

# Climate Defence Network (New Zealand)

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## Submission to the NZ Government on its document: "Sustainable land management and climate change"

### 1. Introduction

CDN is a network of organisations and individuals concerned about the need to prevent destabilising climate change. It includes: Environment and Conservation Organisations ECO, the Environmental Defence Society, Cycling Advocates' Network, Forest and Bird Protection Society, Federated Mountain Clubs, Friends of the Earth NZ, Greenpeace NZ, Gecko, Pacific Institute of Resource Management, Public Health Association, Ecoaction, Alternative Technology and Lifestyle Association, Nelson Environment Centre, Engineers for Social Responsibility, the Sustainable Energy Forum and WWF.

CDN welcomes the opportunity to make this submission.

### Ongoing Consultation

While 30 March is the end of the submission period, it is essential that it not be the end of the process of consultation and engagement. To be effective, these strategies must be revisited, revised and updated frequently. CDN is keen to work with the Government and with officials, as our resources permit, to ensure that this is the case.

### 2. Overall Strategy

Overall the strategies should focus on:

- Reductions first – charge now, trade later;
- Sinks second – more trees, fewer pests
- Clear targets and timetables – 80-90 percent cut in greenhouse gas emissions by 2050.
- Include demand reductions – don't just look at new energy supply
- Carbon equivalent charge needs revisiting
- Measures to increase forests and restore biodiversity
- Funding for energy efficiency need to be increased

### 3. Overview:

The carrying capacity of the natural environment to provide for human needs is being depleted rapidly. To maintain a sustainable society will require major policy changes. The ability of the biosphere to manage increasing greenhouse gas emissions is approaching or exceeding limits.

Natural gas is depleting and new sources are much smaller and less flexible. Aquifers feeding irrigation systems and town supply are depleting, river systems are over-used with loss of productive and ecological values.

Productive land is being lost to housing and lifestyle blocks. Indigenous forests are continuing to degrade with insufficient control of pests.

On the positive side, planted forests took much of the pressure off native forests for timber supply, and created a major export industry. Both indigenous and planted forests hold a stock of sequestered carbon.

Nevertheless, the recent mass conversion of plantation forest to dairy carries a double penalty in a carbon-constrained world? – the sequestration of carbon dioxide in wood is replaced by emissions of methane and nitrous oxides.

Social and economic impacts of energy and land use policies are barely discussed in the consultation documents or other reviews of energy issues.

Climate change has significant impact on agriculture and forestry – increases in extreme weather such as droughts and flood and new pests. Climate change policy internationally is also beginning to present a challenge to the New Zealand Agricultural sector through the discussion on food miles.

### **3.1 Not just forestry and farming**

**The Sustainable Land Management and Climate Change document** focuses largely on two major sectors: agriculture and forestry, but has missed the bigger picture.

Looking at land use through the narrow view of just farming and forestry, without considering the conservation estate, private native forests, revegetation of native forests, pest control and pest control risks a “silo” type policy development – which is not the way any climate change policy can work.

Soils have the ability to lock up carbon and their role is not addressed in this document. For example, converting gorse to pine forest reduces the carbon sink. Without considering soils and other carbon stores and sinks we risk mismanagement of our existing carbon sinks.

CDN acknowledges that some of these issues may not be directly related to Kyoto obligations but are relevant in the wider aspect of responding to climate change.

**CDN recommends that the Government takes into account the wider issues of preserving New Zealand's natural carbon sink, locked up in the Conservation Estate along with issues of pest control and preservation of biodiversity.**

## **4.0 FORESTS**

Firstly, the discussion document is largely focussed on planted exotic forests, with little consideration (except in the Permanent Forest Sink Initiative) for indigenous forests, tussock grasslands, wetlands and pests in indigenous forests.

The Government cannot see climate change on its own when it comes to issues of land use and climate change. The preservation of biodiversity must be taken into account when considering forest management issues. For example we don't want to see the forestry policies leading to such practices as tussock grasslands being converted to exotic forests.

We also note that while increasing forest area will lock up carbon, unless trees are actively managed and remain healthy, sequestration slows down as trees mature.

**The forestry sector needs a level playing field** – starting again with forests and Kyoto.

The proposals in the discussion document propose three different time periods with different arrangements:

- Pre- 1990 forests – which get no credits but pay if they are not replanted;
- 1990 to 2008 forests which get no credits;
- Post 2008 which may get credits.

The system needs to be changed so that all forests are treated equally. For a range of reasons (not just climate change but for water quality and riparian protection etc) we need exotic forests to be grown and replanted. Nationally we can see no reason why these forests cannot be treated in a similar way with the forest owners sharing the credits and liabilities with government.

For example the Government could retain part of the credits for monitoring and insurance against unforeseen liabilities which the forest owner cannot insure against. The Forest Owners would then get most of the credits but also get most of the liabilities if they didn't replant. All post 1990 forests could be treated the same way.

Again it is important that any new forests do not result in a loss of indigenous biodiversity. For this reason they need to be subject to the NZ Forest Accord (attached in Annex) and any additional measures required to protect biodiversity eg tussock grasslands.

**CDN recommends that part of the forest credits – and liabilities – need to be shared with the forest owners. Kyoto forests should not be viewed in isolation from forests planted before 1990 as they, too, lock up carbon.**

These credits need to be included in tradeable measures, both domestically and internationally.

They should not undermine or threaten issues of biodiversity. Any exotic forest should be subject to the NZ Forest Accord requirements to gain credits.

Forestry credits should be used for the long-term benefit of the forestry industry, rather than using these credits to offset other areas such as agriculture.

**CDN recommends the following offset possibilities for forest owners:**

We recommend that foresters should accept putting at least 10% of their forests in perpetuity to protect biodiversity and lock up carbon.

The control of pests in native forests is crucial to keeping CO<sub>2</sub> locked up. Native forest foragers like possums destroy native forests and thus NZ is losing this CO<sub>2</sub> sink. One offset scheme could include payment toward pest eradication in native forests.

Promote reserves. All landowners should be encouraged to plant native forests on marginal land.

Closed canopy long cycle alternative species (ie not *Pinus radiata*), rotating over 45 plus years – sufficient value to profitably mill through selective logging and a sustainable management regime.

#### **4.1 Permanent Forest Sinks Initiative**

While CDN welcomes the continued inclusion of indigenous forests in the PFSI, we remain concerned about how this is to be carried out.

We understand that MAF will be in charge of assessing the PFSI forests, and is planning to charge this per hectare, as opposed to the units of carbon sequestered.

This initiative would immediately undercut the planting of native forests because

- Indigenous forest takes longer to grow
- Leaving marginal land to regenerate indigenous forest will take longer than planting exotics. This will skew everything toward fast-growing exotics, and thus undermine the protection of biodiversity.

Moreover, allowing some logging on a canopy basis after a certain amount of time does not take into account all the extra carbon-related costs in harvesting and transportation costs.

The policy discussion document only narrowly addresses land use change – the conversion of forests to agriculture. We agree with a charge if forestry is converted to dairy. But as with any financial mechanism it needs to be a high enough charge to be a disincentive to this conversion.

**CDN recommends that the Government adopts a charge for conversion of forestry to dairy (see next recommendation as well)**

#### **5. The Resource Management Act: National Policy statement**

As with our comments in other submission documents, CDN considers that the management of land use and the forestry sector needs to be dealt with at all levels of Government.

The management of the establishment of plantations and the protection of indigenous vegetation should be dealt with in district council plans. This is consistent with the approach by NZ Forest Accord parties. National consistency could be dealt with under a National Policy Statement.

**CDN recommends that the Government develops National Standards for non-CO<sub>2</sub> emissions and soil management. They should also deal with charges and regulations around the conversion of forestry land to dairy. These could be prepared at the same time as a National Policy Statement on climate change so that there is a direct link between the two.**

### **5.1 Land use and transport**

It is disappointing that none of the transport measures proposed in either consultation document recognise the crucial interactions between transport and land use.

It is widely recognised that New Zealand cities have low densities and correspondingly high car use, and cannot be compared directly with more compact European cities. This is clearly a barrier to reducing transport energy use. However, a much greater barrier is the perception that this situation is unchangeable and can only be perpetuated.

**CDN recommends the following measures to influence land use and reduce transport energy use:**

- Ensure that local authorities are able to set an urban boundary and restrict development beyond it. An effective boundary could perhaps be a condition placed on some types of government funding.
- Ensure that local authorities are able to control land acquisition and development for an urban village.
- Tax breaks for defined types of development as a 'kick-start' measure for urban village development. Another approach would be a government-sponsored model project.
- Rapid transit serving suitable development sites.
- Traffic priority for on-street transit.
- Plan industrial land to minimise transport needs.
- Improve transit to minimise the need for cars.
- Traffic calming, including speed-reducing measures; transit lanes; tree planting; traffic barriers; wider footpaths; and segregated or semi-segregated cycle facilities.

## **6. AGRICULTURE**

### **6.1. Introduction**

The agriculture sector is probably the sector most vulnerable to the impacts of climate change and should have a very strong interest in reducing global emissions. The agriculture sector already relies on taxpayers for funding to cover significant costs associated with extreme weather events. However, for international action to happen, New Zealand must show leadership.

Retailers and consumers in key markets for New Zealand agricultural produce are demanding that producers be responsive to climate change. Major UK chain Marks and Spencers is aiming to have a carbon neutral supply chain within five years. Tesco is looking at labelling food miles on its products.

While there are arguments that the food miles debate is just looking at one section of food production, and doesn't take into account the full life cycle of carbon, at the end of the day, the lack of a carbon equivalent charge in New Zealand could count against us. We cannot take a "moral high ground" stance on food miles if we don't put a price on greenhouse gases.

For the reasons outlined above it is vital that New Zealand's agricultural sector plays its part in addressing climate change. Yet the agriculture sector appears amongst the least willing to address their greenhouse gas emissions. This poses a challenge for decision makers who will need to exercise leadership and ensure that the agriculture sector plays its part.

### **6.2. The importance of land-use planning**

While some reductions in emissions from the more polluting forms of agriculture are possible, New Zealand will need to reverse present trends that have created a major intensification in land use. Put simply, fewer trees and more cows makes for bad climate change policy. Along with climate change benefits, the Parliamentary Commissioner for the Environment has recognised a range of other environment, economic and social benefits from this change in his publication Growing for Good.

### **6.3. Pricing mechanisms**

Agriculture's massive contribution of 49% of our greenhouse gas emissions really hasn't begun to be addressed by these discussion documents. As the Government begins tackling other sources of GHGs, without adequate controls on agricultural emissions, the 49% figure is likely to grow. There is little to deal with discharges of methane, which the Government must start addressing now.

**CDN recommends that the agriculture sector should be covered by a carbon-equivalent charge starting immediately, in line with the clear long term targets and**

timetables. In the longer term Agriculture should be included in an emissions trading regime – but CDN recommends that this not be a grandparenting regime Please see CDN paper on post 2012 discussion document for details.

**CDN recommends that that the Government adopt the proposed charge on nitrogen.** This should be a relatively high charge, given the rapid and uncontrolled increase in the use of nitrogen fertilisers in the last 15 years. Money gain from the charge should be used to fund nitrogen inhibitors.

**CDN recommends that the Government adopt the proposed incentives for nitrification inhibitors.** The technology has been developed and immediate gains can be gained. However it should be only one of a suite of measures designed to reduce nitrogen fertilisers, and should run alongside a compulsory nitrogen auditing and budgeting framework.

#### **6.4. The RMA and Agriculture**

**CDN recommends,** as with the forestry sector, that the Government introduce RMA National Policy Statement and Standards to control agricultural greenhouse gas emissions.

Central government should assist local government implementing the RMA, otherwise provincial New Zealand, especially ratepayers in rural areas with small rating base, will bear an unfair burden for the benefit of the whole country.

This also deals with the problem of voluntary compliance and could give farmers the choice to take actions that suit them within an RMA framework of land management practices.

National Environmental Standards(NES) could be set to allow progressive adaptation by farmers to national and global targets, technical innovation and research on improved farming practices. The RMA could also incorporate an offset regime to enhance any emissions trading system. National Environmental Standards would also effectively dovetail with other RMA objectives

CDN favours RMA standards to control new agricultural land uses following deforestation. This approach would give much more control over subsequent land use, including the possibility of requiring continued forestry or permanent reserves on some land types.

#### **6.5. Life cycle analysis**

**CDN recommends that the Government consider some provision for carbon life cycle analysis of agricultural production, which gives farmers the option of replacing fossil fuel inputs with renewable energy sources.**

**CDN recommends that reporting GHG emissions, by whatever method is used, should be mandatory, otherwise any system will unfairly penalise those farmers who would naturally be inclined to reduce GHG emissions anyway. To be effective, internationally credible and fair to the energy and transport sectors, agriculture as a whole must participate in any GHG reduction program.**

## **6.6. Technology transfer and research**

CDN recommends increasing the research and efforts on reducing methane emissions. One example is ryegrass – by minimising the stress on ryegrass with very short grazing periods, only the top high quality new growth ryegrass is consumed, lowering the proportion of rank feed consumed. This has the potential to lower the amount of methane produced, speed up recovery time of the ryegrass and lower fertiliser requirements – thus minimising nitrous oxide emissions<sup>1</sup> .

Another example is to work with single milking regimes for dairy herds where covered pads are used to collect both methane and urine. The methane, being lighter than air, can be utilised for energy to heat water for the dairy shed and replace fossil fuels at the same time.

There is research needed on economic modeling of reducing the density of stock on pasture, but increasing the quality of produce, reduction of vets bills and others on farm inputs. These models should include likely future costs of greenhouse gas emissions.

### **6.6.1 Effective carbon sequestration by soil amendments of charcoal**

There is another option which needs to be investigated: the sequestration of carbon in soils through charcoal deposition. There has been much recent interest in this possibility by people looking at the archaeological “Dark Soils of Amazonia”, which have high carbon contents of up to 150 g C/kg soil in comparison to the surrounding soils with 20-30 g C/kg soil.

These soils were created to enhance the existing soils by increasing water retention, soil fertility and soil biodiversity. The charcoal has lasted in the soils for millennia. This has particular relevance to New Zealand dairy farmers who have much less potential to set a side land for forest carbon sinks. All ploughable land has the capacity to accept charcoal for sequestration.<sup>2</sup>

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<sup>1</sup> “Omnivores Dilema” by Michael Pollan section on Joel Salatin's Polyface Farm

<sup>2</sup> Bruno Glaser · Johannes Lehmann · Wolfgang Zech Ameliorating physical and chemical properties of highly weathered soils in the tropics with charcoal – a review Received: 24 April 2001 / Accepted: 5 March 2002 / Published online: 18 April 2002 © Springer-Verlag 2002

## 7. The Processing sector

Dairying is the largest and fastest growing emitter of greenhouse gas emissions in New Zealand. It currently far exceeds 1990 emission levels. It is reasonable for the processing companies, in any sector, to accept liability for increases in emissions and be required to purchase Kyoto credits to cover their sector for the increase since 1990.

Currently this would exempt the beef and sheep as they remain below 1990 levels. If this is not done the taxpayer would be effectively subsidising the dairy sector, which is not a credible position for New Zealand to take when requiring developed nations to remove their agricultural subsidies.

## 8. Exporting dairy practices

New Zealand should also look at the consequences of promoting and exporting agricultural practices to developing countries which significantly increase greenhouse gas emissions. One example is Fonterra's policy of doubling Chinese consumption of dairy products within four years, which would have the effect of increasing China's emissions. This is not in line with the spirit of the UN Framework Convention on Climate Change, nor the Clean Development Mechanism.

## 9. BIOFUELS

While the Government suggests actively promoting the use of biofuels to reduce transport emissions, the proposed policies do not engage with the potential land use impacts of the biofuels requirement.

This is an area that needs further research.

## 10. OTHER SINKS AND MARINE TRANSPORT ISSUES.

It is difficult to know where to address this point, as it has been entirely omitted from the Government's thinking.

- **Marine sinks** have been missed out – such as the ability of shellfish and corals to soak up carbon – these sinks are also affected by ocean acidification and destructive fishing practices, including trawling.
- Marine transport issues have also been excluded from the policy. The fishing industry's use of fossil fuels is on the increase, especially as the vessels are having to travel further from New Zealand's coastlines due to falling catches. **CDN is concerned that neither the Ministry of Fisheries nor the fishing industry appear to have been brought into this process, and recommends that they be brought in immediately.**

## ANNEX 1:

### The New Zealand Forest Accord

THIS ACCORD is between the New Zealand Forest Owners' Association (Inc.), the New Zealand Timber Industry Federation, the New Zealand Farm Forestry Association, the New Zealand Wood Panels Manufacturers' Association and

the Royal Forest and Bird Protection Society of New Zealand (Inc.) together with the following environmental or recreational organisations who collectively comprise the New Zealand Rainforest Coalition:

- Environment & Conservation Organisations of N.Z. Inc.
- Federated Mountain Clubs
- Friends of the Earth
- Beech Action Committee
- Pacific Institute of Resource Management
- World Fund for Nature (N.Z.)
- Japan Tropical Forest Action Network
- Tropical Rainforests Action Group

And Maruia Society

## **OBJECTIVES OF ACCORD**

To:

- define those areas where it is inappropriate to establish plantation forestry
- recognise the important heritage values of New Zealand's remaining natural indigenous forests and the need for their protection and conservation
- acknowledge that the existing area of natural indigenous forest in New Zealand should be maintained and enhanced
- recognise that commercial plantation forests of either introduced or indigenous species are an essential source of perpetually renewable fibre and energy offering an alternative to the depletion of natural forests
- acknowledge the mutual benefits emanating from an accord between new Zealand commercial forestry enterprises and conservation groups and the example that this unique accord can provide for the international community.

## **INSTRUMENTS OF ACCORD**

1. The parties agree that for the purposes of this accord a native tree is defined as any indigenous woody plant which ultimately forms part of the canopy of a naturally occurring forest in the locality under consideration and also includes any indigenous tree species which attains a diameter at breast height of 30cm or greater.
2. It is the policy of N.Z.F.O.A. that members, when establishing plantation forests, will exclude from land clearing and disturbance all areas of naturally occurring indigenous vegetation with the following characteristics:
  - (i) any area of 5 hectares or greater which has an actual or emerging predominance of naturally occurring indigenous tree species of any height.
  - (ii) any natural indigenous forest vegetation of between 1 and 5 hectares in area with an average canopy height of at least 6 metres which is practical to protect. This recognises that in some instances small pockets of native vegetation within a commercial forest cannot practically be protected from disturbance. However,

- viable stands will be excluded from clearance and every reasonable effort made to ensure such areas are not damaged in subsequent forestry operations.
- (iii) any vegetation recommended for protection in a survey report in the Protected Natural Areas Programme or classified as a Site of Special Wildlife Interest (S.S.W.I.) in a published report by the former Wildlife Service.
  - (iv) in ecological districts where such surveys have not taken place, areas that would qualify as a Recommended Area for Protection (R.A.P.) or S.S.W.I. in the professional opinion of the Department of Conservation, using established criteria for such surveys.
3. The parties support the production management and harvest of naturally occurring indigenous forest only where such activity is conducted on a sustainable basis and principally for the production of added value solid wood products in New Zealand. A "sustainable basis" is considered to be a rate and method of tree extraction that does not exceed the replenishment so that the forest ecosystem in the area under consideration is maintained in perpetuity.
  4. The conservation groups undertake to: acknowledge the importance of plantation forestry as a means of producing wood products and energy on a sustainable basis while promoting the protection and conservation of remaining natural forests, and to promote these understandings both within New Zealand and internationally.
  5. The parties agree that this accord excludes high country Crown land, Crown pastoral leases and lands controlled by the Department of Conservation.
  6. The parties agree that existing arrangements for the supply of native timber authorised by past Government decisions are not covered by this accord and that this accord will not be used by them to have effect on, nor to influence, negotiations with the Crown for forest arrangements referred to by the West Coast accord and the transitional arrangements in Southland.
  7. The parties to this accord agree to meet from time to time to monitor the implementation and address issues which may arise.

Signed by the following parties, in Wellington on the 14th day of August 1991:

- New Zealand Forest Owners' Association (Inc.)
- The New Zealand Farm Forestry Association (Inc.)
- The New Zealand Wood Panel Manufacturers' Association
- The New Zealand Timber Industry Federation (Inc.)
- The Royal Forest and Bird Protection Society of New Zealand (Inc.)
- Environmental and Conservation Organisations of New Zealand (Inc.)
- Federated Mountain Clubs
- Friends of the Earth
- Beech Action Committee
- Pacific Institute of Resource Management
- World Wild Life Fund (New Zealand)
- Japan Tropical Forest Action Network
- Tropical Rainforest Action Group
- Maruia Society