Sir Geoffrey Palmer

Climate Change and New Zealand

is it doom or can we hope?

How to approach the issue

Climate change is a wickedly difficult problem. It involves a complex matrix of scientific, political, social, economic and ethical considerations. While these many different intellectual perspectives are important, they also pose problems in arriving at appropriate solutions.

In order to solve the issue of climate change it is necessary to draw on many academic disciplines. Virtually all the sciences are engaged: biology, chemistry, geology, and physics and atmospheric science, ecology, genetics, mathematics and meteorology; also geography, a discipline that spans both natural and social sciences. Engineers are also increasingly important. Philosophy, ethics, feminism and anthropology all offer insights that are valuable on this most difficult issue. Economics and the role of the market in allocation of resources looms large in climate change, but when it comes to climate change the market fails to capture many of the values and contributions that are at play. Successful analysis is all about asking the right questions.

Ecosystems provide many services for all of us, but we are oblivious to many of them. The global atmosphere is vital to life on this planet. It is an asset that all countries hold jointly. It can be looked upon as a global commons. We know about the tragedy of the commons. As Garrett Hardin pointed out in 1968, freedom in a commons brings ruin to us all (Hardin, 1968). How does the market cope with pollution and destruction of a natural feature as large as the atmosphere? Badly, is the short answer. So regulation is necessary, both international and domestic.

But in the end, a policy has to be developed to combat climate change. And the key element with this and other policies lies in the political will being present. So far on this issue both internationally and domestically the will is absent. If politics is the art of the possible, then the climate change challenge may be testing us beyond the collective means at our disposal. New Zealand's political response has been lamentable so far, and it is getting late in the day if success is to be achieved in combating

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climate change. We have made little progress internationally since the 1992 United Nations Framework Convention on Climate Change was agreed at Rio de Janeiro at the Earth Summit. I went to the meeting and here is what I wrote about it at the time in the *Washington University Law Quarterly*:

> The biggest diplomatic gathering in the history of the world which more world leaders attended than any international conference before did not summon up the collective political resolve necessary to deal with the global environmental challenge. Progress was simply insufficient due to a failure of the political will. (Palmer, 1995, 1992a)

over the years has filled me with an increasing sense of worry as to whether the world will ever successfully conquer this problem.

Calculus of the risk

I want to suggest that lawyers too have something to contribute to the debate. To succeed in combating anthropogenic climate change, regulatory mechanisms, both international and national, are required urgently. The instrument choices, their drafting in law, their negotiation, compliance and enforcement are legal issues. These are issues about which rigorous analysis is required if judgements are to be made concerning the adequacy of progress. Another legal issue is the domestic and international possibilities of legal action should the responses continue to be inadequate.

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Under the climate change convention there have been 20 conferences of the parties since 1992 and exceedingly little of substance to show for it; certainly nothing that even begins to solve the problem. It is 23 years since Rio. We do not have another 23 years to solve this problem. Sharp reductions in the emissions of greenhouse gases quickly are required in order to avoid doom. We can accomplish the goal, but it will not be easy.

I was minister for the environment when the first report of the Inter-governmental Panel on Climate Change was published, and I announced in August 1990 the New Zealand policy to reduce emissions.[1] Building upon my experience as minister 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 (Carlson, Palmer and Weston, 2012).[2] Watching developments

Let me offer one legal approach at the beginning. Years of teaching torts, the law relating to civil wrongs and the allocation of liability, persuades me that climate change, like many other problems, is all about risk analysis. A calculus of the risk analysis goes like this:

1. What is the probability that the atmosphere will heat up beyond 2°C as a result of anthropogenic climate change? (P)
2. How grave will the injuries and consequences be if the eventuality occurs? (L)
3. What is the cost and burden of taking adequate precautions to ensure that the warming does not occur? (B)

The matter can be looked at in algebraic terms: if the burden and costs of mitigation (B) are less than the probability of climate change occurring, multiplied by the consequences if it does – that is to say, if B is less than L multiplied by P – then we should take steps to stop it. It will be much cheaper in the long run to do so.[3]

To answer question one we must look at the science, and the science is clear. There really isn't much need to review it in detail. It is well known and has been exhaustively reported on for many years since 1990 by the Intergovernmental Panel on Climate Change in voluminous reports. One no longer hears fearful prognostications by those who doubt the science.

Professor James Hansen of Columbia University, formerly of NASA, now argues that the target of keeping under 2°C temperature rise is a dangerously inadequate target. In a 2013 paper he argued, with other colleagues, that the dangerous effects of climate change will start occurring at a temperature rise of 1°C. While the 2°C target is now almost out of reach, or becoming so, he argues, a 1°C increase will led to a massive destabilisation. The abstract of the paper says:

> 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 policy making 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. (Hansen et al., 2013, p.1)

Associate Professor Ralph Chapman of Victoria University of Wellington has recently written a wonderful little book entitled *Time of Useful Consciousness: acting urgently on climate change* (Chapman, 2015).[4] It is tightly written, scientifically accurate and comes from an informed policy point of view. He reaches similar conclusions to Hansen, emphasising the risk of breakdown in governance as temperatures rise.

I note that one of the co-sponsors of this address, Wise Response, made a detailed submission to Parliament petitioning some action on the point. That petition required that 'a holistic assessment should be undertaken of the range of risks that threaten New Zealand's future social, economic and environmental security' so that the risks could be addressed and the potential consequences averted (Finance and Expenditure Committee, 2015). The petition was rejected. It also called for cross-party support for that policy. The majority of the Finance and Expenditure Committee said that work was going on within the government and making good progress. Such a bland and general brush-off suggests that policy in this country is driven not by evidence but rather by short-term political considerations.

So, what is the magnitude of the predicted consequences of anthropogenic climate change? They include:

- damage to ecosystems and loss of biodiversity and species;
- damage to agricultural and forestry production through drought, forest fires, changes in precipitation, and increases in temperatures that will change land use;
- increases in sickness and disease from heat-related illnesses and death and the spread of infectious diseases;
- increased acidification of the oceans due to greater uptake of carbon dioxide, with dangers to aquatic life;
- damage to human welfare through emergencies caused by greater extreme weather events. The need for strengthened infrastructure for buildings, coastlines and roads will be considerable;
- life in a number of small island nations and some more populous ones is likely to be severely disrupted and a large number of people displaced resulting from increased sea levels. Increases in sea levels are likely to reach a metre by the end of the century.

Looking at the calculus of the risk as an equation in the way I have suggested, the decision to mitigate seems somewhat obvious. I cannot provide estimates of the costs if we fail to mitigate, but their magnitude is great. Warming above 2°C, so the science tells us, spells catastrophe; or at least that was what we used to think. Now it appears the science says anything over 1.5°C spells disaster. Analysis using the precautionary principle, an established principle of international environmental law, would lead to the same conclusion.

There are two sides to the climate change issue, mitigation and adaptation. Both will be required. Both will be expensive. If there is no mitigation, the result for this planet and the people who inhabit it will be a tragedy. The difficulty with this tragedy is that it is occurring in slow motion. You cannot see it. Television doesn't easily depict it, unlike the current refugee crisis in Europe, where people's passions are moved by the pictures they see on the television screen. Climate change is not of this order, or at least not yet.

We have known since 1992 when the United Nations Framework Convention on Climate Change was negotiated and finally agreed at the conference at Rio de Janeiro that 'stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system' is required. Those are the words of the convention itself in article 2. And it goes on to say such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. Much of the fear about doing anything decisive about climate change lies in the fear of adversely affecting economic growth. It is worth remembering that the capacity of the economy to produce anything will be drastically reduced if nothing is done to mitigate. Economies depend upon the capacity of ecosystems to support life. The bottom line in this debate seems clear. We cannot wait until adversity sets in because it will then be too late to stop it.

New Zealand's current low-key approach to the whole issue of climate change will need to change, and change quickly. Because we do not have solutions yet for methane is no excuse for failing to do anything effective to reduce carbon emissions. Serious issues about the use of fossil fuels in energy and transport, and emissions of long-living nitrous oxide from ruminant animals, all require attention. While there may have been a prospect earlier that New Zealand could have been positioned as a world leader in renewable energy and started making progress in this space, it now seems that we are slow 'followers' on the issue, and we are in bad company. New Zealand policy exhibits an indifference to the phenomenon of climate change both at the international level and domestically. Our weak domestic policies have weakened our ability to be progressive at the international level and assist in the production of successful outcomes in Paris.

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

- increasing frequency and intensity of flood damage to settlements and infrastructure;
- droughts in the east and increased wildfire 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. (Reisinger and Kitching, 2014, p.1413)

The point here is that, while the burdens of climate change will fall unequally upon the nations of the world, they will all have to cooperate together to be successful in combating the effects. Further, we cannot wait for top-down changes. Individuals, communities and cities can all take decisions to lessen the risk. This is beginning to occur.

What are the prospects for success at Paris at the end of 2015?

International negotiations on climate change have been progressing fitfully for more than 20 years. They are planned to move to a climax in Paris in December this year. This will be the 21st conference of the parties to the convention, and the progress in curbing global emissions from those first 20 meetings has been poor. We are going backwards. Emissions in 2010 exceeded 1990 levels by 45% (Olivier et al., 2011). The Ministry of Foreign Affairs and Trade in its October 2014 briefing paper to the incoming government stated the main issue accurately and succinctly:

> 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 under way. 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. (Ministry of Foreign Affairs and Trade, 2014, p.7)

We do need to understand the legal context in which these negotiations will take place. Everyone is hopeful of 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 prospect of solving the problems of climate change seems remote. Securing the necessary level of voluntary agreement between nations looks difficult 23 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 scientific literature says to me that zero emissions by 2050 or 2060 will be necessary, depending upon the level of risk we are prepared to tolerate.

The issue of fairness to future generations arises in many areas of international environmental law, but it is particularly prominent in climate change. Combating climate change can be seen as a public good: even countries that do not contribute to mitigation will receive the benefits of it. So nations are interested in ensuring in the negotiations that their own costs are outweighed by the benefits they receive from the mitigation of other nations. And deep cuts in emissions now only bring benefits years down the track. The higher the ambition, the higher the costs. The delays and the costs make it easier for domestic opponents to defeat changes politically. The strong levels of compliance required to make the agreement work will also generate political pressure and resistance.

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 convention (Palmer, 1995, 1992b). In the absence of a legislature, climate change tends to look a bit like a classic game of the prisoner's dilemma.

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. 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. That means that to secure change a great deal of political leadership will be required at Paris. A group of legal experts recently released the Oslo Principles on Global Climate Change Obligations 'to identify and articulate a set of Principles that comprise the essential obligations States and enterprises have to avert the critical level of global warming'.[5]

The good news is that there does exist a pathway that will allow this battle to be won. But we are running out of time. The longer we leave it, the harder it is going to be and the more painful will be the costs of adjustment. We probably have little more than 20 years to get it right. The tipping points are not far away. The scientific literature says to me that zero emissions by 2050 or 2060 will be necessary, depending upon the level of risk we are prepared to tolerate. In order achieve that we are going to have to transform the economy not only of New Zealand but also in many other countries.

Much of the adjustment lies in energy policy, and in energy policy New Zealand is relatively well off. We have a high level of renewable energy as matters stand, and it could be increased quite easily and quite rapidly. Economic growth has been driven internationally to a large degree

by cheap fossil fuel energy. Since 70% of greenhouse gas emissions worldwide are from fossil fuels (about 50% in New Zealand), a transformation to a low-carbon economy is necessary in order to achieve sustainability.

The Paris negotiations revolve around Intended Nationally Determined Contributions (INDC). This is a method of trying to change the way in which the negotiations occur so that, instead of defining goals each country has to meet, which was the approach under the now outdated Kyoto Protocol, nations make an offer. And when they make that offer the results of it will not be legally binding, although better targets may become binding in the future. What is clear is that the cumulative results of all these offers look almost certain to fail to meet the 2°C goal that has been set for these negotiations.

New Zealand's Intended Nationally Determined Contribution offer was a 30% reduction from 2005 levels by 2030, which is equivalent to 11% below 1990 levels, and even then it is subject to qualifications and conditions. The internationally-based Climate Action Tracker says that with the cheap credits New Zealand has accumulated, this allows a large increase in greenhouse gas emissions of 74–94% above 1990 levels by 2020.[6] Thus, it will not meet the government's own goal for 2050 (a 50% cut), and we have no idea how that goal is ever going to be met as matters stand.

The Royal Society of New Zealand submitted to the consultation, conducted by the government in double quick time, that New Zealand's targets should be around a 40% reduction in net emissions relative to 1990 gross emission levels by 2030 (Royal Society of New Zealand, 2015). The truth is that if every country behaved the way New Zealand has in terms of its INDC offer, the increase in temperature would exceed 3°C or perhaps even 4°C: that is to say, catastrophe.

The objective of the convention under which the negotiations are taking place is stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. This is a good place to begin the analysis of what constitutes 'success'. Nailing down with some precision what success means in the context of these negotiations is by no means an easy task. Is success securing of a binding agreement? Or is it a binding agreement that will keep greenhouse gas emission down to 2°C and prevent anthropogenic climate change? There are engaged here important timing issues. It seems clear at the present moment that a Paris agreement will not itself produce a pathway to reducing greenhouse gas emissions so that increases are held to 2°C by the end of the century (Kolbert, 2015, p.24).[7] Paris may, however, produce an agreement that has some binding elements. And these could produce, after important iterations in the future, an outcome that will keep within the limit. The tendency to postpone hard decisions has been very powerful in the 20 previous negotiations and we have to hope that will now change.

There exists, on the basis of the present science, a so-called 'representative concentration pathway' of 2.6 for reductions to the necessary level, but to accomplish that will require deep cuts in emissions quickly. Some issues arise in that connection as to what a binding agreement is. The Intended Nationally Determined Contribution pledge can be characterised as a bottom-up negotiation in comparison with previous efforts. This is the new element in Paris talks and deserves attention as to both its strengths and its weakness. These are finely balanced. The unfortunate experience with the Kyoto Protocol meant that not only were the developing countries not in the scheme, but also the binding targets established have not been met (the US and Canada being the standouts), and many, including New Zealand, have not signed on for the next phase of Kyoto. Thus, there will be no pressure on New Zealand to do anything until the Paris agreement comes into force, if there is one.

The counterfactual is that the absence of binding targets on nations means there will be no effective enforceability of the agreement, if one is reached in Paris. Commitments offered for Paris by nations on a voluntary basis, on the evidence so far, will not reduce emissions sufficiently to reach the convention objective. There are within the 84-page negotiating text provisions that will oblige parties to progressively enhance their mitigation commitments (cf text, article 15). If that occurs there is genuine hope. On the other hand, there are many low-ball and inadequate INDC offers on the table, of which New Zealand's is one.

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For the future, the practical issues of enforceability of any agreement, monitoring and verification become topics of vital importance. The problem of enforcement looms large over the entire enterprise and the weakness of international law must be understood. Reporting and monitoring provisions in the agreement will be critical in order to measure the outcomes from Paris and to discover whether sufficient is being achieved. Compliance – and underlying that, ambition – is a critical issue.

While the Paris approach is new, considerable obstacles need to be overcome for it to succeed. One of these is the conditional nature of many of the commitments so far filed with the secretariat. After Paris, much will remain to be done later. Whether that will occur within the rather small time available to avoid a tipping point remains speculative. In my view we have little more than 20 years to get on the sustainable pathway.

The topics in the Paris text that require agreement are many, complex and potentially divisive. Published in February were 84 pages of horrendously complicated negotiating text surrounded with square brackets, and numerous options that are wide enough to embrace both success and failure on each of the topics. Analysis of the negotiating dynamics and the options in the text is necessary in order to arrive at a judgement about the likelihood of successful negotiations. The issues are not simple:

- mitigation, adaptation, and loss and damage;
- the critical importance and complications surrounding the 'common but differentiated responsibility issues' and how to ensure that all nations, including less developed countries, make reductions in emissions sufficient to stave off disaster, and that the countries that lack capacity are supplied with the means to comply;
- the provision of substantial financial assistance to enable developing countries to change their economies, and allocating the financial burdens among developed nations: how that money will be raised and controlled is critical and the subject of some serious differences between nations;
- technology development and transfer and building the capacity of developing countries to cope is vital. In this respect, decisions relating to renewable energy and reducing reliance upon coal and petroleum need to be addressed, coupled with the absence of technology to reduce carbon emissions in some areas of industry, notably steel-making;
- transparency, reporting, accounting and monitoring;
- the overall issue of fairness of the agreement as a whole requires attention.

There have been some positive expressions of political hope out there and they are increasing. That is good, because political will is going to be required in copious quantities.

The accord reached between the United States and China has increased the likelihood of a positive outcome at Paris. But whether the commitments will be sufficient to meet the problem cannot be assessed now and will not be capable of being assessed until the Paris agreement is fully completed, if it is. The economic consequences of what may be agreed are likely to be the main drivers at Paris, together with the state of domestic political opinion in the various negotiating states.

International law is notoriously weak on compliance and there will be a lot of room here for backsliding, gaming and prevarication and opportunity for the securing of rewards for free-riding nations if care is not taken.

The upshot, in my opinion, is that the negotiations in Paris will have to be followed by a lot more negotiations later in order to ensure that the desired target ultimately will be met. An effective agreement requires five essential elements: (1) all nations have to be in the agreement; (2) the membership must be stable over time; that is to say, countries cannot leave to avoid their obligations; (3) all will have to accept deep reductions in emissions; (4) compliance levels will need to be very high (Hovi, Skodkin and Aakre, 2013); (5) the agreement has to be ratified, and there will need to be incentives not only to ratify but also not to leave.

International law is notoriously weak on compliance and there will be a lot of room here for backsliding, gaming and prevarication and opportunity for the securing of rewards for free-riding nations if care is not taken. Further endless iteration will mean that we run out of time and cannot mitigate, thus relying on adaptation only, or what one of the early policy pronouncements by President George H.W. Bush called 'No regrets'. Well, there will be plenty of regrets if that ends up being the default position for the whole planet.

New Zealand's domestic law

The complicated interrelationship 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 are binding international obligations to repair our domestic law? That seems to be the approach at present, but prudence would suggest we should get our domestic law in shape and we haven't.

Two prime New Zealand statutes govern most actions on climate change. These are the Resource Management Act 1991 (RMA) and the Climate Change Response Act 2002. The latter act contains the Emissions Trading Scheme (ETS), such as it is. In relation to climate change, both these statutes are highly problematic, deficient and in need of urgent attention. New Zealand domestic law on climate change exhibits characteristic weaknesses of the New Zealand law-making system. Statutes are frequently amended massively, leading to increased incoherence in the statutory scheme. There is often insufficient care taken in the preparation of new statutory schemes, legislation gets rushed and there is a focus on getting it through rather than getting it right. The New Zealand statute book speaks with many voices on climate change and there exist still a number

of provisions enabling and providing incentives for fossil fuel exploration.

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.[8] 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 (sections 70A and 104E). 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.

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 (Ministry for the Environment, 2008b).[9] 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, as recently seen in Christchurch.

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.

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 (see Ministry for the Environment, 2014b). Fortunately, however, some good work is starting to emerge in cities such as Auckland and Wellington, which are now moving ahead of central government.

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. 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 or her 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, fish-hooks 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 section 8A

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 section 8A fill me with dread as a lawyer.

fill me with dread as a lawyer. As a law it is not fit for purpose.

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% compared to 1990 emissions. On current settings the Emissions Trading Scheme, the main instrument for reducing emissions, will reduce gross emissions by 0.4% in the year 2030 compared with the situation if the government had taken no action (Sustainability Council of New Zealand, 2014).[10]

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 emissions trading scheme 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 (Parliamentary Commissioner for the Environment, 2012).

The weaknesses of the New Zealand Emissions Trading Scheme are notorious.[11] Among its problems are:

- 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 that 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 have now lost 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;
- it is unlikely that any emissions trading scheme can produce zero emissions, yet that is what the science requires for success (see Richter and Chambers, 2014; also Macey, 2014).

The record New Zealand has on reducing its carbon emissions suggests that a carbon budgeting process is required which 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 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:

> 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 OECD. 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. (Ministry for the Environment, 2014a, p.4; see also Ministry for the Environment, 2008a)

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Later in the briefing paper the ministry points out that New Zealand has a long-term target of reducing its net emissions to 50% 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' (Ministry for the Environment, 2014a, p.21). 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.

Some constitutional points

The New Zealand system of democratic politics concentrates remorselessly on the short term. General elections occur every

three years. Increasingly, decision-making is based not on evidence or facts but upon political considerations concerning what focus groups and public opinion polls suggest are the preferences of the public at any given time. The imposition of increased costs, taxes or expenditures are never popular. The problem with climate change stems from the reality that the longer we leave adjustments towards a low-carbon economy, the harder the changes will be to make.

There seems to be in our present structures of governance an inability to pursue a long-term vision for the country over time and to assess how we are doing, and to make adjustments. The system of governance seems increasingly concentrated on the short term. The domination of public debate by trivia and political pyrotechnics at the expense of serious discussion of policy direction has become debilitating. Warning the public of the dystopian horrors that may await them and their children resulting from climate change is not likely to make politicians popular either.

What is required in dealing with an issue like climate change is to set out clearly and repeatedly what the science shows concerning anthropogenic climate change, what the consequences will be if it is not mitigated and what the policy plan to deal with the adverse consequences is. On an issue like this it is no use following the example of Mr Micawber by ignoring it and waiting for something to turn up. What will turn up will be damaging to everyone in the end. What is required is political leadership.

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 agreed in the United Kingdom before the last general election 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 (Clark and Pickard, 2015). They agreed to a fair, strong, legally binding global climate deal which limits temperature rises to below 2°C. They agreed to work together across party lines to agree on carbon budgets in accordance with the UK Climate Change Act 2008. 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. As a strong supporter of MMP, I am at a loss to explain why such an approach cannot be achieved in New Zealand.

Regulatory lurches on the issue, following changes in government, is exactly what New Zealand does not need. But it is exactly what we have had. Anyone who doubts it should watch the wonderful New Zealand documentary Hot Air (Barry and King-Jones, 2014) analysing climate change politics in recent years in New Zealand. The vested interests, the lobbying and the pressures have been intense. They have aimed to prevent policies being adopted to address the problem and to reverse them when they have been adopted. What those economic interests so determined to stave off change need to remember is that the economy will be seriously incapacitated unless mitigation is pursued. Profits will dry up.

I am often asked: should the policies of the New Zealand government continue to fall short, what legal remedies are available in the New Zealand courts to nudge ministers into the appropriate action. The doctrine of parliamentary sovereignty and the absence of any constitutional protection for the environment make this difficult in New Zealand, more difficult than in other countries. There are, nevertheless, a number of avenues that could be pursued if the performance does not markedly improve after Paris. Included among these are a complaint to the Waitangi Tribunal, and judicial review of ministerial decisions for failure to take account of mandatory relevant considerations or taking into account irrelevant considerations. Section 5 of the Resource Management Act may offer some assistance, and there is the application of the American public trust doctrine that had its origins in the English common law, and the New Zealand Bill of Rights Act.

Let us hope it does not come to litigation. The situation needs to be examined closely when the new policies are announced after Paris, because assuredly new policies are going to be required. I do not think it is helpful to the cause to develop the various legal theories on offer in detail in public now. Suffice it to say I know there are many concerned lawyers examining the options.

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Small island developing states

I cannot end this address without some reference to the plight in which small island states find themselves. Widespread coastal flooding from the sea and water rising as high as a metre by the end of this century will have terrible consequences, and some of these nations may go out of existence altogether. It could even happen more quickly, as some scientists are now predicting, based on the melt in Antarctica. In many countries large numbers of people live near the coast.

I said at the University of Papua New Guinea in May 1989:

> 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. (Palmer, 1990, p.70)

In that respect, I suggest the attitude adopted by Australia and New Zealand at the meeting of the 2015 Pacific Forum was most unfortunate. The destruction of entire cultures in our neighbourhood is a serious matter and commands our attention and compassion.

The risks of climate change and the danger to the very existence of a number of nations, plus widespread human displacement of peoples, is going to lead to a security situation of the most serious proportions. This issue has been raised in the United Nations Security Council on four occasions, most recently in June this year, while New Zealand was in the chair. The Security Council has failed to grasp the nettle. If the climate change talks in Paris fail it is likely that in the course of time the Security Council will be confronted with unmanageable geo-political security issues.

Conclusion

I want to end with some quotations from Pope Francis's encyclical letter *On Care for our Common Home* of 24 May 2015. I am not a religious person, but profound moral questions inhabit the climate change space we occupy.

> The climate is a common good, belonging to all and meant for all.
>
> Humanity is called to recognize the need for changes of lifestyle, production and consumption, in order to combat this warming or at least the human causes which produce or aggravate it.
>
> The problem is aggravated by a model of development based on the intensive use of fossil fuels, which is at the heart of the worldwide energy system.
>
> Our lack of response to these tragedies involving our brothers and sisters points to the loss of that sense of responsibility for our fellow men and women upon which all civil society is founded.
>
> The exploitation of the planet has already exceeded acceptable limits and we still have not solved the problem of poverty.

1 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% 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. See Palmer, 1990, pp.59-73.

2 The book has an accompanying volume of relevant international treaties that runs to 1,500 pages.

3 *United States v Carroll Towing Co* 159 F.2nd 169 (2d Cir, 1947).

4 Professor Chapman was kind enough to read a draft of this article and assist me with comments.

5 Oslo Principles on Global Climate Change Obligations, released at a symposium at Kings College, London, 30 March 2015, http://www.osloprinciples.org/principles/.

6 http://climateactiontracker.org/countries/newzealand.

7 The head of the convention secretariat is quoted as saying: 'If anyone comes to Paris and has a eureka moment –"Oh my God, the I.N.D.C.s do not take us to two degrees!" – I will chop their head off anyone who published that. Because I've been saying this for a year and a half.'

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

9 There have been substantial developments in the available scientific understandings of the hazards since 2008, contained in voluminous reports of the IPCC.

10 I acknowledge the help Simon Terry, researcher of this report, has given me with this article.

11 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 ten years. The index rates 58 states that are responsible for more than 90% 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 Burck, Marten and Bals, 2014.

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