Climate Change Policy and New Zealand's 'National Interest': the Need for Embedding Climate Change Policy Into a Sustainable Development Agenda

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CLIMATE CHANGE POLICY AND NEW ZEALAND'S 'NATIONAL INTEREST': THE NEED FOR EMBEDDING CLIMATE CHANGE POLICY INTO A SUSTAINABLE DEVELOPMENT AGENDA

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Abstract: *In recent times, the New Zealand government has publicly strengthened its commitment to combating climate change by adopting a range of strategies, ambitious targets and an emissions trading scheme. Moreover, it has proclaimed an aspiration for New Zealand to become the first 'truly sustainable' country in the world. The article assesses these initiatives and claims against the background of the government's performance with regard to the promotion of sustainable development which, the author argues, has been weak. The measures adopted to combat climate change are largely of a technical and managerial nature and do not address the underlying causes of the wider environmental problematique. Although the policies adopted may help mitigate greenhouse gas emissions, they are likely to fall short of the reductions required. Furthermore, on their own, they will not set New Zealand on the path to become a 'truly sustainable' country; following that path is an increasingly difficult task given a globalised economy and the continuing dominance of the belief that infinite economic growth is both desirable and possible.*

Keywords: *New Zealand, climate change policy, sustainable development, environmental space*

INTRODUCTION

As in many other countries, climate change has become a 'first order' issue on the agenda of the New Zealand government. Whilst the recognition of climate change as a serious issue can be seen as a positive development, it also poses risks. It is not just that climate change tends to 'crowd out' other environmental issues, but that it becomes the *defining* issue for what the environmental problematique is about. The predominant response to climate change, also in New Zealand, is based on a narrow interpretation of what the challenge is: reducing greenhouse gas (GHG) emissions in the most cost-effective way. Increasingly, climate change is portrayed as a (potentially) significant economic threat. In line with this view, New Zealand's policy response is circumscribed by economic interests, often under the cloak of the 'national interest'. This response curtails the integration, of climate change policy into the broader challenge of sustainable development, which implies and requires addressing environmental issues, and their economic and social causes, in a more comprehensive, meaningful and effective ay.

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Although I do not wish to deny that reducing greenhouse gas emissions is imperative to mitigate the effects of global warming, or that it is wrong to do so in a cost-effective manner, I also think that it is crucially important to embed this imperative within a broader sustainable development agenda. Not doing so, or doing so inadequately, carries the risk of shifting, aggravating or causing more environmental and social problems and undermines the effectiveness of climate change policies. More fundamentally, the narrow interpretation of 'the climate problem', and the focus on technological, managerial and economic 'solutions' for reducing GHG emissions, diverts attention from the underlying causes, drivers or factors that are not only responsible for (rising) emissions, but also for a raft of other environmental problems, and for the unsustainable path the world is on.

While the New Zealand government has made many statements that indicate a commitment to sustainability and sustainable development, these have not been translated into an operative sustainable development strategy and/or into adequate capacity building for developing and implementing such a strategy. In part, this can be attributed to the prevailing interpretation of the notion of sustainable development, which is based on the convenient myth that economic growth and environmental sustainability are compatible or even complementary. As a result, environmental problems, including climate change, continue to be tackled in a largely reactive and fragmented manner, whilst the underlying factors driving many of these problems are not being addressed.

The main argument advanced in this paper is that the New Zealand government's response to climate change, even if combined with similar responses of most other governments in the world, may result in lowering GHG emissions, but will not lead to sustainability, neither in New Zealand nor the world as a whole. The argument will be supported by: first, describing, in general terms, the case for embedding climate change policy into a broader policy framework; second, describing and assessing the New Zealand government's climate change policy and the extent to which it is fitted within a broader policy (sustainable development) framework; and third, discussing some of the underlying issues and obstacles to a more integrated approach that also addresses the causes of 'unsustainability'.

THE NEED FOR EMBEDDING CLIMATE CHANGE IN A BROADER POLICY FRAMEWORK

There is increasing, if inadequate, recognition that climate change is one of many environmental problems that require a more comprehensive and integrated approach. The main reasons for taking such an approach are: the creation of policy synergies, policy harmonisation, and identification of common causes.

'Policy synergies' relate to the existence of 'positive externalities' associated with a course of action. In this case, measures to combat climate change may have positive effects other than helping to mitigate global warming, while policies aimed primarily at issues other than climate change may also assist the cause of tackling climate change. The development of a comprehensive policy framework facilitates the identification of potential synergies and enables optimal exploitation of such opportunities, thus contributing to the enhancement of efficiencies in the achievement of policy objectives. Examples where climate change policies can contribute positively to, and benefit from other policies can be found in the protection of forests and biodiversity, the promotion of energy security (by a greater reliance on local, renewable energy resources), the protection of land from erosion (by planting or regeneration of vegetation), the

promotion of healthier homes (by improving insulation), increasing fuel efficiency (saving money), and reducing air pollution (by reducing the use of coal, increasing energy efficiency).[2]

Policy harmonisation refers to the need to reduce the potentially adverse effects ('negative externalities') of policies on each other. For a start, the primary objectives of different policies may be in conflict with each other. As policy development almost always involves dealing with conflicting views and interests, this is quite common and probably to some extent inevitable. But it does potentially undermine the effectiveness of policies and therefore needs to be minimised. This is a political challenge that may involve re-arranging priorities, amending policy objectives to accommodate other concerns or, more fundamentally, re-orienting and re-designing the core of policies. Second, even if the explicit *objectives* of different policy areas do not seem to be in conflict with each other, the *means* by which these policies are implemented may be. For instance, financial-economic policies may use 'tax cuts' while advancing policy objectives in other areas may require additional government spending and revenue. The selection of policy instruments is as 'political' as the choice of objectives, making it desirable to consider both together across the spectrum of policies.

The need for policy harmonisation is very apparent with regard to climate change policy. Energy, transport, urban planning, industry, agriculture, trade, tourism, population and economic policies all affect GHG emissions. Many of these other policies are driven by their own rationales, which often include a commitment to growth and expansion, an objective that has the potential to diminish or even negate the gains achieved by a climate change policy. On the other hand, climate change policies may have undesirable social and political effects, for instance, by disproportionately burdening the poor and increasing inequity (by raising the price of petrol, heating and energy in general). Harmonisation is therefore not only necessary to iron out differences between climate change policy and non-environmental policies, but also to reduce the potential that climate change policies will have adverse effects on other environmental problems and policies.

The negative externality effects of climate change policy may be less obvious than the positive externalities mentioned above, but they can be significant. For instance, tropical forests, 'scrubland' or areas with regenerating forests may be cleared for plantation forests to gain carbon credits (with adverse effects on biodiversity).[3] Similarly, many environmentalists would consider the adoption or expansion of nuclear power generation as (part of) a solution to reduce GHG emissions environmentally unacceptable.[4] Another example can be found in genetic engineering to create plants that are better able to cope with changing climatic conditions, but which have the potential to create new and serious ecological problems.[5] Other innovative means aimed at tackling climate change in isolation from other environmental issues are equally environmentally suspect. For instance, Carbon Capture and Storage (CCS)[6] and some other 'brilliant ideas', such as

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[2] David Jones, 'Trading for Climate without Trading Off on the Environment: An Australian Perspective on Integration between Emissions Trading and Other Environmental Objectives and Programs', *Climate Policy*, Vol.3, No. Supplement 2 (2003); Rob Swart, John Robinson and Stewart Cohen, 'Climate Change and Sustainable Development: Expanding the Options', *Climate Policy*, Vol. 3, No. Supplement 1 (2003).

[3] This is a risk also identified for New Zealand. See Cath Wallace, 'Emissions Trading, Forestry, Agriculture and Biodiversity', *Ecolink. Newsletter of the Environment and Conservation Organisations of New Zealand*, No.October/November (2007).

[4] Although some high profile environmental advocates have embraced nuclear power, many environmentalists remain sceptical if not outright opposed to its expansion, because of the unresolved safety and waste issues, the security (nuclear proliferation) risks, and because it is not regarded as a sustainable form of energy. Sarah Barnett, 'Atomic Dawn', *NZ Listener*, Vol. 208, No. 3492 (2007); Frank Barnaby and James Kemp, *Too Hot to Handle? The Future of Civil Nuclear Power* London: Oxford Research Group, (2007).

[5] Allison A. Snow and Pedro Morán Palma, 'Commercialization of Transgenic Plants: Potential Ecological Risks', *BioScience*, Vol.47, No. 2 (1997); Peter Aldhous, 'Genes for Greens', *New Scientist*, Vol.197, No. 2637 (2008), pp. 28-31.

[6] Fred Pearce, 'Cleaning up Coal', *New Scientist*, Vol. 169, No. 2649 (2008), pp. 36-39.

installing a space shield to mitigate global warming and 'fertilising' oceans to promote the growth of plankton to absorb CO_2,[7] all of which aimed at *avoiding the need to reduce* GHG emissions, are examples of 'solutions' that carry largely unforeseeable risks.

The identification of common causes refers to the existence of common factors or driving forces underlying a range of problems. Much environmental policy, also in New Zealand, has been developed in a fragmented and reactive way, only after problems have become apparent and serious enough to draw political attention.[8] Moreover, most environmental policies have been aimed at mitigating or adapting to (coping with) immediate problems rather than addressing underlying causes or drivers. Climate change policy is, in this respect, no different, as I will discuss below.

The notion of sustainable development potentially provides a cognitive framework for creating policy synergies, policy harmonisation and identifying common underlying causes of environmental problems. Sustainable development is a broad and slippery concept that can be interpreted and used to serve different ends and interests, including economic growth. Commonly interpreted as involving a 'balancing' of environmental, social and economic interests, in practice, its use by governments and businesses may imply the subordination of environmental concerns to non-environmental interests. This has led some environmental advocates to question its meaningfulness or to argue that it should be abandoned.[9] However, as the concept is already firmly entrenched in dominant environmental discourse, and has been institutionalised in many countries as well as internationally, this does not seem a realistic option.

The main promise and significance of the discourse of sustainability and sustainable development lies in its potential to advance the 'greening' of non-environmental policies and institutions, notably by integrating procedural and substantive 'ecological rationality'[10] into the realms of economics, industry, energy, agriculture, transport, and spatial planning, which contain many of the sources and driving forces of environmental problems. However, to promote the coherence, consistency, effectiveness and durability of such environmental integration efforts, and to translate sustainable development into specific objectives and courses of action, a comprehensive and strategic policy framework is required.[11] Sustainable development strategies, national environmental policy plans, and national environmental action plans are just some of the labels for such policy frameworks that have been adopted by governments, and for which 'green planning' has been used as a generic term.[12] Climate change policy, if it is to be effective, avoids shifting environmental problems or creating new ones, addresses underlying causes and, to contribute to sustainable development, needs to be fitted within such a green planning framework.

Having outlined, in general terms, the case for embedding climate change in a broader policy agenda and framework, I will now describe and assess New Zealand's climate change policy efforts.

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[7] Mark Townsend, 'Giant Space Shield Plan to Save Planet', *The Observer*, 11 January 2004, Available from http://www.guardian.co.uk/environment/2004/jan/11/research.science; Emma Green, 'A Drop in the Ocean', *New Scientist*, Vol. 195, No. 2621 (2007), pp. 42-45.

[8] Ton Bührs and Robert V. Bartlett, *Environmental Policy in New Zealand. The Politics of Clean and Green?* (Auckland, N.Z.: Oxford University Press, 1993).

[9] Sharon Beder, 'Revoltin' Developments. The Politics of Sustainable Development', *Arena Magazine*, 1994); Lynton Keith Caldwell, *Between Two Worlds: Science, the Environmental Movement, and Policy Choice* (Cambridge England; New York: Cambridge University Press, 1990), p. 177.

[10] Robert V. Bartlett, 'Ecological Rationality: Reason and Environmental Policy', *Environmental Ethics*, Vol. 8, (1986).

[11] Ton Bührs, *Environmental Integration: Our Common Challenge* (New York: SUNY Press, forthcoming).

[12] D. B. Dalal-Clayton, *Getting to Grips with Green Plans: National-Level Experience in Industrial Countries* (London: Earthscan, 1996); Martin Jänicke and Helge Jörgens, 'National Environmental Policy Planning: Preliminary Lessons from Cross-National Comparisons', *Environmental Politics*, Vol.7, No. 2 (1998).

NEW ZEALAND'S RESPONSE TO CLIMATE CHANGE

Although New Zealand has ratified the Kyoto Protocol, and has bound itself to reducing GHG emissions to 1990 levels by 2012, it has neither been very forceful nor effective in tackling this task. Thus far, governments have relied almost exclusively on voluntary and informational instruments and have shied away from adopting regulation and economic measures. As a result, by 2005, New Zealand's GHG emissions had increased by 24.7 per cent above the 1990 level.[13]

Only recently, in the wake of the international surge in concern about climate change, the government launched a range of new initiatives aimed at tackling climate change, and reaffirmed its commitment by setting some ambitious objectives and targets. One of the main components of this more vigorous approach is the *New Zealand Energy Strategy* (NZES)[14] which contains targets for renewable electricity generation (90 percent by 2025) and for halving *per capita* emissions from transport by 2040, and which introduces a minimum biofuels sales obligation. The companion to this document, the new 'Energy Efficiency and Conservation Strategy' (EECS),[15] sets out a range of measures that also have the potential to mitigate GHG emissions. Three other strategies, adopted earlier, a waste strategy,[16] sustainable land management strategy[17], and a transport strategy,[18] also contain commitments aimed at reducing GHG emissions. But the lynchpin of these efforts is arguably the adoption, in principle, of an emissions trading scheme (ETS)[19] that will be covering all greenhouse gases and sectors from 2013.

The New Zealand government has been keen to emphasise that its climate change efforts are part of its broader commitment to sustainable development and the protection of New Zealand's image (if not status) as a 'clean and green' country. Prime Minister Helen Clark in a speech to a Labour Party conference said:

> Why shouldn't New Zealand aim to be the first country which is truly sustainable – not by sacrificing our living standards, but by being smart and determined? We can now move to develop more renewable energy, biofuels, public transport alternatives, and minimise, if not eliminate, waste to landfills. We could aim to be carbon neutral. I believe that sustainability will be a core value in 21st century social democracy. I want New Zealand to be in the vanguard of making it happen – for our own sakes, and for the sake of our planet. I want sustainability to be central to New Zealand's unique national identity.[20]

However, while many of these policy initiatives do indeed have the potential to generate benefits across a range of areas, and may lead to a mitigation of GHG emissions, there are good grounds for arguing that New Zealand's climate change efforts are not squarely placed on a sustainable development agenda, or that, if they are, the government's interpretation of sustainable development is rather peculiar, circumscribed more by economic than by environmental concerns and imperatives.

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[13] Ministry for the Environment, *New Zealand's Greenhouse Gas Inventory 1990 - 2005* (Wellington: Ministry for the Environment, 2007), p. iii.
[14] New Zealand Government, *New Zealand Energy Strategy to 2050 - Powering Our Future* (Wellington: Ministry of Economic Development, 2007).
[15] New Zealand Government, *New Zealand Energy Efficiency and Conservation Strategy - Making It Happen* (Wellington: Energy Efficiency and Conservation Authority, 2007).
[16] Ministry for the Environment, *New Zealand Waste Strategy* (Wellington: Ministry for the Environment, 2002).
[17] New Zealand. Ministry for the Environment., *Sustainable Land Management : A Strategy for New Zealand* (Wellington, N.Z.: Ministry for the Environment, 1996).
[18] New Zealand Government, *New Zealand Transport Strategy* (Wellington: Ministry of Transport, 2002).
[19] New Zealand Government, *A New Zealand Emissions Trading Scheme: Key Messages and Strategic Issues* 2007).
[20] Helen Clark, *Keynote Address at New Zealand Labour Party Conference* (2006).

First of all, New Zealand currently has no explicit sustainable development strategy. Although several efforts towards the development of a broader environmental and sustainable development strategy have been undertaken, both of these have been abandoned. In 1995, the National Government adopted the 'Environment 2010 Strategy', but this was discarded when the Fifth Labour Government came to power in 1999. In 2003, the Labour government introduced 'Sustainable Development for New Zealand: Programme of Action', but this was discontinued in 2006. Consequently, New Zealand does not have a current sustainable development strategy or any other comprehensive and strategic environmental policy. In this respect, it can be argued that New Zealand is formally in breach of its international commitment to adopt and implement such a policy.[21]

At best, both of these efforts can only be characterised as weak and half-hearted attempts towards the development of a comprehensive and strategic policy framework. The Environment 2010 Strategy provided an inventory of environmental problems facing New Zealand but:

> is only strategic in a limited sense: important problems are identified and goals are formulated, but these are as yet hardly prioritised and, more significantly, are not based on an analysis of where these problems are coming from (no theoretical framework and identification of key factors or variables that can be manipulated to address these problems most effectively).[22]

The Programme of Action was even less comprehensive in its coverage of environmental issues and focused on just four issues: water, energy, sustainable cities, and child and youth development.[23] While this can be seen a deliberate move towards a more targeted approach, it still falls far short on a number of criteria for effective strategic environmental policy, especially with regard to comprehensiveness, strategic analysis, and public involvement.[24] Although some reviewers considered that the programme's significance lay in its 'action learning' approach rather than its substance or outcomes,[25] its discontinuation seems to indicate that no more learning is required, whilst it remains unclear what lessons the government has learned from the experience. Implicitly, the lack of a follow up strategy, or even an announcement to that effect, seems to re-confirm the Parliamentary Commissioner for the Environment's (PCE) assessment, in 2002, that '(a)cceptance and advancement of sustainable development by central government has been slow in New Zealand compared with many other OECD countries.'[26]

The lack of government support for the development of an overarching policy framework that has sustainable development at its core is also reflected in the lack of action with regard to strengthening New Zealand's capacity and leadership for sustainable development. The Office of the Prime Minister has been the leading agency behind the Programme of Action, but the development and ongoing review of such a strategy is not the main or even a core responsibility of that agency. Given the strong exposure of that office to the vagaries of (party) politics, it is also doubtful, as experience shows, that this office is able to bring the long-term view and political

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[21] Wendy McGuinness and Ella Lawton, *A National Sustainable Development Strategy: How New Zealand Measures up against International Commitments* (Wellington: Sustainable Future, 2007), p. 2.

[22] Ton Bührs and Robert V. Bartlett, 'Strategic Thinking and the Environment: Planning the Future in New Zealand?', *Environmental Politics*, Vol. 6, No. 2 (1997), p. 97.

[23] New Zealand Government, *Sustainable Development for New Zealand: Programme of Action* (Wellington: Department of Prime Minister and Cabinet, 2003).

[24] Ton Bührs, 'New Zealand's Capacity for Green Planning: A Political-Institutional Assessment and Analysis', *Political Science*, Vol. 54, No. 1 (2002), pp. 29-30; McGuinness and Lawton, *A National Sustainable Development Strategy: How New Zealand Measures up against International Commitments*, p. 22.

[25] Bo Frame and Maurice Marquardt, *Indications of the Sustainable Development Programme of Action* (Lincoln: Landcare Research, 2006).

[26] Parliamentary Commissioner for the Environment, *Creating Our Future: Sustainable Development for New Zealand* (Wellington: Office of the Parliamentary Commissioner for the Environment, 2002), pp. 9, 15.

horizon, and broad support basis that are required for such an undertaking. Similarly, the role and capacity of the Ministry for the Environment has proved to be vulnerable in this respect. Nor is it a clear responsibility of any other office. For example, while the PCE has been an advocate for sustainable development, that office has no formal responsibility for the development, implementation or monitoring of a sustainable development strategy, and not enough capacity for doing so.

In terms of legislative capacity, New Zealand's Resource Management Act has sustainable management as its main objective, but whether it actually contributes to sustainability is debatable and unclear, especially in light of differences in interpretation and implementation, the non-existence of a consistent set of criteria for assessment, and the absence of systematic outcome evaluation.[27] Overall, New Zealand's national-level capacity for 'green planning', and for that matter the development of long-term policy of any kind, is severely lacking.[28] Thus far, calls for strengthening it, such as by creating an advisory body with the task to advance the sustainable development agenda,[29] appear to have fallen in deaf ears.

Perhaps most worryingly of all, a close scrutiny of both these recent, half-hearted attempts to develop a long-term environmental or sustainable development strategy suggest that the main rationale for the adoption of the sustainability discourse by the government has more to do with economic than with environmental concerns. Seen in the context of the government's wider strategic efforts and priorities, the status of the Environment 2010 Strategy, and the objectives it contained, appeared subsidiary to economic goals and priorities. The strategy referred to the importance of the health of the environment, as well as people, for economic growth.[30] The Programme of Action also refers to economic 'health' as the government's main goal: '[t]he government has identified its most important task as building the conditions for long-term and sustainable economic growth.'[31] More specifically, the programme identified returning New Zealand's per capita income to the top half of the OECD rankings and maintaining that standing as one of its major economic objectives.[32] This led the PCE to the observation that an analysis of the government strategy 'Growing an Innovative New Zealand' 'indicates that the economy will take priority [...] when key decisions are being made.'[33]

Given that the government's foremost priority is economic growth, and given New Zealand's heavy reliance on exports from the primary sector (accounting for about two-thirds of export value),[34] it is probably not surprising that the protection of the economic interests of this sector is considered to be in the 'national interest', and that climate change policy is embedded within this interpretation of the national interest. The government notes that:

> Much of our economy is based on biological industries. We are distant from markets and customers, including our tourism markets. Our topography and low

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[27] Ibid, pp. 9, 93-96., Peter Skelton and Ali Memon, 'Adopting Sustainability as an Overarching Environmental Policy: A Review of Section 5 of the RMA', *Resource Management Journal*, Vol. X, No. 1 (2002).

[28] Bührs, "New Zealand's Capacity for Green Planning, pp. 27-46.

[29] Parliamentary Commissioner for the Environment, *Creating Our Future: Sustainable Development for New Zealand*, p. 132.

[30] Bührs and Bartlett, 'Strategic Thinking and the Environment: Planning the Future in New Zealand?' *Environmental Politics*, Vol. 6, No. 2 (1997), p. 96.

[31] New Zealand Department of the Prime Minister and Cabinet, *Sustainable Development for New Zealand: Programme of Action* ([Wellington, N.Z.]: Department of Prime Minister and Cabinet, 2003), p. 10.

[32] Office of the Prime Minister, *Growing an Innovative New Zealand* (Wellington: Office of the Prime Minister, 2002).

[33] Parliamentary Commissioner for the Environment, *Creating Our Future: Sustainable Development for New Zealand*, p. 49.

[34] Statistics New Zealand, 'New Zealand External Trade Statistics. June 2005', http://www.stats.govt.nz/NR/rdonlyres/126E9F25-1F92-4095-8BBF-5199E7E4A65E/0/NZETSJun05.pdf, (Accessed: 30 September 2005).

> population deny us options other societies enjoy. Our response to climate change must reflect our own particular national circumstances, and be directed towards New Zealand's interests, as well as global solutions.[35]

Thus, economic interests largely circumscribe New Zealand's climate change policy in the selection of technical 'solutions' and policy options. Protection of the country's economic interests also informs its international stance on the issue. Rather than being embedded in a sustainable development framework, New Zealand's approach to climate change is in fact embedded in an economic policy framework that prescribes a narrow, technological, managerial and economic interpretation of 'the climate problem' and ignores wider issues and factors that underlie climate change as well as other environmental problems.

THE NEED TO ADDRESS UNDERLYING ISSUES AND FACTORS

Effectively addressing climate change requires the development of an overarching policy framework which recognises the links between environmental problems, but that also addresses the underlying causes or drivers. It requires looking behind the proximate causes of GHG emissions, such as energy generation and transport, to the 'drivers' of the continuously growing and newly generated environmental pressures and problems. Ultimately, it will be argued below, the sources of the environmental problematique lie in the dominant political-economic and socio-cultural systems.

Although climate change may have become the most prominent environmental problem on the political agenda, it is not the only one that has been steadily eroding the material basis for human well being, locally, regionally or globally. Recent assessments of the global state of the environment indicate a rapid decline of biodiversity (an indicator of the health of ecosystems, and notably the loss of tropical rain forests), growing water scarcity in many parts of the world, continued loss of agricultural land, continuing and increasing pollution in many parts of the world, and an emerging scarcity of a range of mineral resources, particularly oil.[36] At the same time, world population is expected to grow to around 9 billion people by 2050, while continued economic growth fuels a growing demand for resources. These global trends have revived the debate about 'environmental limits'[37] that was pushed into the background during the 1980s with the decline of commodity prices (including oil), and the rise to prominence of the sustainable development discourse, which promoted the idea that economic growth and environmental protection are complementary. This renewed focus on environmental limits is not foremost based on the absolute scarcity of resources, but on the environmental effects associated with the growing 'throughput' of energy and materials, of which climate change is just one, (albeit significant), example.[38]

While the environmental limits are increasingly apparent, the obstacles to recognising them are still enormous. Governments, businesses and most individuals continue to believe in the

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[35] New Zealand Government, *A New Zealand Emissions Trading Scheme: Key Messages and Strategic Issues*, p. 4.

[36] Millennium Ecosystem Assessment, 'Millennium Ecosystem Assessment Synthesis Report. Pre-Publication Final Draft Approved by Ma Board on March 23, 2005', (Accessed: 2 April 2005); United Nations Environment Programme, *Global Environmental Outlook 4. Environment for Development* (Nairobi: United Nations Environment Programme, 2007).

[37] Donella H. Meadows, Dennis L. Meadows, Jörgen Randers, William W. Behrens, *The Limits to Growth. A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: New American Library, by arrangement with Universe Books, 1972); Donella H. Meadows, Jørgen Randers, Dennis L. Meadows and Donella H. Meadows, *Limits to Growth: The 30-Year Update* (London: Earthscan, 2005).

[38] Dennis Pirages, 'From Limits to Growth to Ecological Security', in Dennis and Ken Cousins Pirages (ed.), *From Resource Scarcity to Ecological Security: Exploring New Limits to Growth* (Cambridge, Mass.: MIT Press, 2005); Ralph David Simpson, Michael A. Toman and Robert U. Ayres, 'Introduction: The "New Scarcity"', in Ralph David Simpson, Michael A. Toman and Robert U. Ayres (eds.), *Scarcity and Growth Revisited: Natural Resources and the Environment in the New Millennium* (Washington D.C.: Resources for the Future, 2005).

convenient myth that economic growth and environmental protection are compatible or even complementary. While this can be true as long as economic growth is mainly of a monetary (value) nature, the reality is that, thus far, economic growth has been based on or accompanied by an increase in material 'throughput' and growing resource consumption, and thus growing environmental pressures.

Reducing environmental pressures while achieving economic growth (measured in monetary terms, like GDP) is referred to as 'absolute decoupling'. Relative decoupling means an *increase* of environmental pressure, but at a lower percentage rate than the rate of economic growth. In some countries, there has been an 'absolute decoupling' between economic growth and some emissions, however, this has not been achieved for all forms of pollution.[39] While European countries have achieved a degree of relative decoupling in the use of energy ('energy intensity' of GDP) and other resources, it is not evident that this has led to a decline in environmental pressures, as absolute levels of resource use have not decreased.[40] In several areas (notably energy and transport), efficiency gains have been more than offset by an increase in demand, in part because of a 'rebound effect' and because of economic growth.[41] Also in New Zealand, there is no sign of a decline in the demand for resources, including energy, even though more recently there has been some improvement in energy intensity.[42] The European Environment Agency concludes that '[e]co-efficiency improvements in key production sectors are typically more than offset by growth in consumption. Meanwhile consumers show little sign of shifting spending to less pressure intensive types of goods/services.'[43]

The challenge to decouple economic growth is daunting, especially in a globalised economy. To bring about absolute decoupling, resource efficiency gains would need to increase worldwide at more than at the exponential rate of global economic growth, which stood at an average of three percent over the last decade.[44] In light of the developments described above, even the most advanced countries struggle to achieve this.[45] Given the resource-based nature of its economy and much of its exports, absolute decoupling poses an even more formidable challenge to New Zealand.

Many rich countries have achieved some improvement of environmental performance, at least in part, by shifting some of the more resource intensive and polluting industries to poorer countries, and by increasing imports. 'International trade ... leads to the shifting of environmental burdens from the consumer countries abroad.'[46] By promoting free trade, as exemplified by the

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[39] European Environment Agency, *Air Pollution in Europe 1990 -2004* (Luxembourg: Office for Official Publication of the European Communities, 2007).

[40] European Environment Agency, *Sustainable Use and Management of Natural Resources* (Luxembourg: Office for Official Publication of the European Communities, 2005), p. 15.United Nations Environment Programme, *Global Environmental Outlook 4. Environment for Development*, p. 46.

[41] The 'rebound' effect (also referred to as the Jevons Paradox) refers to the rise in consumption as it becomes cheaper to use a resource as a result of efficiency gains. For instance, as cars get more fuel-efficient, people tend to drive more, and electricity use goes up with the sale of 'energy efficient' heat pumps. European Environment Agency, *Europe's Environment. The Fourth Assessment. Executive Summary* (Luxembourg: Office for Official Publication of the European Communities, 2007), pp. 252-289. The Press, 'Cooling Use of Heat Pump Concerns', March 29 2008.

[42] Energy Efficiency and Conservation Authority (EECA), 'Situation Assessment Report on the National Energy Efficiency and Conservation Strategy', http://www.eeca.govt.nz/eeca-library/eeca-reports/report/situation-assessment-report-neecs-06.pdf, (Accessed: 12 April 2006).

[43] European Environment Agency, *Environmental Pressures from European Consumption and Production. Insights from Environmental Accounts* (Copenhagen: European Environment Agency, 2007).

[44] European Environment Agency, *Environmental Pressures from European Consumption and Production*, p. 12.

[45] John Hille, *The Concept of Environmental Space. Implications for Policies, Environmental Reporting and Assessments* (Copenhagen: European Environment Agency, 1997), p. 17; United Nations Environment Programme, *Global Environmental Outlook 4. Environment for Development*, p. 213.

[46] European Environment Agency, *Europe's Environment. The Fourth Assessment. Executive Summary*, p. 260; United Nations Environment Programme, *Global Environmental Outlook 4. Environment for Development*, pp. 196, 289.

recently concluded free trade agreement with China, the New Zealand government also effectively encourages the 'export' of environmental burdens associated with the *production* of consumer goods to other countries, and the intensification of domestic resource exploitation associated with increased exports, notably by the dairy industry. But even countries in which the service industry is the most important sector of the economy do not show any sign of *reducing* their demand for resources if imports are taken into account. This is most apparent in the continuing growth of waste streams in rich countries,[47] even though part of the waste, notably electronic waste, is also exported for 'recycling' to low income countries, adding to the risk exposure of people in those countries.[48] What these trends (should) make clear is that, in an increasingly globalised world, it makes little sense to assess the environmental performance (including with regard to 'decoupling') of countries solely on the basis of the domestic impact of their activities. It is the level of *resource consumption*, wherever the resources come from, that is a more accurate indicator of a country's contribution to the environmental pressures exerted on the earth. New Zealand, like any other country, cannot even aim to become 'truly sustainable' without accounting for its 'ecological imports and exports' (resources and environmental impacts associated with imports and exports).

Governments are looking foremost at science and technology for achieving decoupling, and to address climate problems and other environmental issues. But not all new technologies bring about a reduction of resource demand and environmental pressures. The introduction of many new technologies, such as mobile phones, computers and other electronic goods, has led to an expansion of resource consumption and a corresponding increase in waste streams and environmental pressures. The environmental and resource benefits of other technologies, such as biotechnology and nuclear power, remain the subject of much debate. Although it may be possible to design production and consumption systems (not just single products) that have minimal environmental impact and that could be called 'truly' sustainable, this remains to be done. Designing and adopting a sustainable production and consumption system worldwide is an even more formidable political-economic and socio-cultural challenge. To argue that science and technology will be able to get us out of the problem without addressing the political-economic and socio-cultural systems that steer production, consumption and technology, is naïve at best. Affluence (the level of income), not the structure of an economy, is the principal determinant of resource consumption. Rich countries (and people) simply consume more resources than poor countries and people. As long as economic growth is translated into higher income, and higher income leads to higher resource consumption (embedded in all kinds of goods and services), environmental pressure will continue to mount and environmental conditions to erode, especially as all people in the world can rightly claim the right to aspire to the same standard of living as that enjoyed in the rich countries, and/or by the richest people in their own countries.

Barring a short-term technological revolution and/or a change in production and consumption systems that will be adopted world-wide, putting limits on resource consumption, especially in rich countries, may be the only realistic way to mitigate global environmental pressure. If the New Zealand government is serious about its aspiration to be a 'truly sustainable' country, it needs to recognise and respect not only the ecological limits to resource exploitation in New Zealand, but also be willing to work towards reducing resource consumption and the size of New Zealand's ecological footprint or use of 'environmental space', in line with what can be considered equitable globally. There is a good case for arguing that, to enhance their well-being, many people in poor countries will need more resources, among other, to have access to essential services like drinking water, sanitation, education and health, as well as decent housing. Reducing resource consumption

[47] Michael Carley and Philippe Spapens, *Sharing the World: Sustainable Living and Global Equity in the 21st Century* (London: Earthscan, 1998), p. 109; European Environment Agency, *Europe's Environment. The Fourth Assessment.* (Luxembourg: Office for Official Publications of the European Communities, 2007), pp. 277-289.

[48] European Environment Agency, *Europe's Environment. The Fourth Assessment*, pp. 225, 289, 321.

by the rich, wherever they live, to enable the poor to increase their use of environmental space to a globally sustainable level, therefore, is a moral as well as a political imperative, as global inequity increasingly becomes a political issue and a threat to global order. As people in the richest countries, comprising approximately 20 percent of the world population, account for 57 percent of world GDP, consume 54 percent of world energy supply and equally disproportionate amounts of many other resources, and are responsible for 46 percent of GHG emissions, the onus on limiting resource use should fall, in first instance, on them.[49] All the more so as, in absolute terms (and consequently resource demands), the income gap between rich and poor countries does not show any sign of diminishing. On the contrary.[50] This does not imply, of course, that inequity of resource consumption within nations should not also be addressed.

Economic growth may not be a foremost priority (anymore) for many people in high income countries, including New Zealand, and may no longer contribute to enhancing happiness and well-being of the majority of the population,[51] but this is largely ignored by politicians. Also in New Zealand, the brainwashing with consumerist ideology by businesses and through the media continues unabated. As noted above, there is no indication that even people in rich countries are adopting less material-intensive lifestyles. Powerful vested interests and the apparent inability and/or unwillingness of governments to adopt a longer, broader and more enlightened view of the 'national interest', make it likely that, for the time being, only 'soft' and economically attractive and acceptable 'solutions' to combat climate change will be adopted. All these can do is buy time. Although this may be positive in the sense of enabling us to prepare for the inevitable, it also means allowing any short-term gains to be eroded by the ongoing expansion of resource consumption and, even more counterproductively, for heads to be stuck in the sand for a bit longer.

CONCLUSION

New Zealand governments, despite the ratification of the Kyoto Protocol have, until recently, not been very vigorous in the pursuit of controlling GHG emissions. In the last few years, in the context of growing international concern about climate change, and especially its potentially big economic and social costs, the government has notched up its commitment in the form of adopting various strategies containing relatively ambitious targets, and the adoption (in principle) of a GHG emissions trading scheme. Moreover, these initiatives have been accompanied by official statements aiming for New Zealand to become the first 'truly sustainable' country in the world.

While these initiatives have the potential to lead to a mitigation of GHG emissions from New Zealand, it remains doubtful that they will lead to a 'sustainable' *reduction* as long as the drivers behind environmental pressures are not addressed. Even in the most advanced countries, economic growth has not resulted in a 'dematerialisation' of production and consumption; on the contrary, with rising GDP resource consumption continues to grow, even though some of the environmental effects have been displaced abroad. This applies not only to GHG emissions, but also to other forms of environmental degradation (associated, for instance, with the exploitation of raw materials, the logging of forests, and the growing of agricultural crops for animal feed and, increasingly, biofuels). Globalisation makes a joke of claims that sustainability can be achieved in one country.

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[49] European Environment Agency, *Sustainable Use and Management of Natural Resources*, pp. 17, 36; United Nations Environment Programme, *Global Environmental Outlook 4*, pp. 362, 266.

[50] European Environment Agency, *Europe's Environment. The Fourth Assessment*, pp. 390-391; Robert Hunter Wade, 'The Disturbing Rise in Poverty and Inequality: Is It a Big Lie?', in David Held and Mathias Koenig-Archibugi (ed.), *Taming Globalization: Frontiers of Governance* (Cambridge: Polity Press, 2003).

[51] Clive Hamilton, *Growth Fetish* (Crows Nest, NSW (Australia): Allen & Unwin, 2003).

Although 'truly sustainable' technology and production and consumption systems may be feasible, their development and adoption, world wide, is a long-term prospect, requiring also political-economic and socio-cultural change. In the mean time, putting limits on resource consumption, especially by the rich, is a technically much more feasible option, although this also is likely to meet with strong political resistance. However, there are signs of growing acceptance of the need to respect environmental limits, and of the political, environmental and ethical need for sharing the environmental space that exists within those limits, as apparent in the debate about the global climate regime to replace the Kyoto Protocol. The adoption of an agreement based on the 'Contraction and Convergence' model could set a precedent for a more general approach covering also other areas where environmental and resource limits are becoming increasingly apparent.

While it should be feasible if not 'easier' for New Zealand to move towards 'carbon neutrality' by the generation of renewable energy, given the already high proportion of power generated from such sources and the existence of plenty of potential for expansion in that respect, this should not be confused with New Zealand becoming a sustainable country. Apart from the many other environmental issues and pressures affecting New Zealand's domestic environment, many of which could also benefit from a more vigorous political commitment (at all levels of government), New Zealanders are also, at least indirectly, responsible for the resource consumption and the associated environmental effects of their imports (embedded, for instance, in consumer goods and overseas travel). On the other hand, there are serious questions about the sustainability of continued expansion of New Zealand's exports as well, especially those that rely on a high level of material 'throughput'. Aiming to be a truly sustainable country requires addressing both the domestic and external dimensions of resource consumption, a responsibility increasingly shared between countries (notably 'trading partners').

New Zealand does not have a strong record in pursuing sustainability, despite the fact that sustainable development is a cornerstone of the Resource Management Act 1991. At the national level in particular, there are big gaps in this respect, such as the absence of a durable long-term sustainable development strategy and the non-existence of a Sustainable Development Council. Filling these gaps would be a first, be it modest, step towards a more sustainable (or less unsustainable) development path.