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Submission from the Bioenergy Association

Response to - New Zealand's second emissions reduction plan (2026–30): Discussion document

The Bioenergy Association is pleased to see the proposals in the discussion document *New Zealand's second emissions reduction plan (2026–30): Discussion document* and considers that these can speed up reduction of greenhouse gas emissions. However we also believe that there are significant missed opportunities that can be taken which would better utilise the \$6.4billion reportedly planned to be spent on international emission reduction credits.

Our stakeholders

The Bioenergy Association represents; a significant portion of owners of biomass fueled heat plant; solid, liquid and gaseous biofuel producers and suppliers; waste-to-energy investors and their consultants; researchers; and equipment/appliance suppliers across New Zealand. It has members who have an interest in policies relating to the utilisation of biomass and waste for the production of energy; reduction of emissions to air in communities from both residential and commercial/industrial scale heating applications and from decomposition of waste; and wise use of our renewable natural biomass resources for the betterment of communities. Residual organic waste is considered to be a recyclable biomass resource.

The Association has Interest Groups whose members manage the Association's specific technical matters relating to the use of solid biofuels, production and use of gaseous biofuels, and liquid biofuel sectors, specifically with regard to standards and best practice. The Interest Groups host workshops and dissemination of information to those interested in the respective sectors, or considering investment.

This submission is complementary to the individual submissions from members which provide more detail on specific aspects of the discussion document.

Main points in our submission

Responses to specific questions and details are provided at the end of this submission.

We are disappointed that bioenergy and biofuels are not recognized as solutions to assist reducing emissions, the proposals fail to achieve anywhere near the potential of bioenergy and biofuels to deliver rapid and early reductions cost effectively. There is also a need to build greater diversity into New Zealand's renewable energy streams to support the security and affordability of energy while building its sustainability trilemma.

New Zealand has many bioenergy and biofuels related methods for reducing greenhouse gas emissions which use proven technologies and can be implemented immediately. These include:

- Use of biomass and waste to replace fossil-based fuels such as coal, gas and diesel for stationary heat. In a number of situations biofuels can be a drop-in replacement for fossil fuels, thus avoiding unnecessary capital expenditure for conversion.
- Processing of waste to avoid discharge of methane emissions and produce biogas and bio-fertiliser – two valuable products. The biogas can be used directly for heat or be upgraded as a drop-in replacement for natural gas and LPG, and as fuel for suitable vehicles.
- Use of liquid biofuels as drop-in vehicle fuels, particularly for land freight, coastal shipping and aviation. Internationally these are well proven and scaling but lack of familiarity is holding New Zealand back.

These methods of reducing greenhouse gas emissions also assist regional economic growth, clean air, clean waterways and provide additional revenue streams for stakeholders. It is therefore pleasing to see this recognized by the inclusion of bioenergy and biofuels within proposals for a wider bioeconomy based on circular economy principles.

Biomass is a storable energy source and supply is able to be expanded to meet demand. It is also able to be easily switched between uses according to market changes. It is the most versatile of energy sources as it can be economically used to produce heat, generate electricity, and be used as a vehicle fuel all activities which result in greenhouse gas emissions reduction. The other environmental, community, and societal benefits come for free.

It appears that a reluctance to promote greater use of bioenergy and biofuels solutions in the discussion document is because no work has been undertaken to identify the potential for additional biomass above what is already available, and there are few demonstration examples in some areas such as liquid biofuels production. Assumptions on biomass and biofuels use are based on current availability. Analysis by the Bioenergy Association identifies that instead of basing policies on how much biomass is available, having a different approach based on how much biomass can be available sustainably, would allow greater emissions reduction. Our analysis shows that the current 50PJ of biomass energy that is used nationally could increase to at least 150PJ of energy by 2035. Additional emission reductions would be available in following years. This would ensure that, rather than purchasing international credits, investment instead stays onshore and delivers embedded infrastructure with long term benefits for New Zealand.

Currently there is the equivalent of 145PJ of energy exported as low grade logs to markets which may not continue. Currently export of logs to China is down 35% and, with a downturn in Chinese construction, an aggressive Chinese planting programme and an increase in carbon prices in New Zealand, is expected to be depressed for some time. In addition, new biomass can be sourced from farm forestry by encouraging farmers to use the 6-9% of a farm which is currently not highly productively used. Land use should be encouraged to be managed sustainably by a mix of forestry and traditional food products. It is not Either/Or – it should be both. In addition, Scion's modelling shows that by growing longer-term crops, such as energy forests, New Zealand could build a biofuelled future.

The key to ensuring that there is enough biomass and organic waste to develop a world leading bioeconomy is:

- Improving the information flows between who needs biomass and who can supply it,
- Identifying and pursuing the opportunities for additional sources of biomass so that there is the right biomass, of the right type, in the right place, at the right time and at the right price.

The Association analysis shows that all demand for biomass to build a bioeconomy can be met if we plan and act appropriately.

The Bioenergy Association would be pleased to assist with further details and looks forward to using the skills and expertise of its members to work with Government to implement the policies.

Response to questions

0.1 What do you think is working well in New Zealand to reduce our emissions and achieve the 2050 net zero target?

Business is focused on reducing their emissions where there is a commercial advantage in their doing so. However there is significant opportunities to reduce emissions where there is little commercial benefit to business and the opportunity is essentially a public good where Government needs to fund that public component. The GIDI co-funding arrangement is a good example where business has funded for the commercial benefit, and Government has funded the public benefit component.

Where business has obtained assistance from their industry associations through training and information of best practice, they have been more receptive to taking the risk of changing current practices. This has worked well where Government has partnered with the industry association to develop tools and information which would not have been able to be produced without Government assistance.

0.2 The Government is taking a 'net-based approach' that uses both emissions reductions and removals to reduce overall emissions in the atmosphere (rather than an approach that focuses only on reducing emissions at the source).

a. What do you see as the key advantages of taking a net-based approach?

It provided maximum incentive for business (including agriculture) to manage their commercial operations as a whole entity, focusing on their individual most cost effective emissions reduction opportunities, while parking more difficult or costly opportunities. This ensures that the business resilience is strong as its financial viability is able to be maintained. The speed of emissions reduction can be set by the limits of their cash flow.

A gross approach tends to force attention on the more difficult big emission reduction requirements which often stall in the "too hard basket", whereas a lot of lesser cost easily achievable reductions are ignored. A net approach would overcome this barrier.

b. What do you see as the key challenges to taking a net-based approach?

Many of the smaller reduction opportunities are very cost effective but many of our current ETS rules preclude them being counted as reductions. For example the constraints on sequestration by plants etc generally don't have any science behind them. For example who declared, and what was the science that determined that a shelterbelt had to be more than 30m wide to be counted in the ETS. A net approach would allow all sequestration to be counted to offset the emissions from land use, and this would require standard calculation methodologies to be developed. (this would not be difficult if the methodology was based on default values).

A gross approach is usually proposed by the "coffee table advisers" who do not pay the cost of such an approach. A net approach puts the incentive in the hands of those financially able to make offsetting reductions. Methodologies for a net approach should be decided by joint working groups of industry and government officials.

0.3 The current proposed policies in the ERP2 discussion document cover the following sectors and areas:

- strengthening the New Zealand Emissions Trading Scheme
- private investment in climate change
- energy sector
- transport sector
- agriculture sector
- forestry and wood-processing sector
- non-forestry removals
- waste sector.

What, if any, other sectors or areas do you think have significant opportunities for cost-effective emissions reduction?

While it is appropriate to have this grouping for sector only opportunities this can become a “silo approach” where there are significant cross sector enabling actions which a single silo alone may not see as significant. For example bioenergy has more barriers arising from the sourcing and supply of biomass from forestry and organics from waste, than its positioning within the energy sector.

Another example is long term land use policies which involve local government, land owners and agriculture/horticulture markets. Land use policies can be more important to bioenergy than energy policies.

There are many enabling sectors which fall outside this list and are significant contributors to the ease of emission reductions. For example our current science funding framework contributes little to many of the opportunities for emission reduction because the funding is generally allocated without reference to need in each sector.

0.4 What Māori- and iwi-led action to reduce emissions could benefit from government support?

As Maori are a long term investor in their land they are often looking to selling residues from their forests for long term production of biofuels which can replace fossil fuels. They often don't have access to good information on the revenue options, or funding for which the financial return wont be obtained for up to 30 years. They are excluded from long term investments because of their lack of cash flow for the early investment years. As a consequence they are precluded from investing in long term emission reduction opportunities.

Chapter 1

1.1 What opportunities do the proposed initiatives and policies across the sectors offer for Māori- and iwi-led action to reduce emissions?

The proposed initiatives and policies fail to recognise the opportunities for emission reduction that can be achieved by Maori leadership. The reference to partnership infers that Maori are only the assisting partner when their long term thinking and care for the land should have them as the leader.

The use of biomass residues from forestry and wood processing derive from sound long term sustainable land use policies. These residues can be used to make biofuels to replace fossil fuels, and the manufacture of bio-based products such as bio-plastics to replace petroleum derived plastics.

Emissions reduction is a long term activity which aligns with Maori thinking and aspirations. We should be building on this Maori approach rather than the current short term thinking of our current delivery model.

1.2 What additional opportunities do you think the Government should consider?

The focus of the Plan is on electricity infrastructure and markets are gives minimal attention to energy as a whole. Electricity is only one component of the energy market. There are many cases where a more cost-effective reductions in emissions can be achieved by thinking energy and not just electricity. For example, electricity is often promoted for decarbonization of high temperature heat when bioenergy or direct use of geothermal energy could be a more cost effective solution, with the benefit of releasing electricity for use in applications for which electricity is the best energy solution.

A siloed approach to emissions reduction where other economic and wellbeing benefits eg employment, regional economic benefits and improved food production, are considered out of scope results in many easy to achieve emissions reduction are not pursued.

Chapter 2

Current modelling suggests that with a changed approach, the first emissions reduction plan is still sufficient to meet the first emissions budget.

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2.1 What, if any, other impacts or consequences of the Government's approach to meeting the first emissions budget should the Government be aware of?

No comment

2.2 What, if any, are the long-term impacts from the changes to the first emissions reduction plan on meeting future emissions budgets that should be considered through the development of the second emissions reduction plan?

No Comment

Chapter 3

3.1 What else can the Government do to support NZ ETS market credibility and ensure the NZ ETS continues to help us to meet our targets and stay within budgets?

Broaden the scope of complementary actions for emissions reduction to reduce the dependence of forestry.

3.2 What are the potential risks of using the NZ ETS as a key tool to reduce emissions?

It is only useful for reducing some emissions. There are many potential emissions reduction actions which are outside of NZ ES participants which are being missed.

3.3 How can the Government manage these risks of using the NZ ETS as the key lever to reduce emissions?

The NZ ETS is a slow tool for achieving permanent reductions. It should be supported by complementary actions which will lead to permanent long term emissions reductions. Broaden the scope of emissions reduction to reduce the dependence of forestry.

A large number of rules around forestry and other land use activities which should be reviewed. Many were set in Kyoto days and have never been changed. For example the 30m minimum width of a wood plantation which excludes most shelterbelts.

The opportunities for sequestration by plants should be reviewed with a view to inclusion within the NZETS.

3.4 Do you support or not support the Government’s approach of looking at other ways to create incentives for carbon dioxide removals from forestry, in addition to using the NZ ETS?

Support.

3.5 Apart from the NZ ETS, what three other main incentives could the Government use to encourage removals through forestry?

Include for the *carbon storage in harvested wood products* within the NZ ETS.

Change the rules for inclusion of plants within the NZ ETS. Sequestration by permanent / rotational plants and soils is probably the largest carbon dioxide removal opportunity not included within the NZ ETS.

Revise the taxation rules for planting trees so that the up-front costs of land preparation and tree planting can be claimed up front to offset that the revenue may not be received for 20-30 years.

Support a Wood First Policy for buildings so that there is more domestic processing of wood into timber for buildings.

3.6 Please provide any additional feedback on the Government’s thinking about how to use the NZ ETS to reduce emissions.

No comment

Chapter 4

4.1 Do current measures work well to unlock private investment in climate mitigation?

No. The current approach is to put 100% of the cost of emissions reduction on private investors regardless of how much benefit they receive in return compared the public benefits which accrue to the community. Climate change is primarily a public good and individual investors often receive minimal benefits that they can capture for themselves as the investor. In other words we have a situation where business is generally subsidizing government to bring about emission reductions.

4.2 What are the three main barriers to enabling more private investment in climate mitigation?

1. For business, it is often very costly for them to transition say from using fossil fuels in existing equipment to using renewable fuels. Renewable energy is generally more expensive than continued use of fossil fuels where it is available.
2. The need for information based on knowledge and experience of emission reduction opportunities. Significant R & D investment currently goes into looking for new opportunities but the currently available opportunities are rarely promoted and advisers are often not well informed. For example the bioenergy sector has only two part time staff in the Bioenergy Association supporting identification and promotion of best practice solutions, yet it is possible that bioenergy could grow from its current 9% to 27% of total energy supply by 2050.
3. Discussion of energy policies by Government and its agencies is generally limited to electricity and hydrogen opportunities. For example Electrify NZ. The emission reduction opportunities for heat and transport that could be provided by bioenergy and direct use of geothermal are generally ignored. (Many bioenergy opportunities are proven and economic today, yet they rarely feature in Government policy discussion. Having a proper energy discussion rather than limiting discussion of

options only to 7electricity would open up significant more opportunities for reducing emissions.

4.3 **What are the three main actions the Government can do to enable more private investment in climate mitigation for the next 18 months?**

1. Support a **Wood First Policy** which encourages greater use of wood in buildings.
 - a. This encourages greater planting of forestry and thus greater carbon dioxide sequestration
 - b. Produces greater volume of wood residues which can be used as biofuel to replace use of fossil fuels
 - c. Will result in greater carbon storage in harvested wood products when used in buildings.
2. Encourage production and use of liquid biofuels for heavy transport.
 - a. In particular drop-in fuels such as Renewable Diesel. This avoids the need for unnecessary capital expenditure to replace existing equipment. For example use of renewable diesel in South Island rail could result in all South Island rail being decarbonized within months.
 - b. Biomethane can be a drop-in biofuel for existing gas turbine electricity generation. Using the existing gas turbine generating plant as 'green peakers' can firm electricity supply from fluctuating generation from solar and wind. This firming role allows greater number of solar and wind generating plant to be installed.
3. Encourage the production and use of all biofuels instead of just limiting support only to wood fuels to replace coal.
 - a. Currently Government is silent on the use of biofuels so potential international investors have quickly recognised that NZ is not an attractive country for investment.
 - b. Not only are they silent but often they put up barriers by saying that there is not enough biomass when that is not true.
 - c. Biofuels can often be a drop-in fuel to existing equipment fuelled by fossil fuels.
 - d. Government discussion documents generally only focus on electricity and ignore bioenergy and direct use of geothermal. Eg Electrify NZ

4.4 **What are the three main things the Government can do to enable more private investment in climate mitigation in the longer term (beyond the next 18 months)?**

Continue the initiatives summarized in 4.3

4.5 **Please provide any additional feedback on the Government's thinking about how to enable more private investment in climate mitigation for the next 18 months.**

More private investment will occur if there is co-funding from Government to cover the public good benefits of emissions reduction.

Chapter 5

5.1 **What three main barriers/challenges that are not addressed in this chapter do businesses face related to investing in renewable electricity supply (generation and network infrastructure)?**

1. The biggest barrier in the section is that it only talks about electricity solutions and, despite the section title, does not discuss energy as a whole.

- a. There are only two paragraphs in the section on bioenergy and one on direct use of geothermal. The rest of the section only refers to electricity.
2. Bioenergy is not included on the pretext that the demand for biomass will outstrip supply. There is no basis for such a belief as analysis by Scion and the Bioenergy Association shows that the only reason why there may be a shortage of biomass is if we don't plant more trees. Electricity and hydrogen supply has a similar risk if new power stations are not built.
 - a. It is easier to plant more trees than it is to consent and build new power stations
 - b. Because bioenergy is generally distributed users of bioenergy have a number of options for ensuring future security of supply. The facility owners can hedge future biomass supply costs by arrangements with local forest owners whereas electricity supply cost can not be hedged directly with resource owners.
 - c. The bias about future biomass supply ignores the fact that increased electricity demand will require consenting and building new electricity generating power stations and the subsequent cost is likely to be very much higher than current assumptions. Similarly the risk of limited supply of natural gas is already a reality and gas costs are 'sky rocketing'. The projections of future energy supply and cost are not on a level playing field.

5.2 How much will the Government's approach to driving investment in renewable energy support businesses to switch their energy use during 2026–30 (the second emissions budget period)?

The Government's approach has already slowed investment because Government has stopped co-funding and is refusing to pay for the public benefits. Investment won't proceed because business will not subsidise the Government to obtain emissions reduction by paying 100% of the cost.

5.3 What three main barriers/challenges do businesses and households face related to electrifying or improving energy efficiency, in addition to those already covered in the discussion document?

A major barrier to electrifying processing equipment is that business are beginning to realise that there are other options such as bioenergy which are lower cost and likely to hedge future energy costs better than high cost future electricity. For example with the current high costs of electricity the Bioenergy Association has had a number of enquiries from those who installed electrode boiler on how they can transition their old coal boilers to biomass fuel.

5.4 How much will existing policies support private investment in low-emissions fuels and carbon-capture technologies?

Not very well. The existing policies fail to provide support for private investors. There is no supporting sector plans which were bringing the sector players together so that collegial action provided economies of scale.

5.5 What three main additional actions could the Government do to enable businesses to take up low-emissions fuels and carbon-capture technology?

1. The low emissions transport fund was just an EV programme and precluded other low emissions fuels such as biofuels. Widening the opportunities for low emissions

transport fuels to include biofuels would provide a much wider range of investment options with additional consequential benefits for regional growth and communities wellbeing.

2. Government support for the production of biogas and biomethane would speed up getting greater volumes of gas to replace fossil gases. Biogas and biomethane are low emissions fuels that can be used in a large number of applications, including increasing the generation of electricity from solar and wind when biomethane is used as fuel in existing gas turbines as green peakers.
3. Drop-in biofuels can decarbonize marine and rail engines within months if imported. As a drop-in fuel the possible increase of a biofuel offsets the significant unnecessary capital expenditure of replacement electricity or hydrogen engines.

5.6 If you are an electricity generator, please explain and/or provide evidence of how Electrify NZ could affect projects already planned or underway.

Having an Electrify NZ policy will make worse the current fragility of the electricity supply system as it takes years to build additional generating power stations. The fragility of electricity supply is also worse if there is a too high percentage of electricity coming from solar and wind. Support for transitioning the Huntley Power Station coal units to biomass requires support for construction of a black pellets manufacturing capability.

Having enough biomethane for green peakers requires support for the production of greater quantities of biomethane.

5.7 If you are an electricity generator, please explain and/or provide evidence of how Electrify NZ could increase the likelihood that new projects will be investigated.

N/A

5.8 Please provide any additional feedback on the Government's proposals to reduce emissions in the energy sector and the industrial processes and product use sector.

N/A

Chapter 6

6.1 Do you support the proposed actions to enable EV charging infrastructure?

No comment

6.2 What are the three main actions the Government can do to reduce barriers to and enable the development of a more extensive public EV charging infrastructure in New Zealand (without adding too much cost for households and businesses)?

No comment

6.3 Do you support the Government's proposals to reduce emissions from heavy vehicles?

No. The focus on only removing regulatory barriers is a policy to do nothing. Government has a responsibility to lead and there is minimal leadership with regard to reducing emissions from heavy transport.

The focus only on grants only for electric and hydrogen vehicles ignores the opportunities which could be taken to reduce emissions from heavy transport. The grant scheme should be widened.

6.4 What are the three main actions the Government can do to make it easier to switch to low- and zero-emissions heavy vehicles (without adding too much cost for households and businesses)?

1. Support the import of renewable diesel which is a drop-in fuel for heavy transport.
2. Encourage the use of drop-in renewable fuels for rail and coastal shipping.
3. Change the quality regulations for use of renewable diesel in transport.

6.5 Do you support the Government proposals to reduce emissions from aviation and shipping?

No. "Facilitating industry discussions through existing forums" is a very very slow policy action requires more than just discussion. It needs real policies.

6.6 What opportunities might there be from rolling out new technologies to reduce emissions from aviation and shipping?

There are significant biofuel opportunities which are available now if reducing emissions from heavy transport is a serious goal. Other countries are already reducing emissions by supporting the availability of biofuels.

6.7 What are the three main actions the Government can do to make it easier to reduce emissions from aviation and maritime fuels (without adding too much cost for households and businesses)?

1. Establish a maritime policy development group similar to Sustainable Aviation Aotearoa
2. Support the use of drop-in biofuels in coastal shipping.
3. Support the import or domestic manufacture of SAF.

6.8 Please provide any additional feedback on the Government's thinking about how to reduce emissions in the transport sector.

Recognise that reducing emissions from transport will not be done by business alone because the benefits of emissions reduction have significant public benefits and Government needs to co-fund for these. Leaving the cost 100% to the private sector results in the private sector subsidizing the public benefits.

Chapter 7

7.1 What are the three main barriers or challenges to farmer uptake of emissions reduction technology?

1. The lack of incentives because many emission reduction opportunities are not rewarded because they are outside of the scope of the NZETS.
 - a. Sequestration from plants
 - b. Narrow definition of what a woodlot is eg less than 30metre breath
 - c. Height limits
 - d. Sale of biomass as a biofuel to replace fossil fuels
2. Lack of knowledge and advice – eg farm advisers are not knowledgeable of the opportunities.
3. Emissions from agriculture activities are not measured eg dairy effluent which could be processed by anaerobic digestion to reduce emissions

7.2 How can the Government better support farm- and/or industry-led action to reduce emissions?

1. Include emissions measurement withing Farm Environmental Plans
2. Farms to be held accountable for annual net emissions similar to other business.
3. Provide assistance to Farm owners and their advisers to be well informed of the options.

7.3 How should Government prioritise support for the development of different mitigation tools and technologies across different parts of the agriculture sector?

1. Include emissions measurement withing Farm Environmental Plans
2. Farms to be held accountable for annual net emissions similar to other business.
3. Provide assistance to Farm owners and their advisers to be well informed of the options.

7.4 What are three possible ways of encouraging farmer uptake of emissions-reduction tools?

1. Include emissions measurement withing Farm Environmental Plans
2. Farms to be held accountable for annual net emissions similar to other business.
3. Standardisation of methodologies for estimation of on-farm emissions.

7.5 What are the key factors to consider when developing a fair and equitable pricing system?

If farms are treated like any other business and required to monitor and report net emissions including biogenic emissions with offsets from reduction initiatives then there is no need for a separate pricing system.

7.6 Please provide any additional feedback on the Government's thinking about how to reduce emissions in the agriculture sector.

The development of emission reduction tools is supported but it appears that the scope for emissions reduction and the range of tools is too narrow and doesn't include a number of options that would be included if a net farm emissions monitoring and reporting was instigated. This would also assist farmers to identify the priority areas where they could take action.

Chapter 8

8.1 How could partnerships be structured between the Government and the private sector to plant trees on Crown land (land owned and managed by the Government)?

It is difficult to understand that anything different is required than that which occurs for any landowner to come to financial arrangements with forest owners to plant and manage plantation forestry on their land.

8.2 What are the three main actions the Government could do to streamline consents for wood processing?

Farm Environmental Plans should apply to all land regardless of who the owner is, and their activities for land use. Integration of tree planting with normal farm operations should be a feature of the Farm Environmental Plan.

The regulatory rules for land use should apply to all land regardless of how it is owned and used. National Land Use Environmental Standards similar to National Air Emission Standards should be developed. All land use should be required to be done as permitted uses within the rules of the National Land Use Environmental Standards and if this is done there should be no need for Council land use consents.

If the National Land Use Environmental Standards allow for some discretionary land uses then these could be considered by the consent authority.

8.3 **How large should the role of wood in the built environment play in New Zealand's climate response?**

As wood is a fully renewable resource its use in buildings should take preference over the use of steel and concrete which are not renewable resources.

All buildings should have the carbon intensity of the materials in a building measured and included within the NZ ETS. The reporting for NZETS should be on a net embedded basis.

The carbon storage in harvested wood products should be recognized as a credit to offset the embedded carbon required to produce steel and concrete.

8.4 **What other opportunities are there to reduce net emissions from the forestry and wood-processing sector?**

The permanent carbon storage in harvested wood products should be recognized so as to increase use of wood in buildings and other long life wood products such as furniture.

8.5 **Please provide any additional feedback on the Government's thinking about how to reduce emissions in the forestry and wood-processing sector.**

Including recognition of carbon storage in harvested wood products will encourage greater use of wood throughout the communities. The carbon credit should be owned by the end user of the wood. For example if the wood is used in a building then the building owner would obtain the carbon credits. The value of these credits would flow back to wood processors and then forest owners through the prices paid at each step. Where the wood residues are used as a wood fuel to avoid the use of fossil fuels the carbon credit would accrue to the end user with the value of emissions reduction flowing back to the forest owner through the price for wood residues.

Chapter 9

9.1 **What are the three main opportunities for non-forestry removals to support emissions reduction?**

1. Sequestration by plants of all forms including herbaceous and woody on farm and urban lands.
2. Sequestration of carbon in buildings and other wood structures
3. Sequestration of carbon in bio- based products eg bio-plastics.

9.2 **What are three main barriers to developing more non-forestry removals?**

Current NZ ETS rules and Government policies

9.3 **It is important to balance landowners ability to use their land flexibly with the recognition of the role of non-forestry removals. How can this balance be achieved?**

A requirement for all farms to have Annual Farm Environmental Management Plans including counting of net emissions would allow and provide incentives for land managers to adopt emissions avoidance or sequestration opportunities that best fitted the commercial operation of their farms. If annual monitoring and reporting of net emissions is mandated then this will provide an incentive for farmers to make the best decisions according to their lands and business.

9.4 **What three main benefits beyond emissions reductions could be created by developing more non-forestry removals?**

1. Farmers would make better land use decisions because they would be incentivized to use trees for erosion control and riparian soil management.
2. If farmers were encouraged to manage shelter belts, woodlots, and steep slopes by planting trees on a permanent rotational basis then when harvested there would

potentially be a larger source of wood residues from which biofuels can be produced. Bioenergy Association estimates that around 7% of NZ energy demand could be sourced from trees on farms.

3. If crop residues are recognized as being supplied from farms to produce biogas and biomethane as an alternative to using fossil fuels and synthetic fertilisers then the emissions reduction should flow back to farm net calculations.

9.5 What risks and trade-offs from incentivising land-use and management change to reduce net emissions need to be considered?

1. The risk of considering the calculation methodology as being too hard and so doing nothing, is worse than getting methodology started using default data.
2. The biggest risk is aiming for perfection and so doing nothing rather than starting simple and improving calculation methodologies from practice.

9.6 Please provide any additional feedback on the Government's thinking about how to reduce emissions through non-forestry removals.

We just need to make it happen and not just talk about it as a possibility.

Chapter 10

10.1 Do you agree or disagree that the Government should further investigate improvements to organic waste disposal and landfill gas capture?

1. Yes. However the need to investigate is not into improvements but to adopt the practices which are already known.
2. The organic waste market is very complex and often controlled by vested interests. There is a need for regional plans and assistance for collecting organic material and encouraging the right recycling technology in the right place.

10.2 What is the main barrier to reducing emissions from waste (in households and businesses or across the waste sector)?

1. The lack of adoption of the Waste Strategy
2. Lack of use of all technologies eg anaerobic digestion, composting and thermal treatment. Landfill should only be a technology of last resort for organic material which can not be recycled into valuable products.
3. Municipal council policies that pick winners rather than encouraging and assisting the technologies which achieve the maximum value from recycling residual organic material.

10.3 What is the main action the Government could take to support emissions reductions from waste (in households and businesses or across the waste sector)?

1. Mandate that no recyclable residual organic material can be put in landfill after 2030.
2. Adopt the current draft Waste Strategy.

10.4 Please provide any additional feedback on the Government's thinking about how to reduce emissions in the waste sector.

Nil

Chapter 11

11.1 What are the three main barriers to managing climate risks through emissions reduction policies in this discussion document?

Expecting the private sector to shoulder the costs of adaptation.

- 11.2 What are the three main benefits of managing climate risks that can come from the emissions reductions policies in this discussion document?**
No comment
- 11.3 What are some examples of how businesses and industries are already managing climate risks?**
No comment
- 11.4 How can these kinds of activities be further supported?**
No comment
- 11.5 Please provide any additional feedback on the pathway the Government has set out for managing climate risks from emissions reduction activities.**
No comment

Chapter 12

- 12.1 What are the main impacts of reducing emissions on employees, employers, regions, iwi and Māori, and/or wider communities that you believe should be addressed through Government support?**
No comment
- 12.2 The Government can use a lot of existing tools to support people affected by reducing emissions (welfare and income support systems, employment and training services).**
No comment

Do you think additional climate-specific services, supports or programmes should be considered by the Government over the coming years?

No comment

Please describe what additional climate-specific services, supports or programmes could be useful.

No comment



Brian Cox
Executive Officer
Bioenergy Association.

Bioenergy Association agrees to the publication of this submission.