

7 February 2017

Energy Markets
Building, Resources and Markets
Ministry of Business, Innovation and Employment
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Subject: Submission on draft refresh of the NZEECS 2017-2022

1. The Bioenergy Association welcomes the refresh of the NZEECS and supports its new directions. Points raised in this submission are aimed at improving the strategy where there are gaps.
2. The Association has consulted its members and incorporated relevant suggestions from them. However members have also been encouraged to make their own submissions to reinforce points or to provide additional information.
3. In addition to creating jobs and supporting regional economic resilience bioenergy can be a significant contributor to greenhouse gas emission reduction by transitioning of heat production from fossil fuels to wood fuel or biogas; reduction of discharge of methane from municipal and trade waste; and an increased use of liquid biofuels.

RESPONSES TO SPECIFIC CONSULTATION QUESTIONS

4. **Does the proposed goal capture what you see as the desirable future state from the promotion of energy efficiency, energy productivity and renewable energy in New Zealand?**
 - 4.1. Yes. The new direction of the NZEECS are suitably reflected in the title “Unlocking our energy productivity and renewable potential” as it encompasses the principle that the strategy should not be simply about energy supply, but be about using our renewable natural energy resources to increase employment, assist regional economic growth and achieve environmental benefits including for climate change, clean airsheds, and clean waterways. Bioenergy can also contribute to land use management issues.
 - 4.2. The Association is satisfied that the refreshed strategy is a good start to achieving those wider goals. However the Association would now like to see how Government will implement the strategy as history has shown that implementation of such strategies has fallen well short of expectations.
 - 4.3. The Association supports the link from the proposed NZEECS to the NZ Energy Strategy four priority areas but would like to see this more explicit.
 - 4.4. The Association supports the draft NZEECS Goal and four Objectives.

5. Where do the challenges and opportunities lie for energy efficiency and renewable energy in New Zealand over the next five years?

- 5.1. The challenges and opportunities are in supporting the primary policies of Government and the communities. These are reflected in the proposed goals but fall well short in the content of the draft NZEECS.

6. Do the proposed objectives and priority areas capture the key contributions that are needed to achieve the goal?

- 6.1 The Association is concerned that there is a lack of integration with other sector strategies led by Government. These are:

6.1.1. Waste management

Bioenergy can be derived from biomass sourced from forestry, wood processing, food processing residues and agricultural residues, or from municipal and trade wastes. The draft NZEECS fails to show linkage to the waste sector yet this is an area where bioenergy can provide disposal solutions and the waste can be a feedstock.

Extracting value from waste can be from energy products or the co-products of transformation. In many cases the co-products can be more valuable than the energy products.

Recommendation: *Integrate the Government energy and waste disposal/management policies and programmes so that any barriers for waste to energy opportunities are minimised.*

6.1.2. Forestry and wood processing

A strong and healthy forestry and wood processing sector with encouraged domestic added value wood processing would assist overcome potential shortages of wood fuel for production of renewable process heat. Forestry and wood processing are the primary sources of wood fuel and domestic wood processing residues provide the best wood fuel. The current laissez fair government policies with regard to domestic wood processing results in a lost opportunity for sourcing best quality wood fuel.

The reduction in the overall size of the plantation forest estate is a concern to the bioenergy sector as it has impact on potential fuel supplies, contributes to increased net GHG emissions, presents a risk of changes in water quality and reduces economic opportunity from forestry.

Recommendation: *Integrate the Government's energy and forestry/wood processing strategies and programmes so that any barriers to maximizing value from wood biomass from use of bioenergy are minimized.*

6.1.3. Clean waterways

Bioenergy technologies can assist in reducing the discharge of organic contaminants to land, aquifers and water ways in dairy regions. Replacing the use of raw effluent as fertiliser with high grade processed fertilizer as an output of clean up can reduce costs for farmers. Providing for bioenergy solutions will enable the potential to future proof international trade perceptions to also be considered.

Recommendation: *Include the linkage between the use of bioenergy technologies and clean up of waterways so as to encourage consideration along with other measures.*

6.1.4. Clean airsheds

Discharge of contaminants to air from residential and commercial heat facilities can be significantly reduced with appropriate regional air quality plans. These set the performance standards for heat plant. Currently many air plans are barriers to achievement of their objectives, e.g., prohibition on the use of wood fuel for heating in some plans.

Guidance on this issue from Government through revision of the National Air Quality Guidelines will assist prevent local councils and regional councils developing local regulations that may severely limit the use of clean wood fuel heat plant.

Recommendation: *Include the linkage to regional air quality plans and the National Air Quality Guidelines within the NZEECS.*

- 6.2. The draft NZEECS should be strengthened in its encouragement to public entities to consider energy efficiency and use of renewable energy for heat production, transport and use.

Economies of scale can be achieved where there are clustered heat users sharing a heat plant facility. Involvement of territorial authorities through district and regional plans can facilitate this.

The NZEECS should include guidance to local and regional councils that they are expected to consider renewable heat opportunities in their future district and regional plans. This could be achieved by the National Policy Statement for Renewable Electricity Generation being broadened to also include energy efficiency and renewable heat.

Recommendation: *Broaden the National Policy Statement for Renewable Electricity Generation to include energy efficiency and renewable heat*

7. Does the focus on what each group can contribute resonate with you? Do you think anyone is missing?

- 7.1. There are a number of areas which have been missed as discussed in this submission.

- 7.2. The draft NZEECS infers that electric vehicles are the only pathway for efficient and low emissions transport. The strategy ignores the use of biofuels for applications where electricity is not likely to be an economic option.

Methane produced from organic waste can also be a very cost effective and proven transport fuel.

The encouragement of biodiesel production and use would also assist with both economic and environmental factors. Saving import costs, reducing GHGs and growing industry.

Biofuel is also likely to be significantly used as a marine fuel to meet sulphur emission limits.

Recommendation: Amend the proposed supporting action to allow/provide for all low carbon vehicle initiatives including liquid and gaseous biofuels to be considered in any support programme and not just limit the programme to electric vehicles.

- 7.3. The proposed Process Heat Action Plan for business needs to be linked to cross-cutting supporting actions around the supply of wood fuel. A major barrier to the greater use of wood fuel for heat is the perceived and real state of the wood fuel supply market. Heat plant can have an economic life of up to around 30 years so investors need to be confident that there will be adequate fuel available for much of that period if they are to invest in wood fueled heat plant. It is therefore strongly recommended that provision for a focused wood fuel supply development programme, to be undertaken on a collective basis, to support the necessary growth in the use of wood fuel for heat. This is critical for a range of heat plant sizes where they are used for high availability applications eg hospitals.

Recommendation: That a cross cutting action be included related to the supply of wood fuel.

- 7.4. The lack of inclusion of residential energy within the NZEECS is a lost opportunity as residential wood pellet heating as well as low emission log burners can be a significant contributor to achieving clean airsheds and provides a profile for the use of wood fuel that has a flow on to encouraging wood fuel in commercial applications.

Having individuals exposed to high profile use of renewable energy in the home, school and workplace encourages thinking about the use of renewable energy so that it is perceived as main stream with a consequential flow on to encouragement of installation of commercial scale wood fueled heating.

Domestic wood heating can also have a most positive effect for reducing winter peak demand on national electricity transmission and local distribution lines networks, and can help to avoid a substantial number of the up to 6 natural gas peaker stations projected by MBIE and the EA in their most recent future electricity market outlooks.

While renewable energy is often not itself used at peak electricity demand periods its use can back off hydro use for electricity production so that the stored hydro can be used in peak electricity demand situations instead of gas.

Recommendation: Include a Residential Wood Heating Action Plan within the NZEECS.

- 7.5 Regional production of methane from municipal and industrial solid and liquid waste is a significant greenhouse gas emission contributor yet solutions for using the methane as a fuel for the controllable generation of electricity and use as a transport fuel are economically available. Methane is a 22 times stronger contributor to greenhouse gas emissions than carbon dioxide.

Within the electricity supply system the peak demand for electricity (when it is most expensive to produce) can be partly met by the generation of electricity from stored biogas (methane). Landfills are a very inefficient means of capturing methane and local government is recognizing this through implementing the separation of organic waste from landfill. Linking the solid organic waste with

liquid waste at waste water treatment facilities can provide economies of scale for the collection of methane and its subsequent use (Refer Palmerston North trade waste and sewage).

On-site collection of methane, waste to energy electricity generation and use as a vehicle fuel can reduce the cost of municipal and trade waste disposal for local government owners.

The current waste minimization policies and the Waste Minimization Fund application criteria should be realigned so that waste to energy technologies are encouraged as a viable solution for reduction of greenhouse gas emission.

Recommendation: *Include a Waste to Energy Action Plan within the NZEECS and align the Government's waste minimization policies.*

- 7.6 The Association supports the proposals for central and local government to take a leadership role, consider capital investments on a life-cycle analysis basis, and implement procurement policies that include consideration of energy efficiency and renewable energy options. In the bioenergy sector central and local government is a significant player and such policies would provide appropriate signals to the private sector that Government is serious about implementing NZEECS and setting best practice decision making. Current lowest cost decision making by government entities results in poor investments and does not encourage the private sector to make good decisions.

Such leadership from government agencies will provide the demand pull that the wood fuel supply market requires if it is to grow to meet the opportunities.

The replacement of fossil fuels by wood fuel for residential and commercial heat production can have a significant impact on the achievement of desired urban air quality standards. The draft NZEECS is silent on actions to achieve this objective.

Local government involvement in the full range of low carbon transport should be stronger encouraged to utilise the waste resources that they are responsible for in the public transport services they are also responsible for.

Recommendation: *Include an Action Plan within the NZEECS covering the use of renewable energy technologies by local government to assist achievement of desired mandated air quality standards in urban areas.*

- 7.7 Encouragement of sustainable residential house construction should be included in the NZEECS as this can contribute to increased use of bioenergy solutions for achieving GHG emission targets. Sustainable construction requirements would provide for new wood sector opportunities in engineered wood products (CLT, wood fibre insulation boards, etc.), which could provide a boost for the wood processing sector and the consequential wider bioenergy opportunities associated with it. Currently used timber treatments in NZ, especially CCA, very much complicate energetic recycling of woody construction waste and demolition material (as illustrated by the Christchurch earthquake clean up), and leave a legacy problem for future generations to solve.

Recommendation: *Sustainable residential house construction with encouragement of construction techniques and materials is to insure the durability of wood based*

construction material with a minimum of chemical treatment allowing for trouble free energetic recycling of woody construction waste and demolition material.

8. Taken together, do you think the proposed goal, objectives and priority areas will set a clear direction for action to unlock our energy productivity and renewables potential?

8.1 The proposed goal, objectives will be achieved if the priority areas are extended as suggested.

9. What specific actions could help us to achieve the goal of the Strategy? What, if any, additional costs would you face if those actions were implemented? Please quantify if possible.

9.1. As many of the goals and objectives are public goods it is critical that Government be involved through leadership and facilitation. The private sector will respond to the refreshed NZEECS but because energy efficiency and installation of renewable energy solutions are not always the lowest capital cost solution the sector will only grow slowly (and thus miss the targets) if sector assistance is not provided.

9.2. Bioenergy solutions can often be financially viable when considered on a life cycle basis. Such investments would result in costs savings to the investor and not be an additional cost yet contribute to the NZEECS targets. With appropriate assistance for government entity investors in particular there should be little additional net cost from implementation as the long term benefits outweigh short term additional costs. Also local government is able to capture the social and community benefits that elude private sector investors.

10. Do you agree that the preferred targets will be measurable and meaningful targets, and support the objectives and actions?

10.1. Having national targets based on energy or emissions intensity linked to GDP is appropriate for Government but of little value for guiding actions of sector participants, programmes and activities generally. The targets set by the NZEECS are meaningless for assisting identify and promote specific actions. The targets need to be measurable and relevant to individual decision makers such as already exist for renewable electricity and those proposed for electric vehicles.

Heat and methane emissions should have separate specific targets related to the annual reduction in greenhouse gas emissions. This should be reported regionally.

10.2. The national targets should be explicitly linked to delivery of the nationally determined contribution (NDC), after all this target is only 13 years away. The proposed target is well short of the emissions reduction gains required and does not convey the urgency with which the Government and therefore business needs to address the energy challenges before them. Further, the proposal does not adequately reflect New Zealand's relatively favourable position compared with many other countries and the opportunity to realise the potential, inherent in its abundant resources (forestry, land, water, geothermal, wind etc.), to improve both its energy efficiency and GHG emissions performance. A more ambitious approach would help the delivery of both the NZEECS and 2030 NDC, and concurrently assist businesses make the changes necessary to sustain their long-term competitiveness.

- 10.3. The scale of New Zealand's ambition around the NDC will require much more alignment between sectors, and will require action beyond the 5 year time frame of the targets in the consultation document. Nations that have been successful in developing large scale and enduring renewable energy schemes succeeded because of strong, clear, long-term, cross-party Government leadership and at times intervention, eg Renewable energy programmes in EU and China, Biofuel programmes in Brazil, US and EU.
- 10.4. Linking the process heat CO2 emission target to GDP is a mistake. The NDC is not linked to GDP. One could envisage a scenario where NZ is meeting the NZEECS process heat target, but absolute CO2 emissions are still increasing, eg GDP growth of 2% and CO2 increasing by 1%. This would not help NZ hit the NDC.

Recommendation: *Include more specific, measurable targets such as direct GHG reduction.*

11. How can we ensure that energy data and research generates knowledge and understanding that can help to unlock our energy productivity and renewables potential?

- 11.1. It is critical that Government starts to collect good data on the amount of wood fuel that is used and provide guidelines on how much is potentially available. This would address the perceptions of the availability of wood fuel that hold back the growth of wood energy.
- 11.2. It is important that Government put more attention on measuring the amount to methane that is discharged to air from waste so that programmes to reduce methane as a greenhouse gas emission can be addressed.

12. Concluding Remarks

The association welcomes the opportunity to expand on this submission

Regards



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