

New Zealand Journal of Public and International Law



VOLUME 13 ■ NUMBER 1 ■ JUNE 2015

SPECIAL CONFERENCE ISSUE: NEW THINKING ON SUSTAINABILITY

THIS ISSUE INCLUDES CONTRIBUTIONS BY

Joshua Aird	Sir Geoffrey Palmer
Klaus Bosselmann	Nicole Rogers
Peter D Burdon	Nathan Ross
Joel Colón-Ríos	Greg Severinsen
Benjamin F Gussen	Linda Sheehan
Catherine J Iorns Magallanes	Gerald Torres
Gay Morgan	

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

NEW ZEALAND JOURNAL OF
PUBLIC AND INTERNATIONAL LAW

© New Zealand Centre for Public Law and contributors

Faculty of Law
Victoria University of Wellington
PO Box 600
Wellington
New Zealand

June 2015

The mode of citation of this journal is: (2015) 13 NZJPIL (page)

The previous issue of this journal was volume 12 number 2, December 2014

ISSN 1176-3930

Printed by City Print Communications, Wellington

Cover photo: Robert Cross, VUW ITS Image Services

CONTENTS

SPECIAL CONFERENCE ISSUE: NEW THINKING ON SUSTAINABILITY

Foreword: New Thinking on Sustainability <i>Catherine J Iorns Magallanes</i>	1
Setting the Scene for "New Thinking on Sustainability" Conference <i>Sir Geoffrey Palmer QC</i>	17
Sustainability Alternatives: A German-New Zealand Perspective <i>Klaus Bosselmann</i>	25
On the Problem of Scale: The Inextricable Link between Environmental and Constitutional Laws <i>Benjamin Franklen Gussen</i>	39
Shifting Paradigms: Berry's Earth-Centrism – An Effective Noble Lie? <i>Gay Morgan</i>	65
Implementing Rights of Nature through Sustainability Bills of Rights <i>Linda Sheehan</i>	89
Comment: The Rights of Nature and the New Latin American Constitutionalism <i>Joel Colón-Ríos</i>	107
New Zealand's Defective Law on Climate Change <i>Sir Geoffrey Palmer QC</i>	115
Translating Climate Change <i>Gerald Torres</i>	137
Comment: Deepening the Path of Translation – Differentiating Arguments from Power from Arguments from Legitimacy in a Heterodox World <i>Gay Morgan</i>	153
Wild Law: A Proposal for Radical Social Change <i>Peter D Burdon</i>	157
"If you Obey all the Rules you Miss all the Fun": Climate Change Litigation, Climate Change Activism and Lawfulness <i>Nicole Rogers</i>	179

Diving in the Deep End: Precaution and Seabed Mining in New Zealand's Exclusive Economic Zone <i>Catherine J Iorns Magallanes and Greg Severinsen</i>	201
Student Essay: Carbon Emissions and Electric Cars – Introducing the Potential of Electric Vehicles in New Zealand's Climate Change Response <i>Nathan Jon Ross</i>	235
Book Review: From Object to Subject: The Practice of Wild Law <i>Joshua Charles Raymond Aird</i>	249

The **New Zealand Journal of Public and International Law** is a fully refereed journal published by the New Zealand Centre for Public Law at the Faculty of Law, Victoria University of Wellington. The Journal was established in 2003 as a forum for public and international legal scholarship. It is available in hard copy by subscription and is also available on the HeinOnline, Westlaw, Informit and EBSCO electronic databases.

NZJPIL welcomes the submission of articles, short essays and comments on current issues, and book reviews. Manuscripts and books for review should be sent to the address below. Manuscripts must be typed and accompanied by an electronic version in Microsoft Word or rich text format, and should include an abstract and a short statement of the author's current affiliations and any other relevant personal details. Manuscripts should generally not exceed 12,000 words. Shorter notes and comments are also welcome. Authors should see earlier issues of NZJPIL for indications as to style; for specific guidance, see the *New Zealand Law Style Guide* (2nd ed, 2011). Submissions whose content has been or will be published elsewhere will not be considered for publication. The Journal cannot return manuscripts.

Regular submissions are subject to a double-blind peer review process. In addition, the Journal occasionally publishes addresses and essays by significant public office holders. These are subject to a less formal review process.

Contributions to NZJPIL express the views of their authors and not the views of the Editorial Committee or the New Zealand Centre for Public Law. All enquiries concerning reproduction of the Journal or its contents should be sent to the Student Editor.

Annual subscription rates are NZ\$100 (New Zealand) and NZ\$130 (overseas). Back issues are available on request. To order in North America contact:

Gaunt Inc
Gaunt Building
3011 Gulf Drive
Holmes Beach
Florida 34217-2199
United States of America
e-mail info@gaunt.com
ph +1 941 778 5211
fax +1 941 778 5252

Address for all other communications:

The Student Editor
New Zealand Journal of Public and International Law
Faculty of Law
Victoria University of Wellington
PO Box 600
Wellington, New Zealand
e-mail nzjpil-editor@vuw.ac.nz
fax +64 4 463 6365

NEW ZEALAND JOURNAL OF PUBLIC AND INTERNATIONAL LAW

Advisory Board

Professor Hilary Charlesworth
Australian National University

Professor Scott Davidson
University of Lincoln

Professor Andrew Geddis
University of Otago

Judge Sir Christopher Greenwood
International Court of Justice

Emeritus Professor Peter Hogg QC
Blake, Cassels and Graydon LLP

Professor Philip Joseph
University of Canterbury

Rt Hon Judge Sir Kenneth Keith
International Court of Justice

Professor Jerry Mashaw
Yale Law School

Hon Justice Sir John McGrath
Supreme Court of New Zealand

Rt Hon Sir Geoffrey Palmer QC
*Distinguished Fellow, NZ Centre for
Public Law/Victoria University of
Wellington*

Dame Alison Quentin-Baxter
Barrister, Wellington

Professor Paul Rishworth
*University of Auckland
Crown Law Office, Wellington*

Professor Jeremy Waldron
New York University

Sir Paul Walker
Royal Courts of Justice, London

Deputy Chief Judge Caren Fox
Māori Land Court

Professor George Williams
University of New South Wales

Hon Justice Joseph Williams
High Court of New Zealand

Editorial Committee

Dr Mark Bennett

Professor Tony Angelo (Joint Editor-in-
Chief)

Henry Hillind (Student Editor)

Professor Richard Boast

Associate Professor Petra Butler

Assistant Student Editors

Joshua Aird

Gina Dobson

Jordan Lipski

Connie Mailer

Dr Joel Colón-Ríos

Associate Professor Alberto Costi

Professor Claudia Geiringer

Dr Dean Knight (Joint Editor-in-Chief)

Joanna Mossop

Breanna Morgan

Monique van Alphen Fyfe

Morgan Watkins

Kate Wilson



The New Zealand Centre for Public Law was established in 1996 by the Victoria University of Wellington Council with the funding assistance of the VUW Foundation. Its aims are to stimulate awareness of and interest in public law issues, to provide a forum for discussion of these issues and to foster and promote research in public law. To these ends, the Centre organises a year-round programme of conferences, public seminars and lectures, workshops, distinguished visitors and research projects. It also publishes a series of occasional papers.

Officers

Director

Professor Claudia Geiringer

Associate Director

Associate Professor Petra Butler

Associate Director

Dr Carwyn Jones

Associate Director

Dr Dean Knight

Centre and Events Administrator

Rozina Khan

For further information on the Centre and its activities visit www.victoria.ac.nz/nzcpl or contact the Centre and Events Administrator at nzcpl@vuw.ac.nz, ph +64 4 463 6327, fax +64 4 463 6365.

The New Thinking on Sustainability Conference at which preliminary versions of these articles were originally presented was made possible with the generous support of the German Australian Pacific Lawyers Association, the New Zealand Law Foundation and Victoria University of Wellington.



NEW ZEALAND'S DEFECTIVE LAW ON CLIMATE CHANGE

*Sir Geoffrey Palmer QC**

The article describes the world-wide efforts or the lack thereof to combat climate change in the last 25 years. The article asks whether the world has to wait until the adversity actually sets in before effective action is taken; whether the failure to act is caused because people have not yet felt the adversity of climate change and will not sanction serious action until the consequences are evident to them. If that is so, will it then be too late to mitigate global warming? The article explores those questions and makes some hopeful suggestions as to what can be done to achieve zero greenhouse gas emissions. The article examines the state of New Zealand law on climate change and the approach New Zealand is taking to international negotiations.

I SOME HISTORY

Two "wicked problems" that I encountered in politics have continued to occupy me in the years since: the nuclear weapons issue and climate change. It is hard to say which is worse. Big nuclear explosions, if they occur, will produce a nuclear winter that will make human life impossible to sustain. Anthropogenic climate change is heating up the atmosphere, raising sea levels, increasing ocean acidification, increasing the frequency and intensity of storms and other extreme weather events that will make life seriously endangered.

On both these issues the world has made little progress since 1990. The nature of the policy failures in both these areas is a sad indictment on the incapacity of the peoples of the world to act in their own collective self-interest. The international community lacks both the machinery and the political will. At present it may also lack the technology to reduce the reliance on carbon. The science is telling us to reduce carbon emissions as soon as possible. In practical terms this means using alternatives to coal for electricity as soon as humanly possible and switching from other fossil fuels on a rapid transition path.

* Distinguished Fellow, Faculty of Law and New Zealand Centre for Public Law, Victoria University of Wellington; Global Affiliated Professor of Law, University of Iowa; Minister for the Environment 1987–1990.

This is a slightly revised version of a speech delivered at the Faculty of Law, Victoria University of Wellington on 16 February 2015.

I found three years as the Minister for the Environment from 1987 until 1990 an extraordinarily enlightening and educational experience. Not only were we grappling with the design of the Resource Management Act 1991, but also towards the end of my tenure the climate change issue came into prominence. On 4 August 1990 we announced the New Zealand Government's response strategy.¹ The step was taken because the first reports of the United Nations Intergovernmental Panel on Climate Change (IPCC) were produced in 1990.² While global scientific knowledge had not yet reached the clarity and consensus that it has now attained, the shape of things to come was clearly discernible even then. The first peer reviewed scientific article on the topic appeared in 1896!³

The strategy adopted by the Government in 1990 called for priority to be given to reducing the emission of greenhouse gases, rather than focusing on adaptation. The announced aim was a 20 per cent reduction of 1990 carbon dioxide emissions by 2005, as an interim objective. The Ministries of Commerce, the Environment and Transport were required to work together to develop a carbon dioxide reduction plan, in consultation with other government agencies, local and regional government and NGOs. The strategy also required the pursuit of an increased use of renewable energy resources in New Zealand.

Waste management was to be pursued to reduce methane emissions by capturing methane and using it as an energy source. Further, forestry policy was to be examined in order to find the best means of protecting and enhancing the role of forests as carbon sinks. Reduction targets were set by the strategy: carbon dioxide – a 20 per cent reduction by 2005, with reports to be prepared on the actions necessary for and implications of a 40 per cent reduction by 2015 and a 60 per cent reduction by 2020.

I made several speeches in the Pacific warning the Pacific Island countries of the dangers of inundation due to rises in sea level caused by climate change. I said at the University of Papua New Guinea in May 1989:⁴

In our neighbourhood are many small nations, rich in history, culture and language. There are several nations in the Pacific region that are made up totally of atolls. The entire land base of these vital, unique and important countries may one day be physically destroyed.

1 For details see Geoffrey Palmer *Environmental Politics: A Greenprint for New Zealand* (John McIndoe, Dunedin, 1990) at 59–73.

2 JT Houghton, GJ Jenkins and JJ Ephraums (eds) *Climate Change: The IPCC Scientific Assessment* (Cambridge University Press, Cambridge, 1990); WJ McG Tegart, GW Sheldon and DC Griffiths (eds) *Climate Change: The IPCC Impacts Assessment* (Australian Government Publishing Service, Canberra, 1990). But the target was later abandoned.

3 Svante Arrhenius "On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground" (1896) Series 5, 41 *Philosophical Magazine and Journal of Science* 237.

4 Palmer, above n 1, at 70.

New Zealand worked hard within the United Nations in those years and later to ensure the upheavals that the Pacific Islands were facing from climate change were brought to the attention of the world in the reports then being prepared. Inundation from the sea will likely create climate change refugees from these countries, and millions of them worldwide.

II THE TECHNOLOGICAL CHALLENGE

After the 1990 general election the Government changed and the strategy outlined above was abandoned, although not immediately.⁵ Looking back it seems clear that had a strategy of the type adopted in 1990 been followed it would have produced steady progress and would not have been unduly economically disruptive. It seems clear that the costs of mitigation go up as a result of action to reduce them being delayed.⁶

Now, since so little has been done, the costs of adjustments and the shocks accompanying change will be disruptive and more difficult. It all shows that the short term nature of New Zealand and international political decision-making stores up big problems for the future and puts off difficult decisions so that they become much more painful when eventually they have to be made.

The need to transition towards a low-carbon economy has been obvious for more than 20 years and New Zealand decision-makers have not travelled there. Our political decision-making system in New Zealand concentrates remorselessly on the short term, partly due to the incentives produced by the triennial election cycle. But there are other reasons, such as the activities of various pressure groups. The failure to analyse and act upon long-term challenges threatens our future.⁷ It does need to be stressed, however, that substantial economic costs will inevitably be involved in combating climate change.

Furthermore, difficulties abound in making the transition to a low carbon economy. In this respect I am indebted to the New Zealand scientist Professor Michael J Kelly, the Prince Philip Professor of Technology at the University of Cambridge, who at the time of writing is visiting Victoria University. He takes the view that lack of engineering reality tests cripple most suggested de-carbonisation policies. The three laws of thermodynamics mean that energy is conserved but downgraded in any process. He stresses that there is no single silver bullet, and de-carbonisation across all sectors of the economy will be essential. "The scale of the engineering challenge is massive and unprecedented in

5 Roger Blakeley "Global Warming: A Pacific Perspective" (1992) 2 *Transnational Law and Contemporary Problems* 173 at 192. My successor as Minister for the Environment the Hon Simon Upton actually announced a bringing forward of the interim target to the year 2000 in the run up to the Rio meeting.

6 Catherine Leining "New Zealand's Journey toward a Low-Emission Future: Today's Climate Change Landscape" (Motu Economic and Public Policy Research Trust, Motu Note 16, January 2015) at 1. Motu has produced a number of useful pieces of research on the topic.

7 This is a point I made in my recent memoir, Geoffrey Palmer *Reform: A Memoir* (Victoria University Press, Wellington, 2013) at 698.

peacetime."⁸ He is highly critical of what has been done in the United Kingdom, where energy prices have increased, smelters have closed and production shifted to China, which makes the overall situation worse. Kelly poses some challenging issues for those who contend airily that technology can solve the problem. The lead-time for successful infrastructure technologies is long. We have no decarbonisation route map.

Kelly says: "We could live a high standard of living with half our per capita use of energy, with less travel, shorter supply chains and lower heating budgets."⁹ He concludes that until now the cure has been worse than the symptoms. But the weight of evidence contained in the IPCC reports suggests to me that will not continue to be the case.

Another study on renewables from the Global Futures Report paints a more hopeful picture:¹⁰

"Transformational change" is implied by many of the scenarios and expert opinions presented in this report. Experts made clear that such change is not just about technology and infrastructure, but about models of social, institutional, business, and policy change. Transformational change is implied by future needs for technical and institutional restructuring of power systems, by much-less-homogeneous transport systems with a multitude of fuel types and vehicle types powered by renewables, and by new building design and construction practices and renewables-integrated building materials. Ultimately, transformation means more than just renewables fitting into existing energy systems, but rather all energy technologies evolving together, with different roles, into transformed energy systems.

So is it the case that we have to wait until the adversity actually sets in before effective action is taken? Is the failure to act because people have not yet felt the adversity of climate change and will not sanction serious action until the consequences are evident to them? And if that is so, will it then be too late to mitigate the warming?

III EARLY NEGOTIATIONS

In the early 1990s a big effort was made to produce international instruments that could form the basis for an attack on the problem. At the Earth Summit at Rio de Janeiro in 1992 a hard law convention was negotiated and signed. The United Nations Framework Convention on Climate Change remains the prime legal instrument, although its achievement in reducing greenhouse gas emissions has been small.¹¹ Emissions have increased. That is partly because the difficulty of the problem was underestimated. The Kyoto Protocol that was negotiated in 1997 and entered into force

8 Michael J Kelly "Future Energy Needs and Engineering Reality" (presentation to 2nd International Symposium on Energy Challenges, Aberdeen, 25 September 2014) at 13.

9 At 45.

10 Renewable Energy Policy Network for the 21st Century *Renewables: Global Futures Report 2013* at 9.

11 United Nations Framework Convention on Climate Change 1771 UNTS 107 (opened for signature 4 June 1992, entered into force 21 March 1994); reprinted in (1992) 31 ILM 849.

in 2005 concentrated upon reductions in emissions from developed countries.¹² New Zealand ratified the Protocol and is obliged to meet its terms, including a quantitative target for the period 2008 to 2012, but has not signed on for the next phase under that agreement.

A Vienna Convention for the Protection of the Ozone Layer had been rapidly negotiated and agreed in 1985 and a Montreal Protocol to it in 1987.¹³ But this dealt with man-made chemicals, chlorofluorocarbons and halons. It was relatively easy to secure agreement and action was taken quite quickly since substitutes that could be used as refrigerants and for other uses were available. However, it will be quite a few years yet before success can be assured, although the recovery seems to be progressing well. It takes a long time for the ozone hole to close. Nevertheless, as international environmental agreements go, this was a stunning success both in speed of negotiation and in widespread international acceptance and ratification. Climate change has proven to be harder and more intractable.

In 1991, building upon my experience as Minister for the Environment and the international meetings I had attended, I began teaching international environmental law in the United States. I wrote quite extensively in the international journals on the subject and produced with two American colleagues a law school teaching text, now in its third edition.¹⁴ It has about 150 pages on climate change. Teaching the course and helping prepare subsequent editions of the book kept me up to date with developments in climate change. Watching developments over the years has filled me with an increasing sense of foreboding as to whether the world will ever successfully conquer this problem.

The key issues are both international and domestic and in both instances progress has been painfully slow. The longer we wait the more difficult the policy adjustments will be. New Zealand in recent years has been a laggard in addressing its own burgeoning emissions issues. That in turn has damaged its capacity to act as an advocate for promoting change at the international level. The state of the law both internationally and domestically is fundamentally defective and not fit for purpose.

12 Kyoto Protocol to the United Nations Framework Convention on Climate Change 2303 UNTS 162 (opened for signature 11 December 1997, entered into force 16 February 2005).

13 Vienna Convention for the Protection of the Ozone Layer 1513 UNTS 293 (opened for signature 22 March 1985, entered into force 22 September 1985); reprinted in (1987) 26 ILM 1529. Montreal Protocol on Substances that Deplete the Ozone Layer (as amended and adjusted) 1522 UNTS 3 (adopted 16 September 1987, entered into force 1 January 1989); reprinted in (1987) 26 ILM 1550.

14 Jonathan C Carlson, Geoffrey W R Palmer and Burns H Weston *International Environmental Law and World Order* (3rd ed, West, St Paul (MN), 2012). The first edition was published in 1994. The book has an accompanying volume of relevant international treaties that runs to 1,500 pages.

IV THE DEFECTIVE INTERNATIONAL LAW

International negotiations on climate change that have been progressing fitfully for more than 20 years are planned to move to a climax in Paris in December 2015. The Ministry of Foreign Affairs and Trade October 2014 briefing paper to the incoming Government stated the main issue accurately and succinctly:¹⁵

Climate change is the most urgent and far-reaching threat we face, and the current negotiations on climate change are the most important multilateral negotiation now underway. Positions taken by countries on climate change and their readiness to contribute to global solutions will increasingly define the way that others perceive them politically and economically.

What we need to understand is the legal context in which those negotiations will take place. Governments may pay lip service to making progress but whether real progress will be achieved remains dangerously uncertain.

International environmental governance is weak and the explanation for that lies in the institutions of international law. The negotiating of treaties is dominated by the principle of unanimous consent. Nations cannot be bound to treaties to which they do not agree. The burden of state sovereignty poses obstacles to progress in every direction. Unless there are clear rules and obligations that are enforceable, the prospects of solving the problems of climate change seem remote. Securing the necessary level of voluntary agreement between nations looks unlikely 24 years after the Framework Convention on Climate Change was agreed. Individual country commitments do involve specific costs now. The benefits on the other hand will be reaped by future generations. The issue of fairness to future generations arises in many areas of international environmental law, and is particularly prominent in climate change.¹⁶

Consent is required in the international legal system. It is not required in any domestic legal system. Nations have legislatures. They pass laws. Those laws are binding on everyone in the country whether they agree or not. There is no international equivalent of a legislature for climate change, despite the best efforts that were made in providing for majority decisions in some aspects of the climate change convention. In the absence of a legislature, climate change looks a bit like a classic game of the prisoner's dilemma.

I wrote an article in 1992 published in the *American Journal of International Law* drawing attention to the fundamental weaknesses of international environmental law and suggesting that new

15 Ministry of Foreign Affairs and Trade *Briefing to the Incoming Minister* (6 October 2014) at 7.

16 Edith Brown Weiss *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (Transnational Publishers, New York, 1989).

ways be devised to overcome the problem.¹⁷ The missing institutional link was the equivalent of a legislature. What was required were new methods that avoided developing international legal standards in small incremental steps, each of which must be subsequently ratified by all countries. A new chapter of the United Nations Charter could accomplish such a development, I thought, together with a new Environmental Protection Council with the capacity to take binding decisions.

The international legal order is not fit for purpose when it comes to dealing with climate change. The incubus of outdated ideas about state sovereignty too often prevents the required outcomes in climate change negotiations.¹⁸ The frustration, the waste of time and resources and the spinning of wheels that these negotiations involve should not be underestimated. The failures are due to the structural weaknesses of the international legal framework. A quantum leap forward in international governance is required.

To secure such a change will require determined political leadership and there have been few signs of that emerging on the climate change issue. Freedom to pollute the global commons brings ruin to us all yet the short-term incentives for individual nations not to act are strong.¹⁹ We have failed to build the institutions necessary to cope with problems that human activities have created. Nations are unwilling to agree to enforceable legal rules against themselves. The way the 2015 negotiations in Paris are shaping up it seems that the goal of legally binding targets upon nations for their carbon emissions will not be achieved, although that was the aim when the preparatory meetings started. If agreement is to be achieved there will be issues about the precise content of the agreement and how effective it will be.

V NEW ZEALAND'S ROLE INTERNATIONALLY

There have been occasional reports that New Zealand is playing an important role in bringing together developed and developing countries to find a way to reach commitments. Since the Presidents of China and United States reached an understanding late in 2014, there has been an impetus in these talks. It would help greatly if understandings could be reached between the biggest emitters.

17 Geoffrey Palmer "New Ways to make International Environmental Law" (1992) 86 AJIL 259. It is reprinted in Geoffrey Palmer *Environment: The International Challenge* (Victoria University Press, Wellington, 1995) 45.

18 The weakness of the international legal system has persuaded some of my colleagues that new methods of governance have to be developed that imagine new futures "deconstructing archaic institutions while building new ones; devising new public policies and legal mechanisms; cultivating new understandings of human rights, economics, and commons; and, perhaps most daunting of all reconsidering some deeply rooted prejudices about governance and human nature"; Burns H Weston and David Bollier *Green Governance: Ecological Survival, Human Rights, and the Law of the Commons* (Cambridge University Press, Cambridge, 2013) at 267.

19 Garrett Hardin "The Tragedy of the Commons" (1968) 162 Science 1243.

New Zealand's proposal is that each country would make a legally binding obligation to submit a schedule for reducing emissions. There would be legally binding pledges for accounting, reporting and periodic review and updating, but the content of the schedule – the level to which emissions will actually be reduced – would not be legally binding.²⁰ The power of the proposal lies in the principle of transparency, that the agreement would implement a universal transparency framework. The justification for the approach that avoids legally binding targets is put forward by New Zealand as follows:²¹

National determination of contributions allows Parties to self-select the type and ambition of their mitigation contributions to suit their national circumstances. Different commitment types lend themselves to different transparency requirements – both ex ante and ex post the tabling of contributions. A common transparency framework can accommodate parties at different stages of development – the tiered approach of the IPCC guidelines for national greenhouse gas inventories, for example. An accounting menu, from which Parties select options best suited to their national circumstances will also align expectations of Parties with their circumstances. In respect of providing finance, categories of countries make little sense in the context of the magnitude of the task. All Parties in a position to do so should support the most vulnerable and least capable.

It is of vital importance that such an agreement is backed up by enforceable obligations: clear accounting rules and methodologies, the need to provide information about national determined contributions, the provision of hard information about what has occurred and the opportunity for review. In a word there need to be mechanisms to ensure compliance.²²

20 I find it strange that the only public announcement of the New Zealand initiative seems to be in a speech at Yale University on 14 October by Todd D Stern, Special Envoy for Climate Change, on the US Department of State Website entitled "Seizing the Opportunity for Progress on Climate". The October 2014 New Zealand paper is New Zealand Government *Submission to the Ad Hoc Working Group on the Durban Platform for Enhanced Action* (October 2014). Two American commentators find merit in the New Zealand proposals: Daniel Bodansky and Elliot Diringer "Building Flexibility and Ambition into a 2015 Climate Agreement" (Center for Climate Change Solutions, 2014). They suggest the answer lies in a hybrid approach that combines elements of both the top down approach and the more recent bottom up approach and that the essential political will must come from the domestic realm.

21 New Zealand Government, above n 20, at [9].

22 Jane Gleeson-White *Six Capitals: The Revolution Capitalism Has to Have – or Can Accountants Save the Planet?* (Allen & Unwin, Sydney, 2014).

But without legally binding emission reduction commitments, the approach has serious weaknesses in my view.²³ It will allow for all manner of backsliding, gaming, prevarication and the securing of rewards for free-riding nations. Such problems will likely ensure that commitments backed by even the most conservative science will be missed. I note that the European Union favours legally binding emissions targets.²⁴ The issue at stake here is how much national flexibility to allow and how much to rely on international rules. However the balance is struck in Paris, it is vital that it be struck. Further endless iteration will mean we run out of time and cannot mitigate, thus relying on adaptation only. In other words, the early policies of President George HW Bush of "no regrets" will end up being the default position for the whole planet.²⁵

I agree that additional measures are necessary but I am not convinced that country commitments are an unsound policy. The argot of the negotiations has been about these for more than 20 years. The absence of legally binding commitments on emission targets or measures that will have the same effect will open the door to policy failure. The purpose of the 1992 Climate Change Convention, as stated in article 2, is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". Will these proposals achieve that?

VI THE POLITICAL REALITY

There is every prospect that the structural weaknesses in the international system will defeat the effective implementation of such a proposal even if it is agreed. We are working with defective tools here. Few governments wish to face that issue, many try to avoid it. The political imperative that dominates all significant international meetings is of being able to claim progress has been made and that consensus is reached. Inevitably that means the standard is of the lowest common denominator. Weasel words and loose language will cover up ambiguities and difficulties.

23 The case against targets was in 1992 advanced by Professor Thomas Schelling:

The current popular expectation is that participation in any greenhouse regime will take the form of commitments to specified percentage reductions of emissions below those of some specified year, like 1990 or 2000. I cannot help believing that adoption of such a commitment is an indication of insincerity. A serious proposal would specify policies, like taxes, regulations, and subsidies and would specify programs (like research and development, accompanied by very uncertain estimates of their likely effects on emissions. In an international public forum, governments could be held somewhat accountable for the policies they had or had not put into effect, but probably not for the emissions levels achieved.

Thomas C Schelling "Some Economics of Global Warming" (1992) 82 *American Economic Review* 1 at 13.

24 Dan Collins "Lima Climate Talks: EU and US at Odds Over Legally Binding Emissions Targets" *The Guardian* (online ed, London, 2 December 2014).

25 Larry Parker, John Blodgett and Brent Yacobucci "US Global Climate Change Policy: Evolving Views on Cost, Competition and Comprehensiveness" (Congressional Research Service, 24 February 2011) at 8.

Political leaders will proclaim they have made progress when the reality is likely to be very different. Since 1992, the history of climate change negotiations has been littered with false starts, blind alleys and a lack of achievement in arriving at binding targets or equivalent measures for the reduction of carbon dioxide emissions. Now there is a risk that the ground is being laid for the critical Paris talks towards the end of 2015 to produce more fudge and push out the boat for future iterations. But we do not have time, as the science makes clear.

The much-trumpeted UNFCCC talks held in Lima, Peru in December 2014 were a serious disappointment, as were those in Warsaw in 2013, Doha in 2012, Durban in 2011, Cancun in 2010 and Copenhagen in 2009. Essentially the nations agreed in Lima that they needed to agree to an instrument with binding legal force but have not done so yet. The central decision of the Conference was:²⁶

... that the protocol, another legal instrument or agreed outcome with legal force under the Convention applicable to all parties shall address in a balanced manner, inter alia, mitigation, adaptation, finance, technology development and transfer, and capacity-building, and transparency of action and support."

In February 2015 an ad hoc working group has made available a lengthy negotiating text.²⁷ This 86 page document is at an early stage of development. It is replete with options and sub-options of such a variety and range that it is impossible to do anything but speculate on the basis of it what the outcome of the Paris talks may be. The loopholes and escape hatches in the language make clear there are deep divisions within the international community about how to deal with the problem and even whether to deal with it. One of the key issues is how to encourage countries with rapidly developing economies and huge populations to mitigate their emissions.

The lack of international leadership, where more than 20 meetings since 1992 have produced so little, is a bad augury. But it is also an indication of how hard solving the problem is. The substantive components of any agreement reached in Paris are likely to be unenforceable. And it is also likely it will be insufficient to meet the two degrees Celsius target in the non-binding Copenhagen accord. The overarching goal of the Paris meeting is to reduce greenhouse gas emissions in order to limit the global temperature increases to two degrees Celsius above pre-industrial levels. Many scientists now say that will be insufficient to contain the problem.²⁸ Zero emissions must be the goal now and negative emissions would be better. Unlike methane, carbon dioxide does not break down in 10 years, but stays in the atmosphere for thousands of years.

26 UNFCCC Conference of the Parties, *Further Advancing the Durban Platform* FCCC/CP/2014/L14 (2014) at [2].

27 UNFCCC Ad Hoc Working Group on the Durban Platform for Enhanced Action *Negotiating Text* FCCC/ADP/2015/1 (2015).

28 See J Hansen and others "Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2°C global warming is highly dangerous" (2015) 15 ACPD 20059.

The United Nations Security Council debated climate change as long ago as 2007 and again in 2011.²⁹ But it has taken no concrete action. In the event that the negotiations under the Framework Convention do not result in thwarting the threat, there can be little doubt that international peace and security will be endangered and the Council will be confronted with many difficult problems.

VII SCIENCE SAYS RAPID REDUCTIONS IN CARBON EMISSIONS REQUIRED

Professor James Hansen of Columbia University, formerly of NASA, now argues that the target of keeping under a two degrees Celsius temperature rise is a dangerously inadequate target. In a 2013 paper he argues with other colleagues that the dangerous effects of climate change will start occurring at a temperature rise of one degree Celsius. While the two degrees target is now almost out of reach or becoming so, a one degree increase will lead to massive destabilisation. The abstract of the paper says:³⁰

Rapid emissions reduction is required to restore Earth's energy balance and avoid ocean heat uptake that would practically guarantee irreversible effects. Continuation of high fossil fuel emissions, given current knowledge of the consequences, would be an act of extraordinary witting intergenerational injustice. Responsible policymaking requires a rising price on carbon emissions that would preclude emissions from most remaining coal and unconventional fossil fuels and phase down emissions from conventional fossil fuels.

In policy terms the paper concludes that under a Kyoto approach with national targets for emissions reductions and cap-and-trade mechanisms "climate deterioration and gross intergenerational injustice will be practically guaranteed".³¹ The scientists argue: "If, in contrast, leading nations agree in 2015 to have internal rising fees on carbon with border duties on products from nations without a carbon fee, a foundation would be established for phaseover to carbon free energies and stable climate."³²

29 United Nations "Security Council Holds First-Ever Debate on Impact of Climate Change on Peace, Security, Hearing Over 50 Speakers" (press release, 17 April 2007); and United Nations "Security Council, in Statement, Says 'Contextual Information on Possible Security Implications of Climate Change Important When Climate Impacts Drive Conflict'" (meetings coverage, 20 July 2011).

30 James Hansen and others "Assessing 'Dangerous Climate Change': Required reduction of Carbon Emissions to Protect Young People, Future Generations and Nature" (2013) 8 PLoS One e81648 at 1.

31 At 21.

32 At 22.

The development of rational policy requires the preponderance of scientific evidence on this issue to be heeded. It is lamentable that the global response so far has been so limp and that short-term economic and political considerations have prevented determined action. The reason perhaps lies in the lack of available technological means to make a smooth transition to a low carbon economy.

The prospects of achieving the goal become less the longer the issue is left hanging. New Zealand's current low key approach to the whole issue of climate needs to change. Serious issues about fossil fuels, internal climate change policies and ruminant animals all require attention. I feel New Zealand could have been positioned as a world leader in renewable energy. We need to forge a pathway to a low emission economy.

VIII NEW ZEALAND'S DOMESTIC LAW

The complicated inter-relationship between international law and domestic law makes it harder to fashion adequate climate change law. New Zealand is bound by treaties it has ratified. But it does not ratify until it has converted the international obligation into domestic law, usually by statute. In legal terms, climate change is a problem of trans-boundary air pollution that requires international action to combat. But the international law and domestic law do not move in harmony with one another. Do we wait until there is a binding international obligation to repair our domestic law? The answer must be "No" because mitigation requires different measures from domestic adaptation.³³ And both are necessary to deal with the issue.

The two prime New Zealand statutes governing most actions on climate change are the Resource Management Act 1991 (RMA) and the Climate Change Response Act 2002. In relation to climate change, both are highly problematic, deficient and in need of urgent attention. New Zealand domestic law on climate change exhibits the characteristic weaknesses of the New Zealand law-making system.³⁴ Statutes are frequently and massively amended, leading to incoherence in the statutory scheme. There is often insufficient care taken in the preparation of new statutory schemes, and legislation gets rushed through rather than there being a focus on getting it right. There have been failures to follow agreed legislative standards and insufficient scrutiny by the House of Representatives.³⁵ We suffer in New Zealand from a failure to base policy upon evidence. The statute

33 On adaptation I have benefitted from conversations with Laura McKim of the Wellington Regional Council. Judy Lawrence and Professor Martin Manning from the Victoria University of Wellington New Zealand Climate Change Research Institute have also provided me with help.

34 Geoffrey Palmer "Law-Making in New Zealand: Is there a better way?" (2014) 22 Waikato L Rev 1. For a simpler account see Geoffrey Palmer "There Should Be a Law Against It" *New Zealand Listener* (New Zealand, 7–13 February 2015) at 27.

35 See Legislation Advisory Committee Guidelines <www.lac.org.nz>.

book speaks with many voices in New Zealand on climate change. There exist a number of provisions enabling and providing incentives for fossil fuel exploration.³⁶

IX THE RESOURCE MANAGEMENT ACT

The RMA was designed and implemented before the magnitude of the climate change problem was fully apparent. The Bill was introduced in 1989. Amendments have been made to try and take the issue into account to some degree but these have been insufficient and have raised more problems than they have solved.

The unsatisfactory nature of the law has caused expensive and lengthy litigation, including at least two journeys to the Supreme Court. In *West Coast ENT Inc v Buller Coal Ltd* the Supreme Court had before it the provisions of the Resource Management (Energy and Climate Change) Amendment Act 2004.³⁷ The Amendment Act directs those operating under the RMA to have particular regard to the efficiency of the end use of energy and the benefits derived from the use and development of renewable energy. However, the Amendment Act also introduced provisions prohibiting consent authorities from considering the effects of greenhouse gas emissions on climate change when making rules to control discharges into air and when considering an application for a discharge permit.³⁸ The amendments required consents and conditions to follow any national environmental standard to control the effects on climate change of the discharge into the air of greenhouse gases. This amendment was to avoid having Regional Councils arriving at different standards around New Zealand and to avoid double regulation. But in an obvious policy failure by both Labour and National led Governments, no such standard has ever been promulgated.

New Zealand's key environmental statute is disabled from considering what is a critical issue relating to climate change. I was very surprised, therefore, in reading the Minister for the Environment's speech on 20 January 2015 concerning changes to be made to the Resource Management Act proposed by the Government, to find no mention of climate change.

The Supreme Court decision is arguably wrong, as pointed out in the dissent of Elias CJ, because the majority did not address whether the sustainable management test in s 5 of the RMA had been met.³⁹ Nevertheless, the result was that consent for a massive open cast mine for coal in the Buller was allowed to proceed without any consideration of the effects of burning the coal on the planet's atmosphere.

36 World Wide Fund for Nature "Fossil Fuel Finance in New Zealand" (2013) <www.wwf.org>.

37 *West Coast ENT Inc v Buller Coal Ltd* [2013] NZSC 87, [2014] 1 NZLR 32.

38 Sections 70A and 104E.

39 *West Coast ENT Inc v Buller Coal Ltd*, above n 37, at [75]–[79], [88] and [94] per Elias CJ dissenting.

Nathan Jon Ross concludes, analysing the holding of the majority, that it is not open to territorial authorities and regional councils to regulate activities by reference to the effect on climate change and greenhouse gas emissions:⁴⁰

[The *Buller* decision] effectively removes all consideration of greenhouse gases, whether those gases are emitted directly, indirectly, diffusely, or in fact reduced. Could it have really been the legislature's true intention to remove from the internal workings of New Zealand's principal piece of environmental legislation virtually all opportunities, both negative and positive, to consider the one environmental issue that adversely affects all others?

While mitigation of global warming under the RMA is important and the law as it stands is clearly deficient, the statute is also the prime mechanism by which climate change adaptation must be addressed in New Zealand. Here the approach of central government has been to leave it to local authorities with little help or guidance.⁴¹ No signals are given that central Government regards the issues as a priority. The Ministry for the Environment is currently in the process of updating its climate change adaptation guidance for local government but that is not enough. What is required in my opinion is a National Environmental Standard promulgated under the RMA to avoid having Councils argue the science and re-litigate with their communities over and over again.

Section 7(i) requires "the effects of climate change" be considered as one of the "other matters" to be weighed under Part 2 of the Act. Section 7(j) requires "the benefits to be derived from the use and development of renewable energy" to be weighed too. The first of these is limited in its scope because of the Supreme Court case discussed above.

The range of future difficulties that will have to be dealt with under the RMA, the Building Act 2004, the Civil Defence and Emergency Management Act 2002, the Land Drainage Act 1908 and the Soil Conservation and Rivers Control Act 1941 as a result of climate change will include:

- inundation of coastal land by the sea;
- increased flooding and slips;
- building on land subject to hazards and floods;
- catchment management and river protection works;
- the provision of robust infrastructure;
- future settlement patterns and changing demographics; and
- planning changes as a result of climate change.

40 Nathan Jon Ross "Case comment: *West Coast ENT Inc v Buller Coal Ltd* [2013] NZSC 87" (LLB Directed Individual Research, Victoria University of Wellington, 2014). Mr Ross was a member of my Climate Change and the Law course in 2014 at the Victoria University of Wellington Law Faculty.

41 Ministry for the Environment *Climate Change Effects and Impacts Assessments: A Guidance Manual for Local Government in New Zealand* (2nd ed, May 2008). There have been substantial developments in the available scientific understandings of the hazards since 2008 contained in voluminous report of the IPCC.

Serious quantities of risk analysis are required. One would have thought a properly thought through national strategy with a strong emphasis on community engagement was required. But there is no sign of one. Local authorities are left to struggle through the thicket with little help and no direction.⁴²

X THE CLIMATE CHANGE RESPONSE ACT AND THE EMISSIONS TRADING SCHEME

The Climate Change Response Act 2002 was amended in 2008 to initiate the Emissions Trading Scheme (ETS). The Act started life as a serious response to the climate change problem, but it has suffered the fate of many statutes in New Zealand. When the Government changed it was massively amended, several times. It has lost coherence. It was substantially weakened, obligations were deferred and the changes favoured emitters. The Act suffers now from a myriad of public law problems. When I was teaching the statute last year I found that it was a treasure trove of doubt, difficulty and obstacles. It creates a ministerially approved market for emissions trading. The power of the Minister and of other authorities responsible to him to change almost every detail of the market does not inspire confidence in investors. Who wants to participate in a market that can change at any time at the whim of a Minister?

Advising participants in this market is a legally fraught undertaking. And I am not here dealing with the Act's lack of bite in reducing greenhouse gas emissions. I am talking about the words, fishhooks and traps contained in the 481 pages of the statute. The complexity of the institutional arrangements, the powers of the Minister, the Chief Executive, the Registrar, the Inventory Agency and the wide powers to direct under s 8A fill me with dread as a lawyer. The power to additionally regulate by other instruments is substantial. For example, auctions of emission units can be introduced by regulation. The impression is one of unconfident and tentative steps. Participants in this market will never know where they are and the ground can easily shift under them. The whole statute has a cloud of regulatory uncertainty hovering over the top of it. As a law it is not fit for purpose.⁴³

Added to that, the statute has had almost no effect in reducing New Zealand's greenhouse gas emissions. The failure to set a carbon price is fundamental, coupled with the piecemeal and delayed decisions in implementing it. Agriculture, the sector that emits more greenhouse gases than any other, receives a free ride. New Zealand has an unusual emissions profile in that nearly half of our total emissions are produced by agriculture, mainly methane and nitrous oxide from farm animals and some nitrous oxide from farm fertiliser. But carbon dioxide from the energy sector has grown by 45 per cent compared to 1990 emissions. On current settings the Emissions Trading Scheme, the main

42 See *"New Zealand's Framework for Adapting to Climate Change"* (Ministry for the Environment, August 2014).

43 The Regulatory Impact Statement prepared at the time of the 2009 amendments came close to saying what I have said in the text.

instrument for reducing emissions, will reduce gross emissions by 0.4 per cent in the year 2030 compared with the situation if the Government had taken no action.⁴⁴

We seem prepared to ignore in New Zealand the basic economic principle that all polluters need to face the full cost of their actions as a deterrent, so that externalities are avoided and the public is not subsidising polluters. Any ETS based on a cap and trade system requires a cap on the total amount of emissions. The New Zealand system does not have one. The weak price signal has had negative impacts in the forestry sector. The price of carbon is currently not sufficient to deter deforestation or incentivise new planting. The failure to set a proper carbon price has been seriously criticised by the Parliamentary Commissioner for the Environment, a person with statutory independence. Here is a summary of what she told a Select Committee considering further weakening amendments to the Climate Change Response Act in 2012:⁴⁵

Climate change is the biggest environmental challenge we face. Over my term as Commissioner I have continued to make submissions on the Emissions Trading Scheme as it has evolved, and acted as an adviser to the ETS Review Select Committee. In my role I take an independent, long term view of the systems and processes which affect New Zealand's environment.

Despite the weaknesses in the current scheme, I continue to believe that an ETS is the right mechanism to price carbon. It possesses the flexibility and potential to drive efficient reductions in greenhouse gas emissions. The ETS, which is the only real tool the Government has to combat climate change, has already been weakened by amendments.

The changes proposed in this Bill will further weaken the ETS.

The carbon market cannot operate without an effective price signal to incentivise changes in behavior. Changes in this Bill mute the price signal by shifting the burden of cost even more from the polluter to the taxpayer. Indeed, by making taxpayers subsidise the cost of pollution indefinitely, the amendments distort the market and limit the incentive to reduce emissions. Thus, they undermine the intent of an ETS – the economically efficient reduction of greenhouse gas emissions.

44 Sustainability Council of New Zealand *"New Zealand's Climate Change: Targets, Projections, and Liabilities"* (2nd ed, December 2014). I acknowledge the help Simon Terry has given me with this paper.

45 Parliamentary Commissioner for the Environment "Submission on the Climate Change Response (Emissions Trading and Other Matters) Amendment Bill" (September 2012) <www.pce.parliament.nz>.

The weakness of the New Zealand Emissions Trading Scheme are notorious.⁴⁶ Among its problems are:⁴⁷

- it will have a negligible effect in reducing domestic emissions under its current settings;
- the only reason New Zealand will meet its Kyoto commitment for 2008–2012 will be units acquired under Kyoto from short term forestry absorption, not because New Zealand has been reducing its gross emissions. New Zealand's gross emissions are in fact increasing;
- forestry trading seems to be at a standstill;
- since New Zealand did not sign up for a second Kyoto commitment, New Zealand emitters will lose access to Kyoto's flexible mechanism;
- a failure to implement recommended general quantitative limits on offset use – buying cheap units elsewhere means no pressure comes on domestic emitters to reduce emissions;
- there are few incentives provided to invest in de-carbonisation. Indeed, the carbon bill New Zealand will face is effectively being socialised. The oil, coal and dairy industries are all being subsidised in this sense, but renewable energy is not; and
- no ETS can produce zero emissions yet that may be what the science requires for success.

The record New Zealand has on reducing its carbon emissions suggests a carbon budgeting process is required that details the expected carbon flows and indicates how these can be reduced by practical actions. The ETS should be strengthened and this would be an ideal time given the low price of oil. New Zealand needs to start investing in a low carbon infrastructure and make a commitment to a zero fossil fuel electricity sector. Transport needs attention and so does forestry. Some attention

46 The *Climate Change Performance Index: Results 2015* published by German Watch and Climate Action Network Europe is a research-based effort, using 300 energy and climate experts from all over the world. It now includes emissions from deforestation. The Index has been produced in each of the previous 10 years. The Index rates 58 states that are responsible for more than 90 per cent of energy-related carbon dioxide emissions. The first three positions in the Index are blank because no country is judged sufficiently meritorious. Australia ranks second to bottom at 60th. New Zealand ranks at 43rd, one place above the United States. For climate policy we are "very poor". In 2007 it should be noted that New Zealand ranked 22nd. China ranks one below the United States. The top two countries are Denmark and Sweden. It should be stated that the Index may lack scientific rigour – it does little more than state the underlying raw data, emissions per capita, change in emissions and share of renewables. It lacks credibility to say New Zealand has a worse climate policy than Egypt, Algeria, India and Iran. The Index also assigns an arbitrary low rating to the share of renewable energy. Nonetheless, the Index causes reputational damage to New Zealand. For the critique of the Index and other observations I am indebted to Professor David Frame, Director and Professor of Climate Change, School of Geography, Environment and Earth Sciences, Victoria University of Wellington. See Jan Burck, Franziska Marten and Christoph Bals *Climate Change Performance Index: Results 2015* (Germanwatch, Bonn, 2014).

47 Jessika Luth Richter and Lizzie Chambers "Reflections and Outlook for the New Zealand ETS: must uncertain times mean uncertain measures?" (2014) 10(2) Policy Quarterly 57. See also Adrian Macey "Climate Change: towards policy coherence" (2014) 10(2) Policy Quarterly 49.

to agricultural fertiliser will have benefits not only for climate change but also water quality. It is positive that New Zealand is leading international research on agricultural emissions.

No convincing explanation has been offered by the Government for its existing domestic climate policy. Certainly the Ministry for the Environment's briefing papers to the incoming government are clear about the challenges. The officials told the government:⁴⁸

New Zealand's greenhouse gas emissions are small on a global scale (0.15%), however in 2011, our emissions per capita were ranked 22nd highest in the world, and 6th in the [Organisation for Economic Co-operation and Development]. In 2015, the government will participate in negotiations to agree a new international climate change agreement on reducing global greenhouse gas emissions from 2020. New Zealand faces domestic and international pressure to make credible commitments in the face of increasing scientific evidence that urgent and substantial global action is required.

Later in the briefing paper it points out that New Zealand has a long-term target of reducing its net emissions to 50 per cent below 1990 levels by 2050. However, it remarks that "our gross emissions have increased by 25% since 1990, and are projected to rise substantially in the time to 2050, based on current settings".⁴⁹ How will we get there from here? To set a target with no indication of how it will be reached seems irresponsible policy to me.

XI CLIMATE CHANGE DENIERS

The climate change deniers who have been vocal for many years now have been vanquished, at least in relation to their scientific misgivings. Understanding climate change denial in the face of the massive quantity of evidence that has now accumulated is a puzzle. Deniers assert the scientific consensus that human activity is disrupting the climate is wrong. The fact is that of the climate scientists actively publishing in peer reviewed journals there was 97 per cent agreement on the central issue.⁵⁰ Denial is not the same thing as genuine scientific skepticism. Deniers use a number of tactics: the use of fake experts; cherry picking some of the data using short periods of time, isolated examples and temperatures from specific locations; and ad hominem attacks, straw man arguments, red herrings, false analogies, non sequiturs, false dilemmas and other logical fallacies. There are conspiracy theories at large here as well. Political ideology, conservative think tanks and bias in the mainstream media have all contributed to the deniers securing more support than their case deserves. The corporate vested interests in the fossil fuel industries are massive and some of them fund the mischief.

48 Ministry for the Environment *Environmental stewardship for a prosperous New Zealand* (2014) at 4. See also Ministry for the Environment *Briefing for incoming Ministers: All-of-Government Climate Change programme* (November 2008).

49 Ministry for the Environment *Environmental stewardship for a prosperous New Zealand*, above n 48, at 21.

50 G Thomas Farmer and John Cook *Climate Change Science: A Modern Synthesis* (Springer, Dordrecht, 2013) at 447.

Some of the deniers in New Zealand brought a case for judicial review in 2012 of some of the decisions made by the National Institute of Water and Atmospheric Research Ltd ("NIWA"), being a Crown Research Institute and responsible for much of the New Zealand science on the subject of climate change. The plaintiffs challenged the scientific methods and conclusions reached by the Institute in its reports. The issue revolved around temperature records collated by NIWA indicating New Zealand had warmed over the last century. Adjustments to the raw data made because of regions' differing climates were questioned. The decision was a rebuff for the deniers: all their arguments were rejected. The challenges to the science of the Institute failed. Justice Venning not only dismissed the case, he awarded costs against the deniers.⁵¹ He held they had not acted reasonably. The deniers would not pay, they abandoned an appeal to the Court of Appeal and their Trust went into liquidation. A scholarly analysis of the decision criticised it for the standard of review adopted by the Court, although the right result was reached. The author argued that Courts are not well placed to adjudicate on scientific issues and such challenges to the science should not be available through judicial review unless fraud, corruption or bad faith can be proved.⁵²

XII NEW POLICY AND ECONOMICS

The Government will be forced by events to develop and implement a new climate change policy. New Zealand has many advantages, especially abundant renewable energy. The science has to inform the policy. What we have now amounts to policy failure. New Zealand seems to have lost its mojo in looking after the environment generally. But to neglect climate change, the greatest issue of our age, is unacceptable. It is contrary to all our traditions as a progressive country. The scientific consensus is clear.⁵³

Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.

51 *New Zealand Climate Science Education Trust v National Institute of Water and Atmospheric Research Ltd* [2012] NZHC 2297, [2013] 1 NZLR 75.

52 Laura Hardcastle "Can't See the Science for the Solicitors: Judicial Review of Scientific Research in light of *NIWA's case*" (2014) 12 NZJPIL 291. She points out at 293 that in the case involving likely erosion of the coast by sea level rise over the next century the court there refused to examine the scientific report: *Weir v Kapiti Coast District Council* [2013] NZHC 3522, (2013) 15 NZCPR 28. The issue of treatment by courts of scientific evidence will become increasingly difficult in environmental cases.

53 Thomas F Stocker and Dahe Qin (eds) *Climate Change 2013: The Physical Science Basis* (Cambridge University Press, Cambridge, 2013) at 4. This is the Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change: *Climate Change 2014: Synthesis Report* (IPCC, Geneva, 2015).

While New Zealand will not fare as badly as other countries, particularly Australia, in practical terms New Zealand will experience:⁵⁴

- increasing frequency and intensity of flood damage to settlements and infrastructure;
- droughts in the east and increased wild fire risk to ecosystems and settlements;
- big consequences for climate sensitive primary industries;
- sea level rise and coastal inundation; and
- species loss and changes in land use.

It is easy in this field to become depressed at the inaction and lose hope. That is the wrong approach. Determined action at both the international and local level – a combination of mitigation and adaptation – can turn the situation around. We need a long-term consensus based policy agenda. New Zealand needs to develop a new legal pathway that deals effectively with those issues under New Zealand's control. These must lead to lower emissions. There are many ingredients to the transformative change that will be required: more research, new technologies, individual behaviours are important, leadership and "nudges" from government will matter. Most important is the provision of an effective policy framework.⁵⁵

The future will be different. There will be electric cars. The use of fossil fuels will shrink drastically. Carbon capture and storage technology will advance. A change in the ways we use energy and the development of new energy technologies will assist. But weaning ourselves off carbon is the vital requirement and it will not be easy. Much cooperation will be required at all levels. We must offer something better than dystopian horrors to the next generations.

Political polarisation on the issue must be avoided. New Zealand in this regard needs to develop a cross-party consensus policy of the type that was recently agreed in the United Kingdom between the Prime Minister, the Deputy Prime Minister (Leader of the Liberal Democratic Party) and the Leader of the Opposition. They signed on to a climate change policy pledge before the May 2015 general election.⁵⁶ They agreed to a fair, strong, legally binding global climate deal which limits temperature rises to below two degrees Celsius. They agreed to work together across party lines to agree on carbon budgets in accordance with the Climate Change Act 2008 (UK). And they agreed to accelerate the transition to a competitive, energy efficient low carbon economy and to end the use of unabated coal for power generation. Regulatory lurches following changes in Government is exactly what New Zealand does not need.

54 Andy Reisinger and Roger L Kitching "Australasia" in Christopher B Field and Vicente R Barros (eds) *Climate Change 2014: Impacts, Adaptation and Vulnerability* (Cambridge University Press, Cambridge, 2014) 1371 at 1413.

55 Richard H Thaler and Cass R Sunstein *Nudge: Improving Decisions About Health, Wealth, and Happiness* (Penguin Books, London, 2009).

56 Pilita Clark and Jim Pickard "UK political leaders in joint pledge on climate change" *Financial Times* (online ed, London, 14 February 2015).

The economics of climate protection look quite reasonable to some economists and saving the planet will be cheaper than we thought some years ago. Economic growth and climate change action are not incompatible according to Paul Krugman, the Nobel prize-winning economist. He has said that "we'll find that it's cheaper and easier than almost anyone imagines".⁵⁷ As he also said: "The science is solid; the technology is there; the economics look far more favorable than anyone expected. All that stands in the way of saving the planet is a combination of ignorance, prejudice and vested interests."⁵⁸ The economic costs vary from country to country.

The New Zealand Treasury, in its briefing paper to incoming Ministers, pointed out that the commitment to reduce New Zealand's current target to reduce emissions to five per cent below 1990 levels over 2021–2030 could have an economic cost to New Zealand of between \$3,000,000,000 and \$52,000,000,000.⁵⁹ New Zealand has emissions targets but no plan of how to reach them. This defect needs to be addressed urgently.

XIII A HOPEFUL CONCLUSION?

I began this article with a reference to two wicked problems, perhaps they are super-wicked: the nuclear threat and climate change. I once visited Hiroshima as the New Zealand Deputy Prime Minister. It was a devastating emotional experience to learn of the quantity of human suffering the atomic bomb dropped on that city caused. The two nuclear explosions in Japan were catastrophic events. Although they have receded now in the human memory, the nuclear threat remains ever present. Responding to climate change has been impeded by the difficulty of imagining catastrophic future events. Climate change is a disaster in slow motion. The ozone depletion issue was simpler and easier. There were far fewer actors and interests involved and the remedy was not overly costly. But just as we knew how to repair the ozone layer, we know how to combat climate change: reduce the burning of fossil fuels and accelerate the development of alternative energy sources. If we are to keep the warming to two degrees or less we must leave at least 80 per cent of fossil fuel reserves in the ground.⁶⁰ New Zealand must repair its defective law.

We must not despair. We must hope and we must act. We must stop feeling threatened and rise to the challenge. Big changes to climate change policies everywhere are as necessary as they are inevitable. It was such a conviction, no doubt, that caused Bill McKibben to name his organisation

57 Paul Krugman "Errors and Emissions: Could Fighting Global Warming be Cheap and Free?" *New York Times* (online ed, New York, 18 September 2014).

58 Paul Krugman "Salvation Gets Cheap" *New York Times* (online ed, New York, 17 April 2014).

59 Treasury 2014 *Briefings to Incoming Ministers: Information Release* (November 2014). In the publicly available paper the costs figures are redacted, but are included in Sustainability Council of New Zealand, above n 44, at 3. Sir Nicholas Stern in his 2006 review on the economics of climate change said the costs of mitigation were around one per cent of GDP and relatively small relative to the costs and risks that will be avoided: Nicholas Stern *The Economics of Climate Change: The Stern Review* (Cambridge University Press, Cambridge, 2007) at xvi.

60 Bill McKibben "Global Warming's Terrifying New Math" *Rolling Stone* (online ed, New York, 19 July 2012).

"350.org", since 350 parts per million is the safe level of carbon dioxide in the atmosphere. It should be understood, however, that the science says our ultimate goal should be zero greenhouse gas emissions. The geological record from Antarctic drilling tells us, when combined with recent computer modeling, that the last time Earth's atmosphere had 400ppm of carbon dioxide (three million years ago) a significant part of the Antarctic ice sheet melted and global sea level rose up 20 metres with rates of up to two metres per century. The continuing rise in atmospheric carbon dioxide levels is committing our descendants to the consequences of a similar magnitude and rate of sea level rise in the future.⁶¹

One of the greatest intellectual difficulties in confronting climate change lies in the problems involved in getting experts in many different academic disciplines to cooperate and make a contribution to a complicated jigsaw puzzle. Virtually all the sciences are involved and there are some uncertainties on aspects of the science. But the state of scientific knowledge is iterative and is developing constantly. Many of the social sciences have a contribution to make to framing the solutions to climate change. Economists are an important part of the equation because the health of the economy and the allocation of costs are involved. Philosophers and experts in ethics have important things to say. Engineers are often close to the technology. Public policy analysts are required and lawyers must help design the regulatory frameworks and laws required. All the humanities need to be engaged.

The intellectual difficulties pale into insignificance compared with the political difficulties. Securing agreement from 193 nations on a controversial topic is severely challenging. The need to transform energy policies across the globe is very difficult when the changes will have uneven effects as between nations. The lack of legal and institutional mechanisms with which to address the problem remain palpable 23 years after Rio. The contrast between the economic effects of mitigation measures upon developing compared with developed countries remains hard. The sheer unpalatable nature of some of the policy choices required cause politicians who require re-election to quail. We have known about all these things since 1992 at the latest and we have yet to successfully address them.⁶²

In his recent book *The Meaning of Human Existence*, the renowned biologist Edward O Wilson of Harvard labelled the species *homo sapiens* as "the mind of the biosphere".⁶³ If that has been our evolutionary destination it would be a sound policy to preserve the biosphere and its ecosystems that support the zone of life on earth.

61 Information based on papers supplied to the author by Professor Peter Barrett, Emeritus Professor, Victoria University of Wellington Antarctic Research Centre to whom I am indebted for several points of scientific guidance. See T Naish and others "Obliquity-paced Pliocene West Antarctic ice sheet oscillations (2009) 458 Nature 322; and David Pollard, Robert M DeConto and Richard B Alley "Potential Antarctic Ice Sheet Retreat Driven by Hydrofracturing and Ice Cliff Failure" (2015) 412 Earth Plan Sci Lett 112.

62 Geoffrey Palmer "Preface: An Introduction to the Symposium" (1992) 2 Transnational Law and Contemporary Problems" vii.

63 Edward O Wilson *The Meaning of Human Existence* (Liveright Publishing, New York, 2014) at 25.

NZCPL OCCASIONAL PAPERS

- 1 Workways of the United States Supreme Court
Justice Ruth Bader Ginsburg
- 2 The Role of the New Zealand Law Commission
Justice David Baragwanath
- 3 Legislature v Executive – The Struggle Continues: Observations on the Work of the Regulations Review Committee
Hon Doug Kidd
- 4 The Maori Land Court – A Separate Legal System?
Chief Judge Joe Williams
- 5 The Role of the Secretary of the Cabinet – The View from the Beehive
Marie Shroff
- 6 The Role of the Governor-General
Dame Silvia Cartwright
- 7 Final Appeal Courts: Some Comparisons
Lord Cooke of Thorndon
- 8 Parliamentary Scrutiny of Legislation under the Human Rights Act 1998
Anthony Lester QC
- 9 Terrorism Legislation and the Human Rights Act 1998
Anthony Lester QC
- 10 2002: A Justice Odyssey
Kim Economides
- 11 Tradition and Innovation in a Law Reform Agency
Hon J Bruce Robertson
- 12 Democracy through Law
Lord Steyn
- 13 Hong Kong's Legal System: The Court of Final Appeal
Hon Mr Justice Bokhary PJ
- 14 Establishing the Ground Rules of International Law: Where to from Here?
Bill Mansfield
- 15 The Case that Stopped a Coup? The Rule of Law in Fiji
George Williams
- 17 The Official Information Act 1982: A Window on Government or Curtains Drawn?
Steven Price
- 18 Law Reform & the Law Commission in New Zealand after 20 Years – We Need to Try a Little Harder
Rt Hon Sir Geoffrey Palmer
- 19 Interpreting Treaties, Statutes and Contracts
Rt Hon Judge Sir Kenneth Keith
- 20 Regulations and Other Subordinate Legislative Instruments: Drafting, Publication, Interpretation and Disallowance
Ross Carter

Available from the New Zealand Centre for Public Law
Faculty of Law, Victoria University of Wellington, PO Box 600, Wellington, New Zealand
Email: nzcpl@vuw.ac.nz, Fax +64 4 463 6365