the eradication of poverty;
- recognise that developed countries are responsible for the largest share of historical and current global emissions of GHG emissions;
- aim to set quantified limitation and reduction objectives within specified time-frames for GHG emissions;
- not introduce any new commitments for developing countries (non-Annex I parties); and
- carry out the process in the light of the best scientific information and assessment on climate change and its impacts, including the reports of the International Panel on Climate Change.⁷

In formulating the Berlin Mandate, the international community had ostensibly recognised the urgent need to achieve further commitments to address global climate change.⁸ A new institution, the Ad Hoc Group on the Berlin Mandate, was established to begin negotiations for the drafting of the new legal instrument, with the aim for adoption at COP 3. The resulting *Kyoto Protocol*, however, arguably falls considerably short of meeting the ambitions of the Berlin Mandate.⁹

6 Ministry for the Environment (MfE), *The State of New Zealand's Environment 1997* (1998) 5.54.

7 Decision 1/CP.1 (UN Doc.FCCC/CP/1995/7/Add.1). See also Oberthur, S. & Ott, H., "The First Conference of the Parties" (1995) 25(4) *Environmental Policy and Law* 144.

8 Bromm, C., "Facilitating Joint Implementation Under the Framework Convention on Climate Change: Toward a Greenhouse Gas Emission Reduction Protocol" (1997) 14(5) *Environmental and Planning Law Journal* 356.

9 "Kyoto Could Have Achieved Much More, Expert Says", *Japan Times*, 12 December 1997 <<http://www.japantimes.co.jp>>.

The Kyoto Protocol Text

Structure and substantive obligations

By the time the Kyoto COP began on 1 December 1997, there were still considerable differences among states over the architecture of the proposed Protocol.¹⁰ Although an instrument was formulated, much of its detail has been left for elaboration at subsequent COPs (of future parties to the Kyoto Protocol and not the FCCC). The Kyoto Protocol is a poorly drafted document, reflecting the hastiness of the final drafting process and the attendant political disagreements among the negotiating parties.¹¹ The Protocol has the following basic structure.¹² Article 1 contains definitions of terms used in the instrument. Articles 2, 3, 5 and 7 posit substantive obligations of Annex I States. Article 10 refers to the basic FCCC commitments for all parties to the Protocol. Article 11 essentially restates FCCC Articles 4(3) and 11 concerning financial assistance to developing country parties to implement commitments. Articles 9, 13, 14, 15 and 16 concern the institutional roles of the Convention's COPs, Secretariat and subsidiary bodies and processes with respect to the Protocol. Articles 4, 6, 12 and 17 allow the use of various economic instruments to reduce GHG emissions. Articles 18 and 19 deal with compliance and dispute resolution procedures. Finally, Articles 20–28 provide standard treaty-based clauses including amendment, entry into force, voting, reservations, and withdrawal. Annex A lists GHGs covered by the Protocol, and Annex B lists the emission reduction targets for Annex I countries.

Most importantly, the Kyoto Protocol provides for emission reduction obligations on developed country parties and other parties “undergoing the process of transition to a market economy” (together listed in Annex I). The Protocol's core obligation is that Annex I parties¹³ “shall individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions” of specified GHGs “do not exceed their assigned amounts” (Art 3(1)). The Protocol

10 MfE, “Major Climate Change Issues Not Resolved Before Meeting” (1997–1998) *Environmental Update: Newsletter of the Ministry for the Environment*.

11 See “Drastic Cuts Urged to Stabilize CO₂ Emissions”, *Japan Times*, 5 December 1997; “Delegates Remain Far Apart on Fundamental Issues”, *Japan Times*, 5 December 1997.

12 The text adopted at the Conference did not represent the final version of the Protocol owing to last-minute negotiations, and the Articles were renumbered after technical corrections were made to the text. The final version was issued at: UN Doc.FCCC/CP/1997/7/Add.2.

13 The Annex I countries are Australia, Austria, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Denmark, Estonia, the European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, the Ukraine, the United Kingdom and the United States.

emission reduction objectives cover six gases, listed in Annex A.¹⁴ Three of these gases are of synthetic origin, for which slightly different rules apply under the Protocol. Gases are to be combined on a CO₂-equivalent basis, averaged over the specified commitment period of 2008–2012, and then compared with a baseline of emissions in 1990. In other words, gases are aggregated according to their global warming potential and states may choose to make reductions in whichever gas or combination of gases they choose so long as they are within their overall assigned amounts. These “assigned amounts” are the quantified emission limitation and reduction commitments inscribed for each Annex I party, with a view to reduce the overall emissions of all Annex I parties “by a least 5% below 1990 levels in the commitment period 2008 to 2012” (Art 3(1)). Annex B enumerates the emission reduction targets for each Annex I country, which are listed as percentages of base year emission levels. Thus, for example, the target for Canada, which is listed as 94, corresponds to a 6% reduction from 1990 levels (or from 1995 levels for the three synthetic GHGs, explained below). The targets vary from an 8% reduction (ie, 92) in the base year emissions level for the European Community to a 10% increase (ie, 110) in the base year emissions level for Iceland.

Instead of a single year set target for emission reductions, the Protocol establishes a cumulative target that applies to a multiyear “commitment period”. The first commitment period is designated 2008–2012 (Art 3(7)). This multiyear formula was created to give parties more latitude in meeting their emission reduction commitments and to take into account annual fluctuations. Commitments for further emissions reductions in subsequent periods will be established by amending the Annex with the amendment procedure provided for in Article 20.

The Kyoto Protocol is significant in that it addresses all the main GHG emissions not covered by the Montreal Protocol on Substances that Deplete the Ozone Layer (1987). The inclusion of three synthetic GHGs (namely HFCs, PFCs and SF₆) was a contentious matter because they are used as substitutes for the stratospheric ozone-depleting chemicals controlled by the Montreal Protocol. However, from a climate change perspective these gases pose a significant threat because of their potent radiative forcing effects and longevity in the atmosphere. Given this dilemma, it was resolved, as a compromise, that Annex I countries could use 1995 as the base year for emissions reductions of these gases (Art 3(8)).

In achieving these emission reductions, Annex I parties may implement and/or elaborate policies and programmes, such as energy efficiency measures (Art 2(1)(a)(i)), protection of carbon sinks and reservoirs, afforestation and reforestation activities (Art 2(1)(a)(ii)), sustainable forms of agriculture (Art

14 The regulated gases are: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

2(1)(a)(iii)), the promotion of research and development of technology limiting emissions (Art 2(1)(a)(iv)), and programmes to reduce emissions in the transport sector (Art 2(1)(a)(vii)). The list is illustrative, rather than mandatory. However, this reference to specific policies and activities represents an advance on the FCCC's generality.

The Kyoto Protocol may be criticised for not providing a framework for attaining long-term *global* emission-reduction goals because of the absence of any substantive obligations on developing nations and the differentiated commitments of developed countries.¹⁵ In the negotiations, New Zealand advocated a "least-cost" approach to the imposition of new commitments, on the basis that the Protocol needed to be sufficiently flexible to accommodate the different circumstances of states parties if it were to be a durable agreement. Under the Protocol, members of the European Union must reduce their emissions by 8%; Japan by 6%; and the United States by 7%. Other developed countries face smaller reductions or no reductions. For example, New Zealand is not required to decrease its emissions below 1990 levels, whilst Australia obtained consent to an 8% increase on the base year. Special concessions are also made to Annex I countries "undergoing the process of transition to a market economy" (Central and Eastern European States).¹⁶ Developing countries, including predicted major GHG emitters such as China and India, are asked to set voluntary reduction targets under the Kyoto Protocol. Article 10 states that no new commitments are to be imposed on non-Annex I countries but it seeks to "advance the implementation" of their FCCC commitments through such mechanisms as improved transfer of environmentally sound technologies and updating of national inventories of GHG emissions.

Implementation mechanisms

Drawing on the experience of the successful ozone treaty regime, the Kyoto Protocol introduces a number of mechanisms that provide flexibility in the means to implement the emission reduction obligations in Article 3. These include the following items:

1. Taking account of carbon sequestration from land use changes and forestry when calculating emissions. Article 3(3) requires parties to fulfil their obligations by reference to "the net changes in greenhouse gas emissions from sources and removals by sinks resulting from direct human-induced land use

15 "But Washington Still Wants Developing World to Participate", *Japan Times*, 8 December 1997.

16 Article 3(5). These states may use a base year other than 1990 if already agreed by the Conference of the Parties to the FCCC, or subsequently agreed by the Conference of the Parties to the Protocol.

change and forestry activities, limited to afforestation, reforestation and deforestation since 1990, measured as verifiable changes in stocks in each commitment period". By only accounting for land use and forestry changes since 1990, the Protocol rewards countries that are increasing their forest sinks, and penalises those countries whose sinks are decreasing through deforestation and related activities. However, to compensate those countries that had net emissions from land use and forestry before 1990, due to deforestation, they may include those emissions in their 1990 base year, which has the effect of correspondingly increasing their allowed emissions (Art 3(7)).

2. Article 3(13) provides for the "banking" of emission credits; if the emissions of an Annex I party during a commitment period are less than its assigned amount, this difference can be added to that party's assigned amount for subsequent commitment periods.
3. Joint fulfilment of commitments can be achieved by Article 4 which provides that any parties that have "agreed to jointly fulfil their commitments under Article 3" shall be deemed to have met those commitments provided that their total combined aggregate emissions do not exceed their assigned amounts. This provision was proposed by the European Union which wished to use a regional approach to achieving Protocol commitments (allowing, for example, for poorer members such as Greece and Spain to increase emissions with off-setting reductions by Germany and Austria).
4. Joint implementation of emission reduction obligations is also facilitated by Article 6, and accounted for in Article 3(10) and 3(11). Through these provisions, any Annex I party may transfer to, or acquire from, any other Annex I party, "emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy". Various preconditions to such transfers are prescribed, including that any reduction be "supplemental to domestic actions" (Art 6(1)(d)).
5. Article 12 establishes a "clean development mechanism" (CDM), to assist developing countries (non-Annex I parties) achieve sustainable development and contribute to the ultimate objective of the Convention. The CDM essentially allows Annex I parties to fund specific projects in developing countries in order to achieve additional reductions (that would not have otherwise occurred) and to credit those reductions to their own emission reduction obligations under Article 3. Such projects, which may involve private or public entities, are to be subject to stringent auditing and verification procedures elaborated at subsequent COPs. The advantage of this procedure is that projects to reduce GHG emissions in developing countries may often be cheaper to finance than in Annex I countries. They may also allow for Western financial investment in environmentally sound technology in developing

- countries (Art 12(8)). A potential concern is that the CDM may be exploited by Annex I states in order to eschew making necessary structural changes to energy use in their own domestic economies. The Protocol acknowledges this to the extent that it provides that such projects will only contribute to “part” of the emission reductions of participating Annex I states (Art 12(3)(b)).
6. In comparison to project-based trading authorised under Article 6, a target-based emissions trading system is allowed under Article 17, and accounted for in Article 3(10) and 3(11). Article 17 allows Annex I countries to participate in emissions trading for the purpose of fulfilling their commitments, but such trading is to be “supplemental to domestic actions”. If, for example, New Zealand risked exceeding its emission quota under the Protocol, it could purchase some or all of any unused quota of another developed country. New Zealand would then be able to use this emission credit to increase its total allowable emissions.¹⁷ The rules to govern trading are not specified and are expected to be formulated at a subsequent COPs. The undeveloped nature of emissions trading rules reflected disagreement over their application.¹⁸ China and India expressed concern that the trading mechanism could allow industrial states to eventually purchase emission credits from developing countries and thereby avoid taking action at a domestic level to reduce emissions.¹⁹
 7. Article 11 reiterates the FCCC obligation of developed countries to provide financial resources to meet the agreed full costs incurred by developing country parties in advancing implementation of their commitments.

Compliance: reporting and verification

The vagueness of some of the Protocol’s primary obligations and supporting implementation mechanisms will make its monitoring and reporting provisions critically important for verifying parties’ efforts. The Kyoto Protocol contains a number of compliance mechanisms that build on the FCCC structure. In addi-

17 See generally, Betram, I.C., “Tradeable Emissions Permits and the Control of Greenhouse Gases” (1992) 28(3) *Journal of Development Studies* 423; Farr, J.C., “Can Emissions Trading Work Beyond a National Program? Some Practical Observations on the Available Tools” (1997) 18(2) *University of Pennsylvania Journal of International Economic Law* 463; Manne, S.S. & Rutherford, T.F., “International Trade in Oil, Gas and Carbon Emissions Rights: An International General Equilibrium Model” (1994) 15(1) *Energy Journal* 57.

18 The Working Group III of the Intergovernmental Panel on Climate Change reported as early as October 1989 that: “... of all the instruments examined, the system of tradeable emissions rights came in for the most attention and must be considered most promising. It offers the advantages of flexibility, efficiency in pollution abatement, direct control of total emission levels, a mechanism for reduction in different gases, and incentives for research into pollution abatement technology”: IPCC WG3-11/Doc. 3.

19 *Earth Negotiations Bulletin*, 13 December 1997, 12(76), 15-17.

tion to the new legally binding GHG emission reduction commitments, the Protocol has considerably improved the Convention's mechanisms through more stringent reporting mechanisms, a more critical and comprehensive review process and mandating the development of procedures to address instances of non-compliance. Compliance is also likely to be improved given the range of flexible, market-based implementation mechanisms authorised by the Protocol. This flexibility should enhance compliance as each party may design its own approach in light of its particular environmental, political, and economic circumstances.

Most fundamental to the enhanced compliance system is Article 5 which requires parties to have in place a national system for the estimation of anthropogenic emissions by sources and removals by sinks of GHGs. This system must be in place at least one year prior to the beginning of the first commitment period, ie, by 2007 (Art 5(1)). The Protocol also requires parties to apply the standardised International Panel on Climate Change (IPCC) methodologies for the compilation of national GHG inventories (Art 5(2)). To encourage greater accuracy and transparency, the Protocol requires that the inventories of parties that fail to adopt these IPCC methods must be adjusted to allow for any uncertainty (Art 5(2)).

The Protocol expands upon the FCCC's reporting requirements²⁰ by including additional information to enable the annual accounting of cumulative emissions targets and international GHG emission trading. Article 7(1) requires parties to include in their annual national inventories of GHG emissions the "necessary supplementary information for the purpose of ensuring compliance with Article 3", to be determined at subsequent COPs. An annual inventory of emissions must be submitted to the Convention Secretariat (Art 7(1)).²¹ Article 7(2) requires each party to include in this communication information necessary to ensure compliance with all its obligations under the Protocol. Guidelines to specify the additional information will be formulated at the next COP.

Information supplied by each party is to be reviewed by "expert review teams", nominated by the parties to the Protocol and coordinated by the Secretariat (Art 8(1)). The expert teams are to provide a thorough and comprehensive technical assessment of all aspects of implementation by a party of the Protocol, and to identify any potential problems that a party might have in meeting its obligations (Art 8(3)). The Secretariat will forward any problems identified for consideration of COPs (Art 8(3)), which may take decisions on any matter required for implementation of the Protocol (Art 8(6)). Guidelines for the operation of the expert review teams are to be developed at subsequent COPs (Art 8(2)).

20 These are: (i) annual inventories and accounts of GHG emission budgets; and (ii) periodic national communications that detail all aspects of parties' implementation of the FCCC.

21 The Secretariat is housed in Bonn, Germany. Its postal address is PO Box 260 124, D-53153, Bonn, Germany.

The Protocol is somewhat deficient in respect of addressing the consequences of non-compliance. Article 18 requires the parties to establish appropriate and effective procedures to determine and address cases of noncompliance, including preparation of an “indicative list of consequences” for noncompliance. In developing this list, the parties must take into consideration “the cause, type, degree and frequency of noncompliance”. However, the Protocol requires that procedures of mechanisms that involve binding consequences for non-compliance may be adopted by the parties only by amending the Protocol (Art 18).

Fate of the Protocol

Although some consensus was achieved at Kyoto, this should not disguise the very deep divisions that plagued negotiation of the Protocol. These divisions will invariably resurface when the parties meet to formulate the subsidiary rules, guidelines and methodologies required by the Protocol. Major areas of contention at Kyoto were reduction targets, use of carbon sinks, emissions trading and joint implementation mechanisms, and treatment of developing countries. Disagreements between the European Union and the United States on the size of emission reduction targets were fuelled by US concerns that anticipated growth in developing country-source emissions would overwhelm any progress made by developed nations. New Zealand argued vigorously that the Protocol’s emissions reduction obligations should extend to developing countries.²² Although the issue of setting reduction targets for developing countries was postponed at Kyoto, the creation of the “clean development mechanism” may entice some developing countries to opt in.

The final text of the Protocol falls considerably short of the aspirations of many environmental and scientific organisations who argued for much deeper and earlier cuts of GHGs.²³ The IPCC, the main scientific advisory body on climate change, has said at least a 60% cut in emissions is required to prevent the continued build-up of GHGs in the atmosphere.²⁴ Of particular concern to these organisations is the use of the “net approach” to measure emissions reductions, which may lead to avoidance of more profound, structural changes to energy use to curb emissions. The net approach is a method of calculating emissions by

22 *Earth Negotiations Bulletin*, 13 December 1997, 12(76), 34–35.

23 See Global Climate Coalition homepage, <<http://www.climatefacts.org>>; “Developed Nations Reach Tentative Pact”, *Japan Times*, 10 December 1997.

24 Intergovernmental Panel on Climate Change (IPCC), *Climate Change 1994: Radiative Forcing of Climate Change and an Evaluation of the IPCC 1992 Emission Scenario* (1995) 12–14, 19–24; see also: IPCC, *Climate Change 1995: Impacts, Adaptations and Mitigation* (1996); IPCC, *The Science of Climate Change: Summary for Policy Makers* (1996).

subtracting the amount absorbed by trees (carbon sequestration) from the total amount of emission released. Scientists have cautioned against the introduction of the net approach on grounds that there is presently no credible method of calculating the absorption of GHGs.²⁵ Under the Protocol, only forest plantings since 1990 are recognised in calculating net reductions (Art 3(4)). The inclusion of forest sinks in the Protocol was opposed by many countries, but was eventually included as a concession to New Zealand, Australia and several other countries (see further Alexander Gillespie's article at p 233 in this issue).

It is unclear whether the Protocol in its current form will come into force. The Protocol became open for signature on 16 March 1998, and pursuant to Article 24 it will come into force ninety days following ratification by fifty-five parties to the FCCC, which must incorporate Annex I parties which account for at least 55% of the total CO₂ emissions of Annex I parties in 1990. Article 25 states that no reservations may be made to the Protocol. The US and some European Union countries have already given notice that they will defer ratification until crucial outstanding elements have been negotiated (such as the detailed emission trading rules). The first follow-up conference to Kyoto (COP 4) is scheduled for November 1998 in Buenos Aires, Argentina. This meeting will focus on the development of rules and guidelines for emissions trading, the CDM, and reporting and accountability processes. The conference may also debate widening the number of countries required to undertake emissions reductions. Despite the express wish of moderates, like Argentina and Mexico, and some South Pacific island states, to consider playing a greater part in emission reduction schemes, China and other countries in the "developing country" camp appear unlikely at this stage to participate.

Implications for New Zealand

New Zealand produces about 0.2% of global GHG emissions,²⁶ or per capita CO₂-equivalent emissions (comprising CO₂, methane and chlorofluorocarbons) of 4.42 tonnes compared to a global average of 2.59 tonnes of CO₂-equivalent per person.²⁷ Excluding developing country emissions, New Zealand's emissions are modest compared to other industrialised nations. However, New Zealand has been relatively unsuccessful in reducing its emissions to 1990 levels, in accord-

25 See United Nations, *Methodological Issues: Synthesis of Information from National Communications on Sources and Sinks in the Land-Use Change and Forestry Sector FCCC/TP/1997/5* (1997) 10.

26 Energy Foundation of New Zealand, *Global Warming: An Alternative Perspective* (1993) 20.

27 World Resources Institute, United Nations Environment Programme, *World Resources 1994-1995: A Guide to the Global Environment* (1994) 201-203.

ance with the FCCC. In its 1997 national report under the FCCC, it was revealed that New Zealand's gross CO₂ emissions from 1990 to 1995 rose by 7% (the rise is more significant if the parallel decline in performance of forest sinks is taken into account).²⁸ During this period there has, however, been a 4% decline in emissions from methane and nitrous oxide, mainly because of a decline in sheep numbers following removal of price subsidies and a slump in global market conditions.²⁹ This failure to address CO₂ emissions is documented in the *State of the New Zealand's Environment 1997* report:³⁰

Between 1990 and 1995 our yearly "gross" carbon dioxide emissions increased by about 7 percent as economic growth increased. At the same time, the amount of carbon absorbed annually by plantation forests fell by 34 per cent as more trees than expected were harvested and fewer planted. ... As a result, New Zealand's "net" carbon dioxide emissions in and beyond the year 2000 will remain above the 1990 level ...

New Zealand, along with Australia and a few other countries, is not required by the Kyoto Protocol to make further emission reductions beyond the FCCC floor. Australia led the quest for a differentiated response to the climate change problem; the Australian government argued that the country's substantial mineral processing and energy export industries entitled it to preferential treatment.³¹ New Zealand also pleaded for special treatment. At the Kyoto conference, the Minister for the Environment, the Hon Simon Upton, argued that New Zealand faced comparatively higher marginal costs of abatement and thus deserved preferential treatment in the setting of emission reduction targets. He stated:³²

New Zealand supports a legally binding target for the reduction of greenhouse gases by Annex 1 countries. New Zealand believes a reduction of 5% below 1990 levels is achievable and realistic within a decade. ... However, a number of factors make action by New Zealand more expensive than other developed nations. In a nutshell, some of the easy steps available to others aren't available

- 28 MfE, *Climate Change: The New Zealand Response II* (1997) 7; see also Gillespie, A., "Burning Follies: The Creation and Failure of the New Zealand Response to Climate Change" (1997) 1 *NZJEL* 43; Ministry of Foreign Affairs and Trade, *Third Meeting of the Ad-Hoc Group on the Berlin Mandate and the Second Meetings of the Subsidiary Bodies: New Zealand Delegation Brief* (1996) 2.
- 29 MfE, *Climate Change: The New Zealand Response II* (1997) 8.
- 30 MfE, *The State of New Zealand's Environment 1997* (1998) 5.52.
- 31 Senator the Hon Robert Hill, "Kyoto Agreement a Win for the Environment", *Press Statement*, 11 December 1997, Kyoto, Japan. For further details on Australian developments, see Gumley, W.S., "Legal and Economic Responses to Global Warming — An Australian Perspective" (1997) 14(5) *Environmental and Planning Law Journal* 341.
- 32 Minister for the Environment, Hon. Simon Upton, "Statement on Behalf of the Government of New Zealand", 8 December 1997, Kyoto, Japan (reproduced in New Zealand Executive Government Speech Archive <<http://www.executive.govt.nz/minister/upton/>>).

to us. We can't cancel any subsidies for fossil fuel production because we don't have any subsidies. We don't have inefficient coal fired power stations that we can replace with efficient gas fired ones: over 80% of our electricity is already generated from renewable resources.

The Minister advocated a global emissions trading regime that included using forest carbon sinks in calculating emission reductions. Following the conclusion of the conference, he suggested New Zealand's commitment to additional obligations would be tied to development of the Protocol's economic instruments:³³

Tradeable emission permits are, in our view, vital to any real progress under the Protocol. Until we know whether the rules on trading are sensible ones, we won't be signing up to a more ambitious target. ... Economic modelling suggests that it is relatively more costly to reduce emissions here than in most other developed countries. That's because of our relatively green electricity generation sector. Whereas the Europeans are conveniently closing down clapped-out and inefficient coal-fired power stations, we have a very high percentage of our electricity generated from renewable resources. Unrestricted trading would give New Zealand access to much lower cost abatement opportunities than exist here alone ...

At the end of the day, it will be technologies not targets that reduce emissions. Those technologies could emerge quickly or slowly depending on how we signal the risk of climate change. Harnessing rather than hindering the dynamism and innovation of the marketplace should be the aim of future climate negotiations.

To date, the New Zealand government's policy on stabilising GHG emissions has primarily comprised:

- voluntary agreements with industry to promote energy efficiency and greater use of renewable energy;
- development of strategies by the Energy Efficiency and Conservation Authority to enhance efficiency in energy use;
- use of the Resource Management Act 1991 to control resource consents, such as for the Stratford power station in Taranaki;
- encouragement of increased carbon storage in plantation forests.³⁴

The ostensible failure of these measures to meet the modest requirements of the FCCC will require the government to take a more interventionist approach. Reliance on the "net approach" of using forests sinks has been pilloried for its

33 Minister for the Environment, Hon Simon Upton, "Reflections on the Kyoto Climate Change Convention", 29 December 1997, New Zealand (reproduced in New Zealand Executive Government Speech Archive <<http://www.executive.govt.nz/minister/upton/>>).

34 For more detail, see Gillespie, A., *Burning Issues: The Failure of the New Zealand Response to Climatic Change* (1997).

departure from the requirements of the FCCC to address emissions by sources *and* removal by sinks.³⁵ The use of sinks as a primary emission control tool has also been questioned on scientific and economic grounds. The introduction of a more interventionist approach could encompass the earlier abandoned promise to introduce a carbon charge, which was canvassed by the Ministry for the Environment's Working Group on Carbon Dioxide Policy.³⁶ Additional measures will be needed to address methane emissions (eg, through a landfill tax), a major component of this country's GHG emissions, but a source largely neglected by existing government strategies. The references to tradeable emissions and other economic instruments in the Kyoto Protocol may suggest that market mechanisms may be gaining acceptance as primary tools to ensure internalisation of environmental costs and reduction in atmospheric pollutants.

*Benjamin J. Richardson**

35 Bosselmann, K., "Power, Plants and Power Plants: New Zealand's Implementation of the Climate Change Convention" (1995) 12(6) *Environmental and Planning Law Journal* 423.

36 MfE, Working Group on Carbon Dioxide Policy, *Climate Change and CO₂ Policy: A Durable Response* (1996).

* Lecturer in Environmental Law, the University of Auckland.