Submission on proposed Zero Carbon Bill

from Brian Dixon, Clinical Psychologist

The efforts of the Climate Change Minister and the officials who have been working on this are to be commended. This is a critical piece of legislation that will shape our response to climate change issues well into the future, beyond the 2050 date for emissions targets. It is, therefore, imperative that we envisage the broad scope, direction and appropriate goals that will be required to enable and facilitate an effective response to the most extraordinary crisis humans have faced.

Background

My position on the need to limit carbon emissions dates back to the early 1970s when I studied a paper in my psychology degree examining issues in environmental psychology. At that time, we were encouraged to read the writing of environmental futurists such as Paul and Anne Erlich who warned of the increase in production of "greenhouse gases" and the inevitable consequence of global warming. As much as any other factor, this drove my passion for environmental issues and my support for a number of environmental causes in highly active and more passive roles. I was a founding member of the Waikato Watchdog group that opposed the government plans in the 1980's for massive coal-mining expansion into the northern Waikato wetlands between Huntly and Pokeno/ Maramarua. We also successfully contested water rights for the expansion of opencast mines in the later 1980s, achieving stronger environmental standards and commitments to lower impact mining at that time. One of the arguments that we repeatedly used in opposition to coal-mining was its long-term environmental impacts including atmospheric degradation and its role in increasing emissions with ongoing harmful effects on the planet. Watchdog also commissioned research on the planning processes of the Huntly Power station, highlighting the failure to consider fossil-fuel use and emissions.

Public views of climate change

In the 28 years since 1990, awareness of and knowledge about climate issues has undergone a dramatic explosion as the increasing seriousness of climate change due to anthropogenic factors has become a centre stage feature of scientific research and political debate. That level of awareness and knowledge will be reflected in the feedback and contributions the Ministry receives in response to the climate consultation process this year. However, most of the science and the debate itself has been focused on modelling and facts related to physical impacts, yet the major "wicked problems" that we face in relation to climate change are concerns of relevance to the social sciences; it is people who are affected by this potentially catastrophic process and is people who need to be persuaded to make changes both to mitigate effects and to adapt to the changes imposed upon them by the environmental changes that will occur. While the physical sciences have pointed out the

nature and scale of the slowly unfolding crisis, the very reason that it is a crisis is because it affects humankind and threatens the very way of life that we have grown to assume is our right and that of generations to follow. The response has to be one involving human thinking and behaviour change, otherwise we can expect only the most catastrophic consequences. Encouraging and persuading people to make those changes will not be informed by the physical sciences but by the social sciences and psychology in particular. In fact, evidence from the psychological research perspective shows that people are inclined to disengage when confronted with hard facts (from physical science) of the progressive deterioration of the environment due to climate change and the risks of inaction. Norwegian psychologist and economist Per Espen Stoknes who co-chairs the Centre for Climate Strategy at the Norwegian Business School has highlighted this dilemma and suggests approaches based on our understanding of what motivates and drives humans (summarised in his TED Talk *How to transform apocalypse fatigue into action on global warming.* Also in Stoknes, Per Espen (2015) - referenced.

The role of Psychology

My own conservation and environmental activities have been guided by my knowledge of psychology and the importance of influencing decision-making through enabling public voices to be heard and for dialogue to occur. I don't claim any particular expertise in marketing and messaging (those are areas of knowledge in their own right that will have validity in conveying information to people in ways that inspire action) but I am convinced that the most effective strategies in aiming for reduced carbon emissions in New Zealand and worldwide will be predicated on an understanding of the effective ways of getting people to change attitudes and behaviours. For this reason, I am very concerned that the debate around the Zero Carbon Act has been largely missing sound social analysis and that the proposed composition of the Climate Commission seems to overlook the need for input from fields of expertise in the social sciences, psychology in particular. The important developments that are envisaged must be informed from the outset by our knowledge and understanding of the psychology of climate change, which incidentally is already a well-developed area of research internationally but has been largely ignored in New Zealand. This country is able to benefit from the work that has been done already and build on the psychological research experience of the unique circumstances of Aotearoa where Maori communities are likely to be disproportionately affected by sea level rise and coastal inundation. We also have major urban communities with the world's largest concentration of Pacific People and there will need to be special attention to the social impacts and demands on services as those numbers increase due to climate-related migration.

New Zealand does have professional interest groups that have taken on the responsibility of examining climate change issues from their professional perspective. One of those groups, the New Zealand Psychological Society's climate psychology task force (of which I am one of the founding members), has undertaken to collect and review information produced under the emerging climate psychology sub discipline and to seek to inform decision-making in the area of climate change and human behaviour, as well as promoting understanding of and

readiness for the very significant impacts of climate change on future mental health and wellbeing in our communities (see Royal Society, 2018; Hayes et al, 2018).

I urge the Ministry for the Environment and the Government to ensure that there is adequate provision in the legislative framework to take advantage of the substantial expertise related to attitude and behaviour change. There exists a substantial and sound research literature on climate psychology, including effective messaging, encouraging community involvement in mitigation and adaptation measures, responding to natural disasters and gradual crises, educating the public, and a variety of other topics significantly linked to climate change (Swim et al, 2011a,b; Doherty & Clayton, 2011; Reser & Swim 2011; Fielding et al 2014). Ignoring that existing and evolving scientific information base will be perilous for New Zealand.

Effects of climate change on mental health services are expected to be unprecedented as people are subjected to disruption of the communities in which they live and work and with displacement of people from areas in New Zealand and from overseas to occupy areas of concentrated population and under-resourced services. Such social effects can be expected to be significant and necessitate thorough planning that anticipates the nature and location of the crisis and apportions resources across social service sector groups to enable timely and proportionate responses. (see Atkinson, ed. Annals of Global Health special edition, 2015).

Psychological advice on the effects of climate change and their prevention or amelioration, and the application of psychological expertise in addressing peoples' attitudes and behaviour, is not merely an "add-on" option; it needs to be central to the planning, implementation, monitoring and evaluation of all aspects of the major Government, public, business and community response this Act needs to stimulate.

SPECIFIC COMMENTS

With regard to specific questions around the consultation, I make the following personal suggestions:

it is my view that the Climate Change Commission needs to undertake to perform all of those functions outlined in the documentation, advising government on key policy decisions, having the power to make policy decisions in selected areas and overseeing the monitoring of progress towards targets.

New Zealand needs a clear plan on how to assess and adapt to the risks of climate change for our people in our country and our economy.

The 2050 climate change target for New Zealand should be that of net zero emissions (including both long cycle gases carbon dioxide and nitrous oxide and the short cycle gases such as methane).

The Act itself needs to be rapidly implemented and targets need to be "front-loaded" (rather than assuming a straight line or incrementally increasing savings) - ie the bulk of

emission-reduction measures need to be in place at the earliest possible stages as the priority is to get maximum reductions in the shortest time-frames possible. The most difficult 10-20% of reductions will be the last and probably the most expensive to achieve. Emissions budgets (of rolling 5-6 year intervals) need to be highly transparent and challenging, with clear direction on strategies based on physical and social science knowledge and projections; monitoring must be rigorous, with at least annual critical reporting and review where progress lags targets and where it exceeds expectations (pointing to effective strategies or the need to adjust expectations). Budget details should be refined and their precision improved as they progress. The concept of a rolling timeframe is drawn from experience in human behaviour change; eg a goal of exercising 4 times in a week is abandoned if it becomes too hard with successive days of not exercising (or too few left), whereas 4 times in any 7 day period allows for the goal to be advanced on any day as every day starts, continues or completes a measurement period.

The ZCA needs to set an ambitious set of outcomes and the latest draft IPCC report indicates that the consequences of 2 degrees global temperature increase are unacceptable, with very significantly higher sea-level impact on human populations, infrastructure and food-production areas than at 1.5 degrees increase (which itself will have major effects on economic activity, transportation and habitats). The message is that 1.5 degrees is the bold target we need to achieve and that we should do our part in this by 2040. Additional (harder) measures designed to consolidate and maintain the gains should be in the 2040 – 2050 timeframe.

The 2050 target

While **net zero emissions** of ALL greenhouse gases should be the ultimate target established in the legislation, different strategies will be necessary for long-lasting and short duration gases as well as different approaches to methane from the various sources (geological and biological). That is likely to mean targets have to be staggered, depending on the time-frames for implementing strategies and the availability of technological advances and, while substantial progress may be possible in some reduction efforts, other may involve slower projected reductions. It may be impossible to eliminate emissions in some areas of activity but the role of "offset measures" such as creating effective carbon "sinks" and other forms of sequestration then come into play, so those too need to be maximised in plans. Forest restoration and other planting should place an emphasis on native forest retention and creation (and food forestry) as those offer for longer term carbon retention than production forests, harvesting of which can defeat the sequestering objective.

Climate Commission

The proposed composition of the Commission recognises sector experience with the exception of expertise in health and mental health impacts and planning needs, local government representation and psychological/behaviour change knowledge. These are considered to be essential contributions and serious omissions from the Commission.

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