



SUBMISSION TO  
THE MINISTRY OF AGRICULTURE AND FORESTRY  
on the Discussion Document  
"Sustainable Land Management and Climate Change – Options for  
A Plan of Action"

By  
DEER INDUSTRY NEW ZEALAND

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## Introduction

Deer Industry New Zealand (DINZ) is a levy funded industry-good body established under the Deer Industry New Zealand Regulations (2004). Levies are collected on the products of deer, velvet antler and venison. Levies are collected on a share basis between the currently *ca.* 4000 active deer farmers and venison processors and marketers. DINZ invests these levies according to functions outlined in the Regulations including promoting and assisting development of the deer industry in New Zealand.

In the year ending September 2006 the value of exported deer products (venison, velvet and co-products) amounted to over \$300 million in export earnings. The industry, along with other pastoral sector industries (beef, lamb, wool and dairy), relies heavily on being able to access overseas markets: Cost effectiveness in production and customer acceptance are major factors in maintaining these markets.

Climate change and how New Zealand tackles climate change issues at both government and individual levels will have significant impacts on the above factors and ultimately the long-term sustainability of all pastoral sector industries. DINZ therefore has a *significant stake* in how New Zealand responds to the challenges presented by climate change.

DINZ is therefore pleased to be able to make a submission on the discussion document and welcomes the opportunity to *maintain an ongoing dialogue with the Government* with regards to tackling climate change.

## General Comments

### Climate Change

DINZ fully accepts that climate change is a reality and that the New Zealand Government as a signatory to the Kyoto Protocol is committed to achieving legally binding targets for greenhouse gas (GHG) emissions (return to 1990 levels of GHG emissions) or similarly own the liabilities if the target is not met by 2012.

DINZ, along with other pastoral sector industry groups also accepts that accounting for GHG emissions will be a reality for all of society and is committed to reducing overall GHG emissions. *DINZ considers that the best way to achieve this is by a true partnership approach in good faith* between Government and DINZ (on behalf of its producer and processor levy payers). Such an approach will succeed where there is a common (agreed) goal, a desire by all parties to work towards this goal without prejudice, equal partnership and independent governance. This ensures that all parties *learn together* and concentrate on ways to achieve goals rather than potential obstacles.

This partnership approach is necessary as long-term economic and environmental sustainability of pastoral sector businesses can only be achieved by an equitable and palatable Government policy framework and public- and industry-good initiatives that complement this. Retaining business flexibility and ability to innovate are key underpinning principles that will ensure equity, acceptability and uptake of initiatives.



The agricultural sector's contribution to gross domestic product (GDP) has seen an increase in both real terms (\$10.8 billion in 1990-91 and \$21.3 billion in 2004-05) and percentages (13.5% of GDP in 1990-91 and 17% in 2004-05). However in terms of relative increases overall GDP grew by 57% over this time, while the agricultural contribution grew by 98% (Meat and Wool New Zealand statistics). This increase in value has been achieved in part by increases in *production efficiency* (i.e. producing more meat, wool or milk per head of livestock) in the major livestock classes – sheep, beef and dairy cattle, which in turn has resulted in *relative reductions of methane produced per kilogram of product* (Pastoral Greenhouse Gas Research Consortium presentation).

Key features that have contributed to this trend at the farm level have included improved genetics, feeding and farming systems that have allowed businesses to innovate and retain flexibility in operations and land use in the face of external challenges (either market driven or climate induced). Underpinning this has been a history of *strong research and development, coupled with effective extension services* to maximise uptake of the knowledge and technology gained from the research.

By way of contrast, the farmed deer industry (in operation since the 1970s) has still to realise many of these productivity gains. *DINZ expects that in achieving these gains (due to increased efficiencies), a similar trend will also be seen with respect to GHG emission reduction (per kilogram of product).*

#### **Sustainable land use**

DINZ fully endorses the concept of sustainable land use, viewing sustainability as being economically viable and socially and environmentally acceptable. Climate change will impact on all these components, resulting in a range of behaviour and management adjustments to ensure continued sustainable land use. It is however only one of a range of impacts and as a result the discussion document appears to lack depth in this area, concentrating mainly on short-term approaches more in keeping with Kyoto protocol commitments than long-term reductions in GHG emissions and continued profitable and 'clean, green' land-based businesses.

Overall the discussion document contains some conceptually sound proposals but lacks the level of detail within many of the proposed options that would allow rational policy decisions to be made. Decisions on which option to include within a short-term plan of action and a long-term strategy can only be made following development of greater detail and analysis of the consequences of their implementation.

A triple bottom line (evaluating economic, social and environmental performance) approach would greatly assist understanding of various approaches and consequences as this will demonstrate interrelationships between actions to reduce GHG emissions and potential economic costs of doing business and environmental co-benefits.

*DINZ welcomes further details and discussion as to how sustainable land use, social responsibility and economic performance will be encouraged by central and local government and achieved by all parties concerned.*



## Pillar 1 - Adapting to Climate Change

The effects of climate change are both current (increase in frequency/severity of extreme events) and gradual (changes in mean annual temperature and rainfall and distributions). Adaptive measures outlined in pillar 1 are both logical and pragmatic.

*A positive outcome from these measures will result in farming enterprises having sufficient information and tools to proactively respond to known or expected climate change effects and quickly react to external market signals.*

Areas where central government has vital roles and responsibilities are:

- Funding of and making available modelling regional climate change scenarios and resulting viable land use options, and research into *cost-effective* land-use practices to reduce vulnerability to expected extreme events.
- Maintaining biosecurity surveillance and response capabilities to new/emerging threats resulting from changing climate and altered trade flows.

Regional and District Council responsibilities include:

- More robust quantification of natural and physical resources that will be impacted upon (e.g. water availability, increased/reduced soil erosion potential, changes in native biodiversity and threats to fragile or iconic environments such as coastal ecosystems and lakes).
- Planning and costing infrastructural requirements (e.g. road/bridge maintenance, flood protection, energy and water supplies and conservation measures).

By having access to such information, individuals and businesses are in a strong position to respond rationally (e.g. increased price signals, reduced resource availability) and, where possible, innovate to overcome increased challenges (e.g. increase efficiency of operations, change pasture species, livestock classes or types, diversify land use).

## Pillar 2 – Reducing Emissions and Creating Carbon Sinks

While it is accepted that there will be obligations under the Kyoto Protocol rules, these do not fit well with New Zealand's agricultural economic base and its emissions profile. Thus, in implementing policies to address New Zealand's GHG emissions, the Government should focus on those measures that will provide the *best emissions reduction outcome over the long-term*.

### Agriculture – research (✓)

The discussion paper notes the immediate lack of tools/technologies to reduce agricultural GHG emissions, the most appropriate way to target substantial and long-term agricultural emissions reduction therefore continues to be through research and technology transfer. DINZ requests that the Government *continues active engagement in a collaborative research effort to provide both mitigation tools and inventory capture of mitigation advancements*.

By way of tangible support DINZ continues to fund and participate in research consortia that directly (via the Pastoral Greenhouse Gas Research Consortium) or indirectly (via Pastoral



Genomics) tackle this gap as well as deer industry specific funding on rumen development in young deer (maximising growth and simultaneously minimising methane emissions).

The level of investment in these pastoral sector consortia from both central government and industry-good organisations is regularly reviewed, however any increased investment in this area would need to come from central government as industry bodies generally have fixed and limited revenue streams from levies so substantial departures from projected and committed funding are not feasible. DINZ also considers that it would be sensible for Government to increase funding in GHG research (mitigation and inventory) – science capability resides in predominantly crown entities and the level of Government funding should reflect an international commitment to tackle climate change, social expectations and maintaining science capability within and for the benefit of New Zealand.

While practical technologies to reduce methane emissions will not be available in the short-term, efforts to accurately measure GHG emission at the farm-scale appear achievable. The ability to do so has the potential to provide significantly useful information for both the business (by way of identifying major/critical GHG emission sources) and central government (to estimate progress towards meeting international obligations). This then links to the ability to undertake voluntary reporting as outlined below.

#### Agriculture – technology transfer (✓)

DINZ strongly supports the use of technology transfer in the agriculture sector to demonstrate best practices in reducing methane and nitrous oxide emissions and overall energy efficiencies. Where these technologies or developments are put into real-life contexts (such as monitor and focus farms), the *uptake* of these is greatly enhanced.

DINZ already invests significant resources into focus farms and the government also currently invests in this area through the Sustainable Farming Fund. In line with the partnership philosophy, DINZ supports an increased funding commitment from central and local government in this area that would greatly augment existing technology transfer systems supported by industry-good organisations.

A good example is the development of nutrient budgeting and the recently released Code of Practice for Nutrient Management. Further support for disseminating clear guidelines for nutrient budgeting and management plans will greatly enhance uptake and optimal use of fertiliser.

#### Agriculture – voluntary reporting (✓)

Voluntary reporting could be a useful tool for improving farmer understanding of GHG emissions; it provides information that allows the business to identify areas where efficiency gains can be made, where major emission sources are, and how various management practices can modify the overall GHG emissions profile (a direct comparison can be made with nutrient budgeting leading to nutrient management plans). In short it gives businesses *the ability to innovate*.

However *the reporting mechanism needs to be practical, cost effective and consistent with international best practice*.

There are two distinct benefits from such an approach:



- Provision of on-farm measurements that could be used to verify or produce national estimates of agricultural sector GHG emissions (as well as an educational value for the business).
- Potential to use this as a marketing tool to demonstrate best management practices and resulting carbon 'footprint' to customers (e.g. Grove Mill winery using the CarboNZero programme).

As agricultural GHG emissions widely differ in nature from most other businesses, further developmental work will be required. The emission estimation must also be more than an averaging process across the sector as this will not provide land managers with farm-specific information that will result in any ongoing reductions in emissions. It therefore needs to be robust enough that it relates to the actual emission profile of the individual farm. Further consideration of the role of scrub and soil as real carbon sinks is also required.

*DINZ welcomes further discussion with Government on how a system might work.*

#### **Agriculture – nitrogen inhibitor incentive (-) and fertiliser charge (✘)**

The proposal to encourage use of a nitrogen inhibitor is positive but limited. While this is the only currently available technology, the use of an incentive for all mitigation technologies should be considered as research programmes in this area develop.

Some caution is also required, and a detailed analysis of both environmental and economic downstream effects is needed: An inhibitor may result in reduced nitrous oxide (N<sub>2</sub>O) emissions and leaching but in turn allow increased utilisation of nitrogen by livestock – resulting methane emissions may partially offset any gains made.

DINZ does not favour a charge on nitrogen fertiliser as the N<sub>2</sub>O emissions directly from fertiliser are small; the outcome is that responsible use of nitrogen fertiliser is penalised and a reduction in N<sub>2</sub>O emissions may not be significant as there will be a risk of substituting for other forms of nitrogen (e.g. supplemental feed).

Nutrient budgeting and management is increasing in use and gaining acceptance as a useful farm management tool. Greater encouragement and support for this approach will yield better results for wise use of nitrogen fertiliser.

#### **Agriculture – tradeable permit and offset schemes (✓)**

*Emissions trading* appears to be the most favourable of the price based and regulatory measures proposed in the consultation document. It is a relatively more flexible, outcome based approach to driving behaviour change and offers potential to interface with measures elsewhere in the New Zealand economy and internationally. Offset schemes naturally fit within an emissions trading regime. On this basis there is merit in further investigation being undertaken to *consider how a trading regime might work for agriculture post-2012*.

In the short- to medium-term, costs will be internalised; further analysis would be useful to show the extent of costs to agriculture (macro scale) and individual businesses (micro scale). Availability of proven mitigation tools is a pre-condition to effective use of market pricing measures; DINZ therefore requests the Government does not implement these tools for agricultural emissions in the first commitment period.



*DINZ welcomes further engagement with the Government but reserves any support for such a scheme until further analysis of the economic and practical viability is available.*

### **Agriculture – flat charge on land use change (✖)**

While a threshold area for incurring a charge for land use change (from forestry to agriculture) has been proposed, land use change of any scale is a key component in maintaining flexibility for a land owner/manager. *DINZ does not favour a charge on land use change.*

Land use change will be evaluated from a business perspective (land owner/manager) and wider societal values/receiving environment impacts (local and central governments). While not directly comparable, impacts of land use change on biodiversity may be locally significant, but regionally unimportant and off-site mitigation measures can be targeted towards more important biodiversity sites. A flat charge for land use change with respect to expected increases in GHG emissions does not provide for such off-site mitigation, restricts future options for land and does not take into account changing technology and management practices that may lessen the magnitude of GHG emissions in the future.

Climate change will also bring about its own environmental constraints on land use, potentially reducing the suitability of land for existing forests (both exotic and indigenous) and afforestation (drought prone east coast sites particularly). Conversely sites that may currently be in trees to stabilise hill slopes *may* become less prone to erosion due to decreased rainfall.

An effect of encouraging one land use over another (ostensibly to mitigate GHG emissions) may well have other resource management impacts in the face of climate change: Water availability will be more severely affected in eastern parts of the country, so large-scale locked land use may reduce water even further for down-stream businesses and settlements.

The ability for government and businesses to *adapt* to climate change has been referred to above and land use change is an activity that should be considered from this perspective as well as other issues around sustainability rather than a blanket charge that would favour one land use over another.

In line with the ability to adapt is having the necessary information to understand effects of changing from one land use to another – voluntary reporting tools and an emissions trading regime would provide a better outcome than restrictive land use charges.

### **Agriculture – RMA controls (✖✖✖)**

The Resource Management Act is not an appropriate mechanism for addressing agricultural GHG emissions both from a philosophical and an implementation perspective: Given the national importance of climate change and the related policy implications, it is inappropriate and undemocratic to devolve responsibility to the RMA and local government agencies who implement the Act.

Operationally, GHG emissions are not catchment or regionally relevant: The receiving environment is at a global level and accountability is at a national level. Farming or processing businesses may span several geographic locations and choose to offset or mitigate emissions in other locations, setting up the potential for a business to be nationally carbon neutral but penalised for exceeding a regional limit.



While a National Environmental Standard (NES) for GHG emissions has been proposed, it is hard to envisage what this would look like or how it could be implemented without very costly and robust business-scale measurements.

In terms of resource management GHG emissions do not fit existing 'models' for limiting environmental impacts on other natural/physical resources. The air quality NES, while attempting to control emissions, focuses on predominantly point-sources with technically proven methods for control, and is driven by direct human-health impacts. Where meaningful uptake of technology has been made it has been through blanket regulation (new car exhaust emissions) or by generous subsidies (domestic heating and home insulation projects). Neither of these approaches would fit agricultural businesses: The technology is not available to limit GHG emissions, increased costs can not be passed on to the consumer, and subsidies may have trade implications.

Groundwater quality may be the closest analogy as the resource can be cross-regional and remedial action is long-term. Interestingly where this is a significant inter-generational issue (Lake Taupo) the approach has been to introduce a cap and trade system.

### Forestry - general (✓)

DINZ notes the high level of interest and responses to the options outlined for forestry. At a general level DINZ views forestry as a complementary land use that plays a vital role in both sustainability and GHG mitigation at farm and national levels.

For a farming enterprise, forestry can be considered as tool to use within a farm to address environmental sustainability, optimise/diversify land use and protect infrastructure and stock. Off-farm it also has the potential to act as an offset for GHG emissions. Either of these approaches provides businesses with additional flexibility and choice.

Forestry should be treated alongside all other land uses in an equitable manner so that artificial distortions do 'push' businesses into a fixed long-term position.

## Pillars 3 and 4 – Capitalising on business opportunities and Working together

These pillars lack the level of detail outlined in pillar two, perhaps reflecting the stage of development. However the intent expressed within these two pillars is endorsed by DINZ and many of the initiatives mentioned are also directly applicable to actions required in pillars 1 and 2.

Voluntary reporting has potential value for marketing produce as well as national inventory requirements. Similarly the collaborative arrangements suggested would complement existing industry-funded demonstration farms.

*In particular the partnership approach is favoured by DINZ (see Introduction section above) and this underpins or supports all other proposed actions. It demonstrates good faith by all parties and serves to ensure that the focus remains on long-term outcomes with respect to minimising climate change impacts and ensuring sustainable land use that remains economically viable and allows all partners to learn together.*



DINZ is available for further comment if required. Enquiries in the first instance should be directed to Lindsay Fung (Science Manager) – contact details as given above.

In conclusion Deer Industry New Zealand supports the Government's desire to tackle climate change and sustainable land use in partnership with the agriculture sector and is committed to being involved in this process. Although DINZ is a small organisation with limited resources, where possible, DINZ will make these available for ongoing dialogue with Government and dissemination of information and appropriate technology to DINZ stakeholders.

DINZ looks forward to a sustainable deer industry that successfully operates within the limits imposed by climate change and market requirements and is proactive in maintaining sustainable land management systems and practices.

On behalf of Deer Industry New Zealand

A handwritten signature in black ink, appearing to read "Mark O'Connor", with a long horizontal flourish extending to the right.

Mark O'Connor  
Chief Executive Officer