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Submission on Climate Change Contribution Consultation – targets for Paris

Introduction

The Environment and Conservation Organisations of NZ (ECO) is the national alliance of 55 groups with a concern for the environment. ECO has been involved in issues of energy and land-use policy since its formation over 35 years ago.

This submission has been prepared by members of the ECO Executive and is in line with ECO Policy that was developed in consultation with ECO member bodies and endorsed by our AGM.

ECO supports New Zealand complying with and bettering our Kyoto Protocol obligations and the UN Framework Convention on Climate Change and taking serious action to make large cuts in our greenhouse gas emissions.

1. Question 1 - Objectives

We support the VUW Climate Change Clinic comments on the overall objectives:

The objectives set for New Zealand's contribution lack the necessary direction and specificity to guide government conduct. They are easily circumvented, take an overly cautious approach and do not require the government to take meaningful action on climate change. As a leader in the Pacific, with a responsibility to our island neighbours, New Zealand must clearly signal our intent to commit to meaningful reductions. The necessity of immediate action and measurable commitments must be reflected in the objectives of our climate change target.

The objectives also fail to recognise the severity of climate change. The discussion document fails to disclose the extremely high likelihood that we will be unable to cap global temperature

rise at 2 °C above pre-industrial levels. Failing to explain this fact leads the rest of the document to understate what is required to avoid “dangerous” interference with the climate system. Contrary to UN objectives, it implies that the NZ government considers a breach of the 2 °C limit acceptable provided we have the necessary ambition to do our “fair share.”

Objective 1

In respect of the first of the three draft objectives, we support the sentiment behind a fair and ambitious contribution. However, I submit that defining our contribution by how “it is seen” inappropriately permits New Zealand to say one thing and yet do another. Whether our contribution is “seen” as fair and ambitious internationally or domestically is less relevant than whether it accords with what the science requires. I propose that the primary objective for the contribution be that “It is a fair and ambitious contribution, grounded in science, which reflects New Zealand’s role as a Pacific leader.”

Objective 2

The secondary objective, requiring the appropriate management of costs and impacts, is important, but tips the scales in favour of inaction. To get the balance right, this objective should be amended to include benefits of climate action, not just costs and impacts. Furthermore, it should be followed by a secondary clause, which acknowledges that costs borne today reduce the costs payable in future. I submit the following amended objective two: “Costs, benefits and impacts on society be managed appropriately, while recognising our responsibility not to defer costs to future New Zealand citizens.”

Objective 3

The third objective can be commended for recognising the importance of a “transition” to a low emissions world; however it over-emphasises the global nature of this transition. Any transition requires domestic action and the object should reflect this requirement. I propose the following amended provision: “It must guide New Zealand over the long term in the transition to a low emissions world.”

2. Question 2 – Level of target and measures

2.1 General target

ECO supports New Zealand adopting a 40 percent cut in greenhouse gas emissions by 2020 over 1990 levels and an 80-90 percent cut by 2050. We should also be aiming to be carbon-neutral by 2050, and take policies which allow and encourage this decision path.

New Zealand should be going to the Paris climate meeting with a strong set of climate policies that includes funding for developing countries to cut emissions and adapt, a clear target to reduce greenhouse gas emissions by 40 percent by 2020, and a strengthened emissions trading scheme and renewable energy target. In the Bali agreement, New Zealand has already agreed, along with most other developed countries, to cut back emissions by 25-40%.

ECO considers any targets should be appropriate with countries wanting to limit global warming below 2°C.

New Zealand should be committed to preventing dangerous, human induced climate change consistent with the commitments we have already made under Article 2 of the United Nations Framework on Climate Change (UNFCCC). Commitments to limiting greenhouse gas emissions to no more than 450ppm or limiting increase in the global surface temperature to no more than 2 degrees will not prevent dangerous climate change.

As President Obama's former science adviser Holdren noted: *"In my view we are already experiencing dangerous [climate change], by any reasonable definition of the word dangerous."* Further *"from a scientific standpoint, 350ppm is better than 450ppm."*¹

The need for action on climate change has been well flagged for over 20 years. ECO supports an emissions pricing system which covers all sectors and all greenhouse gases. Taxpayers should not be left paying for the costs of emissions liabilities under the Kyoto and future obligations. All sectors should do their share of emissions reductions including methane and nitrous oxide reduction, and this includes agriculture and the New Zealand fishing industry in New Zealand waters and globally.

Amongst the targets put forward by comparable countries are:

- The EU has put forward a binding target of an at least 40 percent domestic reduction in greenhouse gas emissions by 2030 compared to 1990 to be fulfilled jointly;
- Norway is committed to a target of an at least 40 percent reduction of greenhouse gas emissions by 2030 compared to 1990 levels
- Switzerland has a 50 percent reduction by 2030 compared to 1990 levels.

ECO considers the chances of a further international agreement on climate change are strong. There is widespread recognition of the need for concrete action on climate change.

2.2 Action plan to achieve objectives

Globally to achieve the 2°C target it essential that emissions into the future steps are taken to make major cuts in emissions. Those cuts need to include non-carbon dioxide greenhouses gases including methane.

New Zealand's greenhouse gas emissions are steadily rising. New Zealand has developed no strategy or plan to reduce greenhouse gas emissions despite commitments under the UNFCCC to produce one. Many countries, both Annex I and others, have developed climate strategies. Denmark's "**Climate Policy Plan, Towards a low carbon society**" is one example.

There are lots of good ideas on what could be elements on a climate strategy and action plan. Some of these measures that New Zealand needs includes a clear climate change law similar to the UK Climate Change Act which has clear commitments and responsibilities. And we need targets that are backed up by a credible plan.

ECO supports Greenpeace proposals for a real climate action plan to:

- *Commit to have 100% renewable electricity within 10 years;*
- *Shut Huntly coal and gas fired power station by 2020;*

¹ Lawton (2009) Interview: America turns red, white and green. New Scientist Vol 203, No2719. 1 August 2009. pp26-27.

- *Phase out all subsidies for fossil fuels like coal and deep sea oil drilling;*
- *Ban deep sea drilling and fracking for oil and gas in New Zealand;*
- *Develop a low carbon action plan to ensure that by 2050 all areas of energy (electricity, heating, transport and industrial use) come from clean energy sources instead of fossil fuels;*
- *Reform the electricity markets by guaranteeing priority access to the grid for renewable power generators;*
- *Shift the unnecessary \$12 billion road building programme to investment in smart rail and public transport infrastructure such as the Auckland City Rail Link;*
- *Prioritise the import and infrastructure needs (e.g fast charging points) for hybrid and electric vehicles;*
- *Introduce incentives to harness the enormous potential in plantation wood waste to sustainable transport fuels. It has been estimated that this could create tens of thousands of jobs in the forestry sector and help reduce our oil imports bill by \$7billion each year;*
- *Make the Emissions Trading Scheme more stringent so that it works, enabling industry to move away from polluting energies;*
- *Implement policies to incentivise 'low input' farming methods that are proven to reduce pollution and increase farming profits;*
- *Prioritise geothermal projects to realise enormous export opportunities in our geothermal industry, which could be worth up over \$4 billion a year to the economy;*
- *Promote New Zealand as an international centre of excellence for developing and trialling renewable ocean energy technologies.*

The current Government approach has resulted in little in the way of action to reduce greenhouse gas emissions and instead loaded the costs on future generations and future governments.

2.3 Measures to make reductions:

In general terms, the more quickly New Zealand embarks on an adjustment path, the cheaper and easier it is to make that adjustment. This suggests that New Zealand should start as early as possible, and an early start will avoid loading liability to change onto the future, and liability for current emissions on households.

The discussion paper on commitments fails to disclose that most of the reductions proposed will occur through New Zealand buying emission credits from other countries. New Zealand does not propose to cut many actual (gross) emissions. This unacceptably puts all the risk for action onto future generations. We need to start taking actual cuts now, to make the future path less difficult than it will already be. And we need to be clear about gross vs net emissions, not to fudge our reporting or compliance.

ECO considers that a range of measures can achieve a 40 percent cut in greenhouse gas emissions. These include:

- Agriculture 10% of total reductions required;
- Stationary energy 10% of total reductions required;
- Transport 10% of the total reductions required;
- LULUCF 5% of the total reductions required;
- TOTAL from domestic reductions = 35%

This leaves a 5% reduction which could be achieved by support for certified emissions reductions in developing countries, including projects implemented in the Pacific and South Asia.

Achieving a 40 percent reduction will require a mix of policy instruments. A price mechanism (eg ETS) will not be enough on its own. Interventions will need to be regulatory, educational, social marketing of behaviour change, and the direct provision of services such as insulation and advice, and pest control to retain and enhance carbon sinks and stores. Insulation and active transport would both provide a double dividend of emissions reductions, better health outcomes, and a better sense of well-being on the part of households and individuals.

The funding of such measures can be financed from the windfall gains to power companies (some owned by the government). These windfall gains, or “rents”, have been shown to be quite substantial and adequate to provide such funding. These windfall gains come from the intra-marginal rents of power companies that can produce electricity at a price lower than the marginal cost. This is especially the case with power companies that have existing hydro.

Paradoxically the weak state of the New Zealand economy (and the global economy) provides a unique opportunity to New Zealand to re-gear investments in our infrastructure such as transport systems, and to use public funds deployed for fiscal stimulus in such a way as to encourage emissions reduction and energy efficiency.

Regulatory interventions, should include a wide range of measures, such as mandatory fertiliser budgeting by farmers, the use of nitrogen inhibitors, energy efficiency standards and labels, housing energy rating systems, and other similar measures.

2.3.1 Agriculture

Agriculture is the source of nearly half of our current greenhouse gas emissions. Methane and nitrous oxide are potent greenhouse gases. There is strong evidence that methane is a more important greenhouse gas in the short-term as an essential element of getting global greenhouse gases under control – in the first five years of emissions methane causes nearly 100 times the warming of the same amount of carbon dioxide².

While Agriculture is a critical sector for the economy of New Zealand there are measures which can be used to reduce emissions. The work by the Sustainability Council shows that 13% of agricultural emissions could be reduced, at a profit to farmers. This is principally the widespread implementation of nitrification inhibitors, building local bio-digestion plants, providing stand-off pads for cows, mandatory fertiliser budgeting, and changing grass cultivation. These policies need to be strongly promoted.

2.3.2 Carbon sinks and reservoirs – Land Use, Land Use Change and Forestry (LULUCF):

Further promotion of increased carbon storage and retaining carbon reservoirs is required. The failure to follow through the ETS this year has led to great uncertainty in the forest sector.

² Smith K (2009) Methane first, OK? New Scientist Vol 202 No 2714. pp24-25.

We also need to find ways of retaining carbon reservoirs such as our native ecosystems and soils and preventing their loss or degradation. We need to find ways of sequestering more carbon in soils through techniques such as biochar. We need to spend more on controlling invasive species, plant and animal, in order to enhance the capacity of native ecosystems such as forests and tussock grasslands to retain and to sequester carbon.

The development of fuel-wood will require plantations closer to towns and cities to reduce the cost of transport of low-density biomass energy.

Waste management practices should be designed to eliminate land-filling green-waste and the associated production of methane.

2.3.3 Renewable electricity

ECO considers it possible for New Zealand to produce all its electricity from renewable sources especially for mean or “wet” years.

We note that the New Zealand Energy Strategy scenario for 90% renewable electricity is very similar to the “Sustainable Path” scenario of the Electricity Commission’s Statement of Opportunities. Higher gas prices will make wind generation cheaper than combined cycle gas generation and stronger incentives and stronger promotion of energy efficiency will add to reductions in emissions.

ECO supports the complementary measures in the Energy Efficiency and Conservation Strategy and associated measures as in part a means of reducing greenhouse gas emissions.

Expanding Minimum Energy Performance Standards – The number of product classes covered needs to be greatly enhanced to give consumers better information on how to reduce energy use and greenhouse gas emissions.

Promoting Energy Audits and Retrofits – The Government clearly has a role to play given the high transaction costs to companies and individuals in gaining information about energy use and energy efficiency benefits. ECO supports the development of a home and commercial building energy rating system.

Labelling – labelling of product energy efficiency and emissions rating is supported.

2.3.4 Stationary Energy (including household and industrial energy use)

In the household sector there are many opportunities to reduce emissions – some of these are only now being implemented. These include:

- growth of the household insulation and clean heat programme (also providing health benefits);
- installation of genuine smart meters;
- encouraging wider uptake of solar water heating;
- increasing minimum energy standards for energy-efficient lighting and electronic equipment;
- modernisation of the Building Code;

- installation of energy efficient low emissions heating systems, and the promotion of efficient wood burners and widespread supply of dry firewood;
- conversion of coal-fired boilers and burners for direct heat to wood firing.

Householders' contribution to stationary energy reduction will come mainly from partial fuel-switching from heat pumps to new smokeless wood burning, on the assumption that the existing insulation programme meets its goals.

2.3.5 Transport

The Government needs to move to promote a transport system which is based on increasing fuel efficiency of vehicles and zero emission vehicles. The use of biofuels and electric-vehicles are major sources to reduce fossil emissions from vehicles.

New Zealand need to move from its focus on expanding motorways and building more roads to improving and expanding public transport. This will reduce emissions as well as restructuring the transport system to respond to higher oil prices.

We note that Tiwai Point Aluminium smelter now uses a similar amount of electricity to the maximum credible electric vehicle fleet in 2040 (Electricity Commission, Statement of Opportunities).

3. Question 3 – Economics and modelling

3.1 The models used

ECO suggests that the modelling used is lop-sided in the assumptions used and in several matters that have been ignored.

Most of the discussion document and background papers are based on a 10% "reduction" in emissions. The work by Infometric notes that this will have little impact on coal emissions because it is assumed NZ will just buy emission credits offshore. Larger cuts were modelled, up to 40% which is the level being adopted by Norway and the EU but below that by Switzerland.

The modelling by Infometric did not consider:

- An "allowance for widespread penetration of technologies such as electric cars, wave power, better batteries and so on";
- "mitigation through forestry and land use has not been quantified or included in modelling estimates presented".

Modelling by Landcare didn't consider action on farm emissions and shows increases in carbon dioxide, methane and nitrous oxide for New Zealand between now and 2030.

The modelling published includes a number of unrealistic assumptions:

- no change in technology in response to price signals and international commitments;
- that there is no change in forest planting in response to carbon prices;

- the emission reduction cuts of -25 percent and -40 percent assume that while there is international trading, there is no action taken by other countries;
- that international carbon price does not affect the domestic price;
- there are limited changes in other domestic policy.

The assumptions used in the modelling of a 40 percent reduction are the most pessimistic assessed.

Similar to the results of modelling in Australia all emission reduction modelled show a large increase in economic welfare: *“Under all scenarios, the economy in 2020 has still grown significantly from today.”* A 40 percent cut results in a net increase in economic activity - the economy grows by 33 percent from \$165 billion to \$220 billion.

We note that the Australian Treasury (2009), using four different models of the economy, and excluding environmental costs, and with many specifications of conservative assumptions, has estimated that Australia would lose only 0.1% of their GDP per annum if they took action from now until 2050 against a year 2000 benchmark.

This economic analysis is likely to suffer from misplaced concreteness since the future holds so many uncertainties that an accurate assessment of costs and benefits is likely to be illusory.

There is no consideration of costs and benefits including environmental costs and benefits. The Infometrics and NZIER report does not consider the costs of impacts of climate change on biodiversity or ecosystem services, on coastal areas caused by sea level rise, or the several effects of increased storms, droughts, and acidification of the oceans.

Any analysis of the impact of measures must include the effects of climate change itself: its attendant catastrophic weather events, spread of infectious diseases through disease that bearing vectors such as mosquitoes, extinction of species and other damage to ecosystems, biodiversity, and the creation of a range of stranded assets. The stranded assets would include those assets that involve high emissions and become stranded as consumers desert the products that they produce on the grounds that they are environmentally unsound.

For example, countries which are actually cutting emissions may not want to trade with New Zealand. New Zealand made no second round commitment under Kyoto Protocol and withdrew from that agreement. There should be considerations of these kinds of costs of inaction.

3.2 Price needed on carbon

It will be essential that New Zealand has a price on greenhouse gas emissions. Without this, New Zealand's investment and consumption decisions will lead to distorted outcomes which progressively distort our economy and lead decision-makers astray. We will end up making products that overseas consumers do not want because they are perceived as environmentally unsound. New Zealand's international competitiveness will be jeopardised if we do not reduce emissions and show ourselves to be good international citizens.

It is essential that the polluter pays principle is applied: otherwise those who produce emissions in their production or in their consumption choices have no incentive to make the less greenhouse gas intensive choices.

A price now on emissions, strategic public investments in greening the economy, our transport systems, and our houses; and re-gearing agriculture will all reposition the New Zealand economy to be far more competitive in a low emissions world. Delay in doing these things, will leave us more and more uncompetitive, more import dependent, and the export sector increasingly at risk of consumer rejection. This will result in damage to the economy, loss of income to producers, loss of employment, and hardship to individuals and households.

The impact on New Zealand households of a carbon charge has been modelled by Creedy and Sleeman (*Ecological Economics*). The picture is complex in terms of the differential effect on different kinds of households with different incomes, but their overall conclusion was that the impact was not large. Such a price on emissions however, is essential if households are to make emission reductions inspired by relative prices.

We acknowledge that some households will be more affected than others, and funds from windfall profits of those with intra-marginal rents (eg SOE electricity companies based on renewable generation) should be used to support vulnerable households, and to lay the groundwork of investment for a low emissions economy.

Points made at a Wellington taxation conference earlier this year, pointed out that we should not give emissions units to export exposed industries thinking that this would guarantee the survival of the firms and the employment that they provide. It was pointed out that the incentive for the firms that received such units would be to sell on the international market and the firms would either do something else or close down, and the jobs might be lost anyway. Such a process has occurred with the free permits allocated in the European emission permit system.

Emissions Trading Scheme:

ECO welcomed the passage of the Emissions Trading Scheme and the renewable preference obligation but thought the measures too weak, too delayed and too inequitable. ECO remains concerned at the long transition period for the ETS and the failure to take early and effective action on emissions from farming. ECO opposes the implicit subsidies to various sectors through providing free allocations or delaying the introduction of sectors into the ETS. It is essential that all sectors be introduced into the system quickly.

4. Question 4: Opportunities

See the topics discussed in question 3 above; many opportunities are identified.

5. Question 5: Uncertainties

We support the VUW Climate Change Clinic comments on the uncertainties:

The discussion document presents the transition to a carbon neutral economy as a “significant challenge”. Uncertainties surrounding both new technology and the possibility of breakthroughs in reducing agricultural emissions are presented as barriers. We disagree with

this portrayal of the issue, and think that the term *uncertainty* is used inconsistently in the document.

Technological Uncertainty

The document overstates the issue of technological uncertainty. While the form of future technology is uncertain, technological development, no matter the form, will actively contribute to reaching our target. Uncertainty in form is not a sufficient justification for allowing the issue to stagnate; we cannot await a magic bullet. Investing in R&D in the hopes of discovering such a revolutionary solution is not sufficient, we must make the most of currently available technology now so that we can enjoy the benefits of improvements as they arise. At the very least, we should grow our solar and wind investments in the areas of New Zealand where they will be most effective.

Scientific Uncertainty

The primary uncertainty lies not in the development of technology, but in the scale of the effects of climate change, and just how much it will cost us. As discussed in Q3, the cost of doing nothing is extremely high. We are not adequately prepared for the extreme weather events and resource strain which will occur. We ought to apply the precautionary principle to climate uncertainty; that is, because there are threats of serious and irreversible damage, lack of full scientific certainty ought not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Costs and Uncertainty

Although projections of future climate change costs are uncertain, it is essential to recognise and quantify this uncertainty, not to ignore it. There is also a need to plan robust strategies to prepare for uncertain futures, rather than using uncertainty as a justification for inaction. The sooner we act, the lower the risk and long-term cost. By making informed choices now, we can reduce risks for future generations and ourselves, and help communities prevent and adapt to climate change.

Conclusions

The case for urgent action has been underscored above. It is important for New Zealand to address the need to reduce all greenhouse gases including NO₂ and methane.

ECO recommends that a large reduction be made sooner rather than later, and that a multi-faceted policy package be drawn together in order to achieve it. That can be made up of an ETS with a range of complementary policies including emission standards, research, particularly into agricultural emissions reductions, pest control, energy efficiency, and attitudes and education. Reporting and compliance cannot be fudged. This is not individual or temporary prosperity we are seeking but long term stability - indeed the survival of future generations.

Yours sincerely,

Barry Weeber and Betsan Martin,
Co-chairpersons

Appendix II - Why New Zealand globally need to take action on climate change

New Zealand needs to take action on climate change for a range of reasons including:

- Acknowledging that **significant reductions will be required**. The Inter-governmental Panel on Climate Change has calculated that to stabilise concentrations at 1990 levels, global carbon dioxide emissions would need to be cut by more than 60%, methane by 15 to 20% and nitrous oxide by 70 to 80%.
- Recognition that **New Zealand's per-capita emissions are high** on a world scale. New Zealand has the fourth largest emissions of greenhouse gases per capita for Annex I countries (1998), exceeded only by Canada, the USA and Australia.
- **Need to set an example internationally:** New Zealand needs to set an example to other countries as part of its policies and their implementation.
- **International Credibility:** The principle of international credibility is very important and New Zealand has an opportunity to set an example and lead the Umbrella Group down a pro-active path. Without action we lose credibility and thus lose the ability to persuade developing countries to make the reductions necessary that will truly determine the world's future.
- It is important for the New Zealand government to be mindful of its geographic and political location in the neighbourhood of small South Pacific Island states. Diplomatically we have some obligation to further their interests.
- **Equity:** Climate policy must be equitable both internationally and domestically, inter- and intra-temporally and between humans and non-humans. International equity is the motivating force for the requirement for developed countries "to take the lead" as pronounced in the Framework Convention for Climate Change. The polluter pays principle should be adopted.
- **The application of the precautionary approach** to scientific uncertainty of environmental harm. The consequences of the risks of climate change must be avoided.
- **Obligations to future generations:** New Zealand has an obligation to future generations of New Zealanders and, as a global citizen, to where possible, avoid the impacts of climate change and further mitigate the effects of climate change.
- **Obligations to other species:** New Zealand has an obligation to reduce the effect of climate change on other species, in particular indigenous species, by reducing emissions.