

28 February 2020

Energy Markets Policy
Ministry of Business, Innovation and Employment
PO Box 1473
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Attention: energymarkets@mbie.govt.nz

Subject: Submission on Discussion Document - Accelerating renewable energy and energy efficiency

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2. **Email:** Brian.cox@bioenergy.org.nz
3. This submission is on behalf of an organisation.
4. **Which group do you most identify with, or are representing?** Biomass sector
5. **Business name or organisation:** Bioenergy Association
6. **Position title:** Executive Officer
7. **We intend to upload submissions to our website at www.mbie.govt.nz. Can we include your submission on the website?** Yes
8. **Can we include your name?** Yes
9. **Can we include your organisation?** Yes

Summary

In principle the Bioenergy Association supports the main policy initiatives relating to bioenergy but there are a number of aspects where the Association would like to discuss the details further with the Ministry as some of the document assumptions are not correct, or appear to be wrongly interpreted from best practice. The initiatives also do not go far enough to optimise acceleration of gaining the benefits from bioenergy and biofuels.

Bioenergy and biofuels provide a very large opportunity for reduction of greenhouse gas emissions yet the discussion paper only touches briefly on some matters which would release that opportunity.

There is a need for a greater and more in-depth analysis of the greenhouse gas emission reduction opportunities, which has never been undertaken. This is reinforced by the recent release by the Ministry for the Environment of the Marginal Abatement Cost Curves which in some cases provides data which is significantly different from the MBIE work. Yet the MfE report is based on data produced for EECA and MBIE. The MfE work is more consistent with the sector's own analysis than appears with the MBIE report. Bioenergy Association recommends that the MBIE policy work should be based on the MfE abatement cost curve report. (Having said that the Bioenergy Association believes that some of the cost curve analysis is based on wrong fuel cost assumptions and this is being raised with mfe).

The Association is concerned that the MBIE discussion document appears to be an ad hoc selection of policy initiatives that have been presented in isolation of wider activities such as the forest and waste policies. It is of concern that these initiatives are not integrated with these other policy areas where there are overlapping benefits and consequences. The Association recommends that to maximise acceleration and identification of priorities that government and the sector work together to a shared action plan rather than the current piecemeal approach that is being taken. Unlike other renewable energy sectors where there are a limited number of players, a single source of energy and often only a single product, electricity, the bioenergy sector produces many community benefits as well as energy. Often those other benefits are greater than the energy benefits. The bioenergy and biofuels sector is highly integrated into land use and communities.

It is also of concern that the proposals do not fit within a more comprehensive renewable energy strategy such as what Te Uru Rakau is doing with regard to developing a Forest Strategy, and then addressing priority matters. There appears to be no linkage to the current Government Energy Strategy and priorities set out in the NZEECS. It is recommended that an across government approach be taken so that effort by different government agencies is not duplicated and there is efficiency of delivery.

Because the bioenergy and biofuels market is multifaceted with a number of market failures, the current market led approach (which is continued in the discussion document) will limit acceleration. To optimise acceleration of the market there needs to be government led facilitation and it is recommended that EECA be adequately resourced and mandated to assist the full range of bioenergy and biofuel opportunity areas rather than its current very limited assistance to funding wood combustion projects. The utilisation of organic waste and other biomass resources such as from agriculture is often a better investment for process heat than can be achieved from wood.

A major concern about the document is the lack of recognition that energy resource markets should include waste and biomass on an equal footing as coal, gas and geothermal resources. Government puts significant effort into publishing data on the demand and supply for coal and gas but there is minimal effort to publish information on the long term demand and supply for waste and biomass resources for production of energy. Until waste and biomass from plants as a source of energy is treated on the same basis as coal and gas, then accelerating bioenergy and biofuels use will miss its optimal opportunity.

The Bioenergy Association recommends that a proper integrated whole of government approach to renewable energy be adopted with an agreed renewable energy implementation plan deriving from the current Energy Strategy.

Bioenergy Association is concerned that over the years that it has provided advice on possible targets, the opportunities for reducing greenhouse gas emissions, and the actions necessary to bring these about but MBIE has never responded to the information provided. The consequences are that government and the bioenergy and biofuels sector are travelling on different pathways to 2035 and 2050, with the result that opportunities for achieving easily and cheaply obtained options for reducing greenhouse gas emission reductions are not being effectively pursued. Bioenergy Association recommends that cross government sector working groups be established for each of the renewable energy sectors so that there are agreed pathways and priorities.

Bioenergy processing could achieve greenhouse gas reductions of:

- 1.8 Mt CO₂ -e pa from reduced use of coal and gas for process heat¹
- 1.8 Mt CO₂ -e pa by processing residual organic waste into energy²
- 8.6 Mt CO₂ -e pa from use of biofuels in transport

The levels of greenhouse gas reduction are potentially more cost effective than many of the other initiatives currently being considered by Government. The recommendations in the discussion document will assist achieve these targets but other initiatives will also be required.

QUESTIONS

SECTION 1: SECTION 1: ADDRESSING INFORMATION FAILURES

Option 1.1 Require large energy users to publish Corporate Energy Transition Plans (including reporting emissions) and conduct energy audits

Q1.1 Do you support the proposal in whole or in part to require large energy users to report their emissions and energy use annually publish Corporate Energy Transition Plans and conduct energy audits every four years? Why?

For the biomass fuel supply market to be effective there is a need for optimal information on possible future demand for each type of fuel and each load type. The publication of projected energy demand, load type and likely supply source by large energy users could be one source of that data. However gaining sensitive information such as this needs to be in confidence, but can be published in aggregated format. The data should be presented on a regional basis so that energy suppliers can plan to meet the projected demand.

The data can be aggregated to maintain business confidentiality provided that the data published is presented for each source, load type and fuel type.

The lack of actual fuel use data instead of data derived from the current national estimation methodology, does not provide useful information for the fuel suppliers to respond to.

Collecting data only from large energy users is of limited value to developing an effective fuel supply market as it ignores that large number of small energy users who often find it easier to fuel switch because the capital expenditure barriers for them may not be so great.

A focus only on large energy users and without an overall energy demand /supply action plan means that the data collected is unfocused. Working down from a proper energy planning process would ensure that the data collected from businesses is helpful, rather than just data.

¹ <https://www.bioenergy.org.nz/documents/resource/Information-Sheets/IS48-GHG-reduction-using-wood-energy-190124.pdf>

² <https://www.bioenergy.org.nz/documents/resource/Information-Sheets/IS47-Role-of-biogas-in-transition-to-low-carbon-economy.pdf>

Q1.2 Which parts (set out in Table 3) do you support or not? What public reporting requirements (listed in Table 3) should be disclosed?

The proposed reporting requirements is unstructured and ad hoc. Energy planning should not be limited to electricity as is proposed. All renewable energy supply, and in particular biomass energy, requires active market information.

The information provided should not only provide current data but future projections of energy demand by type and source. For the data to be useful for the bioenergy and biofuels sector planning for long term supply of biomass as fuel, the projections of demand should be for as long as possible.

Q1.3 In your view, should the covered businesses include transport energy and emissions in these requirements?

Yes. Climate change programmes require full community information on energy demand and supply. This allows fuel suppliers, service providers and technology developers to respond to proper market signals.

There is significant changeability over the medium term between energy fuel types and between feedstock sources for the production of solid, liquid and gaseous biofuels. The production of different energy forms also involves large capital investment so aggregated data for each form of energy is very important for investors.

There is significant overlap between competing uses of biomass so any climate change programmes need to include all uses and sources of biomass including transport, process heat and electricity generation. A focus on process heat alone will lead to lost opportunities for greenhouse gas emission reduction.

Q1.4 For manufacturers: what will be the impact on your business to comply with the requirements? Please provide specific cost estimates if possible.

N/A

Q1.5 In your view, what would be an appropriate threshold to define 'large energy users'?

We are happy with the suggested thresholds. The main thing is to get started and the thresholds can be altered over time and as systems mature. However as discussed above the focus on large energy users will not accelerate the transition to a low carbon future than if a more integrated wider focus on fuel demand and supply options were used.

Q1.6 Is there any potential for unnecessary duplication under these proposals and the TCFD disclosures proposed in the MBIE-MfE discussion document on Climate-related Financial Disclosures?

There will be a risk of unnecessary duplication but the important thing is to get started and refinement can occur based on experience.

Option 1.2 Develop an electrification information package for businesses looking to electrify process heat, and offer EECA's business partners co-funded low-emission heating feasibility studies

Q1.7 Do you support the proposal to develop an electrification information package? Do you support customised low-emission heating feasibility studies? Would this be of use to your business?

Information packages should be developed for all energy forms and not just electricity.

[This focus on electricity rather than energy pervades the whole document and brings discredit on the work undertaken. Throughout the document there is an assumption that electricity will be the primary source of energy for process heat. This is despite the evidence provided by MfE with the Marginal Abatement Cost Curves (<https://www.bioenergy.org.nz/resource/marginal-abatement-cost-curves-analysis-for-nz>) which show that in many cases biomass energy is likely to have lower abatement costs than electricity.]

The information from feasibility studies and demonstration projects should be made publicly available so that others can learn. The preparation of a non-confidential version of the feasibility study should be a condition of funding.

[Over the years EECA has funded many feasibility studies and demonstration projects but little value has been obtained from the investment because the reports and other information have been considered confidential to the project host. Where EECA has produced case studies from these projects the content has often been dumbed down so that the resulting document is no more than a public relations exercise eg <https://www.usewoodfuel.org.nz/documents/resource/CaseStudy-Rotorua-Girls-High-School-1mw-boiler.pdf>. Bioenergy Association has prepared some model case study reports as a role model eg <https://www.usewoodfuel.org.nz/documents/resource/CaseStudy08-Biomass-heating-nursery-Zealandia-Horticulture.pdf> of what would be useful to possible investors and their advisers.]

Bioenergy Association has previously recommended to EECA that rather than fund additional feasibility studies and demonstration projects that some of those already funded be written up as proper case studies. This would result in greater value being extracted from projects already funded.

When publishing the results of feasibility studies and demonstration projects it is even more valuable to hear about those projects which didn't proceed or had problems as we often learn more from our failures than our successes.

Q1.8 In your view, which of the components should be scaled and/or prioritised? Are there any components other than those identified that could be included in an information package?

The prioritisation of material in the information packages should be tailored for different sectors of energy users as the rationale and cost of action is different in each sector, as is the benefits to the investor of taking action. For example education opportunities are different from accommodation opportunities.

Option 1.3 Provide benchmarking information for food processing industries.

Q1.9 Do you support benchmarking in the food processing sector?

Yes. When benchmarking there should be no distinction between what the energy is used for. The benchmarking should be across each of the large energy using sectors and be specific to each sector.

Q1.10 Would benchmarking be suited to, and useful for, other industries, such as wood processing?

Yes. However care needs to be taken when benchmarking so that comparison is actually between similar processes. The benchmarking should be specific for each sector and often subsector.

Q1.11 Do you believe government should have a role in facilitating this or should it entirely be led by industry?

Leadership should start with benchmarking government facilities which have high energy use and this will assist voluntary involvement by industry.

Because the value of benchmarking will have a significant public benefits it should be facilitated by government. Left to industry to benchmark if it wants to will mean that it might not occur and/or the uptake of benchmarking may be slow.

Section 2: Developing markets for bioenergy and direct geothermal use

Option 2.1 Developing users' guide on application of the National Environmental Standards for Air Quality to wood energy

Q2.1 Do you agree that councils have regional air quality rules that are barriers to wood energy? If so, can you point us to examples of those rules in particular councils' plans?

Bioenergy Association has undertaken a review of all regional rules and has identified that:

- A full list of the problem with rules is in the report <https://www.bioenergy.org.nz/resource/op21-review-of-regional-air-quality-rules-regulating-biomass-fuelled-heat-plant>
- The rules are inconsistent across regions which results in inefficiencies and unnecessary duplication of costs by councils and applicants. There appears to be no reason why the airplan rules can not be identical across all regions. It is inefficient and a waste of resources for each region to consult and develop its own rules.
- Some of the rules are wrong or refer to inappropriate standards
- Some of the rules are inadvertently overly prescriptive because of the manner in which they are written.
- Two examples of over prescription are (1) the requirement for biomass to be clean wood yet some heat plant with appropriate controls and air emissions controls can combust "slightly contaminated" biomass, (2) a tendency to focus on processes rather than effects (e.g. some plans correctly permit emissions below certain thresholds, others incorrectly permit combustion but have pyrolysis/torrefaction as discretionary).
- The basis of some of the rules is not even understood by some council staff as they were originally prepared a number of years ago and they have never been questioned and both applicants and consenting officers have just applied them because they exist.
- Councils have often asked the Bioenergy Association for greater guidance for considering discretionary use applications. The consenting officers generally have no guidelines, accepted standards or training in the consideration of discretionary use applications with the result that there can be major different conditions applied across different regions for similar projects.

Q2.2 Do you agree that a NESAQ users' guide on the development and operation of the wood energy facilities will help to reduce regulatory barriers to the use of wood energy for process heat?

There is definitely a need for a NESAQ user's guide but the problem is more fundamental than just the need for a guide. The NZ NESQA standards are inappropriate for ensuring healthy communities. The European standards are often much more robust when applied to emissions from heat plant.

Bioenergy Association has endeavoured to raise its concerns and to offer to assist develop more appropriate NESAQ standards but the current review appears to be being undertaken in secret and without involvement of heat plant experts.

The inappropriateness of the current NESAQ standards often leads to perverse heat plant designs.

Q2.3 What do you consider a NESAQ users' guide should cover? Please provide an explanation if possible.

The proposal has misunderstood the nature of the problem raised by bioenergy Association. A users guide would be useful but more significantly is the inconsistency and inappropriateness of the rules of the rules. Currently a users guide would have to cover 9 variations of the regional regulations plus the inconsistency and errors in many of the territorial authorities district plans. The users' guide would provide different advice for each consent authorities because the rules are different in each case.

A users guide under the current range of different regional rules would be nearly as inconsistent as the current rules are. First the rules need to be sorted and then the Guide can respond to those rules.

The Bioenergy Association has suggested that a model set of rules for discharge of emissions to air be prepared and provided to consent authorities for their air plans and then assist them to adopt the model rules at the time of each Regional Air Plan review. Having prepared and published a model set of rules then a users' Guide would be easy to prepare.

Q2.4 Please describe any other options that you consider would be more effective at reducing regulatory barriers to the use of wood energy for process heat.

The NESAQ needs a full revision to be consistent with modern best practice. The current NESAQ focus om PM₁₀ rather than PM_{2.5}. A full outline of the issues with the current NESAQ is set out in <https://www.usewoodfuel.org.nz/documents/events/WE2020-Brian-Anderson-best-practice-with-air-emission-regulations.pdf> Bioenergy Association suggests that this, and the recommended development of model Air Plan rules should be referred to the Ministry for the Environment and resolved before a users' guide is developed.

Q 2.5 In your opinion, what technical rules relating to wood energy would be better addressed through the NESAQ than through the proposed users' guide (option 2.1)?

refer above. The NESAQ and regional rules problems should be addressed before a users Guide can be produced.

Facilitating the development of bioenergy markets and industry clusters on a regional basis

Q2.6 In your view, could the Industry Transformation Plans stimulate sufficient supply and demand for bioenergy to achieve desired outcomes? What other options are worth considering?

No

The Industry Transformation Plans are an important source of data for the development of biomass fuel supply responses but more importantly is the agency for aggregating the regional energy data and presenting to the market. Having the individual Industry Transformation Plans alone is not adequate information for the biomass fuel supply market to respond to demand.

Because biomass is in demand across a number of sectors the projections of demand need to include for all uses. For example wood chip can be exported, used to produce engineered wood products, and be used as an energy fuel. Energy demand for biomass can't be considered separate from these other uses.

Q2.7 Is Government best placed to provide market facilitation in bioenergy markets?

Regional entities would be the best placed to facilitate regional biomass markets because local knowledge and connections will be critical. An example of how this has worked very successfully is with Venture Southland (now Great South) who managed the transformation of the biomass energy market in Southland.

However the regional facilitation needs to be supported financially from central government as the benefits of action accrue across all New Zealand.

Having said this in the longer-term there will be completely new markets for bioenergy, particularly transport fuels probably coupled with biorefineries. This will require a national effort to understand the demand and a regional response in respect of the supply chain.

Q2.8 If so, how could Government best facilitate bioenergy markets? Please be as specific as possible, giving examples.

For all energy in a region the Government needs to:

- set up and monitor performance of the platform for regional facilitation
- provide funding to each regional facilitator.
- Provide a central support for the regional facilitation
- Collect under its regulatory powers the information on energy demand and supply for each energy form that the regional facilitation entity will require
- Publish annually a report on the success of the regional activities

Because of the significance of energy source switching it is important that data for all energy demand and supply in a region be collected and made available to the energy market. This includes all uses of energy including transport and residential and industrial heating.

Regional biomass supply data must include biomass from forestry, manufacturing, agriculture and waste as all these sources can contribute to meeting demand. Within a region the biomass can be treated to produce gaseous, liquid and solid biofuels.

In completely new markets (e.g. transport fuels) there is a need for the Government to help develop options across the various potential fuel types and start funding pilots of those that

are reasonably low cost and low risk, and fund risk reduction for those that are less clear-cut.

Q2.9 In your view, how can government best support direct use of geothermal heat? What other options are worth considering?

N/A

Section 3: Innovating and building capability

Option 3.1 Expand EECA's grants for technology diffusion and capability-building

Q3.1 Do you agree that de-risking and diffusing commercially viable low-emission technology should be a focus of government support on process heat? Is EECA grant funding to support technology diffusion the best vehicle for this?

Yes. Because the process heat market is complex with a range of fuels and technologies there is a need for government facilitation. However government needs to develop a proactive working relationship with each of the relevant sector organisations, such as the renewable energy associations, and agree action plans out to 2035 and 2050. Government cant do it alone, and industry cant do it without government involvement and assistance, It has to be a proactive working partnership.

Grant funding is useful for providing demonstration projects, but more significantly, EECA's role should be widened from being simply a grant funder to being a full facilitator of low carbon technologies and development of low carbon solution markets. EECA's current narrow range of activities results in many missed greenhouse gas emission reduction opportunities. EECA's role in facilitating the growth of the EV market is a good example of what can be achieved when EECA is given the mandate and the resources. If the same was done for bioenergy and biofuels then this element of the renewable energy market would accelerate.

New Zealand is fortunate in that it has well proven and established technology for producing energy from wood and waste. The priority for EECA should be on assisting get the proven technologies used to their maximum before spending scarce funds on unproven speculative technologies.

Currently EECA spends minimal funds on processing wood residues into heat and virtually no funds on processing other biomass such as from agriculture and waste into energy.

Biomass energy currently provides 10.6% of consumer energy and analysis shows that this could increase to 26% by 2050. However based on the current minimal support for biomass energy and the current perceived bias towards electricity solutions, despite the higher abatement costs of electricity, this target will not be achieved. This is a loss of opportunity based on policy failure if it occurs.

The Productivity Commission, MfE and MBIE reports all correctly indicate that the risk on use of bioenergy solutions is in the area of biomass supply. That indicates that to obtain the easily achievable greenhouse gas emission reductions available from use of bioenergy that the priority for action by all parties, including government should be on biomass supply. This has to be a coordinated all of government approach.

MfE is responsible for the waste strategy and utilisation of residual waste, such as for energy, should take equal priority to minimisation policy and programme development. Te Uru Rakau is developing the forest strategy which includes maximising extracting value from forestry, including the production of energy.

However the agricultural sector currently doesn't feature in any energy policy work, yet land is where the largest biomass supply can come from so that the energy market will never run out of biomass for use as a fuel. Farmers have to opportunities to be food + fibre + fuel (and even more valuable chemical) producers, which would improve their business resilience. For example the options offered by short rotation energy crops are attractive in an environment where fast response and adaptability will be required.

If there is ever a shortfall in biomass fuel supply to meet demand then it will have been because of a policy failure across communities, land owners, industry and government.

The lack of an agreed approach between government and industry results in government agencies being out of step with industry and lacking in knowledge and experience when developing policies and programmes. This results in lost opportunities for greenhouse gas emission reduction.

Q3.2 For manufacturers and energy service experts: would peer learning and on-site technology demonstration visits lead to reducing perceived technology risks? Is there a role for the Government in facilitating this?

An issue is the relatively uniqueness of New Zealand's situation, but where relevant processes are being used overseas this could assist.

Option 3.2 Collaborate with EIH industry to foster knowledge sharing, develop sectoral low-carbon roadmaps and build capability for the future using a Just Transitions approach

Question 3.3 For EIH stakeholders: What are your views on our proposal to collaborate to develop low-carbon roadmaps? Would they assist in identifying feasible technological pathways for decarbonisation?

N/A

Question 3.4 What are the most important issues that would benefit from a partnership and co-design approach?

N/A

Question 3.5 What, in your view, is the scale of resourcing required to make this initiative successful?

N/A

Section 4: Phasing out fossil fuels in process heat

Option 4.1 Introduce a ban on new coal-fired boilers for low and medium temperature requirements

Option 4.2 Require existing coal-fired process heat equipment supplying end-use temperature requirements below 100°C to be phased out by 2030

Q4.1 Do you agree with the proposal to ban new coal-fired boilers for low and medium temperature requirements?

Yes. There is no reason why new coal boilers be installed when biomass energy can provide the same heat efficiently and effectively. With good regional biomass fuel supply planning and action there will be no shortage of biomass fuel available at realistic cost.

Q4.2 Do you agree with the proposal to require existing coal-fired process heat equipment for end-use temperature requirements below 100 degrees Celsius to be phased out by 2030? Is this ambitious or is it not doing enough?

Unless decisive policies such as is proposed are adopted and implemented the 2035 and 2050 emission reduction targets will not be met.

Q4.3 For manufacturers: referring to each specific proposal, what would be the likely impacts or compliance costs on your business?

N/A

Q4.4 Could the Corporate Energy Transition Plans (Option 1.1) help to design a more informed phase out of fossil fuels in process heat? Would a timetabled phase out of fossil fuels in process heat be necessary alongside the Corporate Energy Transition Plans?

Yes. With proactive action and availability of information on the demand side for energy will assist the supply side for renewable fuel supply to respond appropriately so that there is adequate supply to meet demand.

Q4.5 In your view, could national direction under the RMA be an effective tool to support clean and low GHG-emitting methods of industrial production? If so, how?

The RMA sets out an appropriate mechanism for achieving desired regional environment effects. The RMA already provides a mechanism for discharges of emissions to air and in the case of water allocation sets a mechanism for catchment plans. Widening the scope of regional air plans to include greenhouse gas emissions to achieve net zero emissions by 2050 would be a very useful tool for achieving the 2035 and 2050 emission targets and much better than having individual regional authorities each making their own determinations. It also focusses on outcomes rather than means, and that should be handled through a different mechanisms (Q4.6).

Q4.6 In your view, could adoption of best available technologies be introduced via a mechanism other than the RMA?

Yes it would be a mistake to enshrine specific technology solutions in the RMA, an issue we touched on earlier. The RMA already provides for regional management of emissions and regional Councils have appropriate skills to assess best available technologies as they already do for other air emissions. If there are preference for particular technologies these should be supported by specific programmes targeting the assistance to the particular circumstances.

Section 5: Boosting investment in energy efficiency and renewable energy technologies

What could be considered to address these issues?

Q5.1 Do you agree that complementary measures to the NZ-ETS should be considered to accelerate the uptake of cost-effective clean energy projects?

In the bioenergy and biofuels sector there are a large number of greenhouse gas emission reduction activities which could occur immediately but waiting for the effects of the NZETS to influence decision making means that these activities are unlikely to proceed for many years. This results in lost emission reduction opportunities. Complementary measures to address barriers would result in many of those activities proceeding now.

Q5.2 If so, do you favour regulation, financial incentives or both? Why?

The complementary measures appropriate for the bioenergy and biofuels sector have been previously suggested to government and are not costly. Refer to:

Bioenergy Association Information Sheet 48, *Reducing greenhouse gas emissions to achieve "Zero Carbon by 2050" using biomass energy for industrial and commercial heat*
<https://www.bioenergy.org.nz/documents/resource/Information-Sheets/IS48-GHG-reduction-using-wood-energy.pdf>

¹ Bioenergy Association Information Sheet 47, *The role of organic waste, and biogas in the transition to low carbon economy in New Zealand* <https://www.biogas.org.nz/resource/is47-role-of-biogas-in-transition-to-low-carbon-economy>

¹ Bioenergy Association Information Sheet 33, *GHG reduction from transport biofuels*
<https://www.bioenergy.org.nz/resource/is33-ghg-reduction-from-transport-biofuels>

<https://www.bioenergy.org.nz/resource/is45-actions-to-maximise-reduction-of-methane-emissions-from-waste>

<https://www.bioenergy.org.nz/resource/is46-actions-to-reduce-use-of-fossil-fuels-for-process-heat>

Q5.3 In your view what is a bigger barrier to investment in clean energy technologies, internal competition for capital or access to capital?

The main barrier to capital is the uncertainty of future costs and revenues. The lack of government leadership in this regard by taking the early risk and transitioning of government owned heating and transport facilities to replace fossil fuels mitigates that barrier. Where Government has decided to replace coal with biomass fuel such as at the Christchurch and Dunedin hospitals there has been a significant boost of confidence in those regions for the supply of wood fuel and from others also deciding to transition to using wood fuel for heating.

This also gives confidence by users in the wood fuel supply market, which is the next biggest barrier. As a community New Zealand has the ability to replace all fossil fuel use by renewable energy. There can adequate volumes of biomass for energy alone if we take proactive action to match supply to demand. The availability of capital is one of the important elements for using biomass to replace fossil fuels and there are assistance options available that are not based on a subsidy. (refer Q5.4)

Q5.4 If you favour financial support, what sort of incentives could be considered? What are the benefits, costs and the risks of these incentives?

It is important that incentives should look at the whole value chain in which the biofuels sit, and target incentives to where the bottle-necks exist.

Financial support mechanisms should be a hand up rather than a handout so that markets are not distorted. Such mechanisms can be:

- Accelerated depreciation
- Suspensory loans
- Equity co-investment finance for small projects

Many potentially good projects do not get off the ground because of the lack of upfront capital. In Australia the Clean Energy Investment Fund has stimulated many investments because they have assisted small developers to get started.

The assistance can also come in the form of mentoring.

Q5.5 What measures other than those identified above could be effective at accelerating investment in clean energy technologies?

The growth of the EV solution to reducing greenhouse gas emissions is a good example of how government leadership and facilitation can address perceived barriers and encourage the public to participate. It is also adopting that for Green Hydrogen even though biofuels are potentially a lower cost solution for many markets.

If similar support were provided to biomass energy solutions then the target of 26% of consumer energy coming from biomass could be easily achieved.

The current “leave it to the market” approach to expansion of the biomass energy market will ensure that the easily obtained emission reductions from use of biomass energy will not be achieved.

The bioenergy and biofuels sector has very long value chains which involve many parties so a market led development of the bioenergy and biofuels sector will be unnecessarily long and slow. The sector is characterised by having many small players, and while they collaborate through the activities of the Bioenergy Association, it has no funding to achieve its potential. The consequence is that government, rather than the sector, will have to do all the heavy lifting.

If Government is serious about addressing climate change then support and funding for the biofuels value chain similar to that provided for EV and increasingly Green Hydrogen solutions will need to be provided.

Section 6: Cost recovery mechanisms

Option 6.1 Introduce a levy on consumers of coal to fund process heat activities

Bioenergy Association fully supports a levy on consumers of coal to fund process heat activities.

Q6.1 What is your view on whether cost recovery mechanisms should be adopted to fund policy proposals in Part A of this document?

A cost recovery approach to greenhouse gas emission reduction actions will slow down cost reduction if it is levied on low emitters. Climate change is a community concern and an emitter pays approach takes no account of the ability to pay and the economic importance to the community of business continuity.

The previous 33 years of user pays policies has demonstrated how the policy is a great barrier to adoption of public good initiatives. In the last 2 years where government has stepped in to assist public good initiatives has produced more progress than the whole of the previous 33 years.

Q6.2 What are the advantages and disadvantages of introducing a levy on consumers of coal to fund process heat activities?

As coal is the major cause of emissions and the #1 target for action it should be a contributor to collective actions paid for via a levy. This would put it on the same basis as other fossil fuels.

Section 7: Enabling development of renewable energy under the Resource Management Act 1991

Option 7.1 Amend the National Policy Statement for Renewable Electricity Generation, including potential expansion of its scope to cover a broader range of renewable energy activities

Q7.1 Do you consider that the current NPSREG gives sufficient weight and direction to the importance of renewable energy?

No. It focuses only on electricity when the scope of the NPS should be widened to cover all renewable energy activities and demand-side options. For example the RMA influences building and land use decisions down to the community level, and what is permitted at the home and in the community can influence energy use.

Q7.2 What changes to the NPSREG would facilitate future development of renewable energy? In particular, what policies could be introduced or amended to provide sufficient direction to councils regarding the matters listed in points a-i mentioned on page 59 of the discussion document?

The most important change is to broaden the NPS to cover all renewable energy sources and the demand side. Similar changes as suggested in a-i of the MBIE Discussion Document could be developed for all energy.

The risks of not doing this is that our electricity supply develops inconsistently with wider national goals around low emissions/renewable energy.

Q7.3 How should the NPSREG address the balancing of local environmental effects and the national benefits of renewable energy development in RMA decisions?

The current NPSREG provides this mechanism with respect to renewable electricity, and extending that to the wider renewable energy supply and demand should not be difficult.

Q7.4 What are your views on the interaction and relative priority of the NPSREG with other existing or pending national direction instruments?

With widening the coverage of the NPSREG to include all energy would require close linkage across all other policy directives. With particular respect to bioenergy and biofuels these interlink with the Forest Strategy, Waste Strategy, land use policies and regional economic development initiatives.

Q7.5 Do you have any suggestions for how changes to the NPSREG could help achieve the right balance between renewable energy development and environmental outcomes?

The question above is a good example of where change needs to start. The question relates to an electricity focused NPS but refers to renewable energy development. Current government policy work often refers to energy but then only discusses electricity. Change has to start with MBIE and EECA to be clear when they are referring to electricity or energy and not treat them as two ways of spelling electricity, this occurs throughout the Discussion Document.

Renewable energy development must include, heat, electricity and transport. Once this occurs then the emphasis moves from the energy end use to the renewable resources used to produce the desired energy form. Renewable energy resources are water, wind, solar, marine, geothermal and biomass. Each of these have a high interaction with land, sea, water and air and thus potential environmental impacts.

If the revised NPS addresses the interaction of renewable resources to the production of transport, heat and electricity and possible environmental impacts then the form of the revised NPS will become clear.

There is also something of a straw-person in this question. The “right balance” is illusionary, it will and is changing over time reflecting community attitudes and the current state of knowledge. It also presupposes that the two are necessarily inconsistent, whereas facilitating clean energy drives an environment outcome in its own right.

NPSREG should set the framework so that these various issues can be taken into account in resource management regulation. What it is doing is introducing an explicit means to introduce the wider national priorities for clean energy where previously it had been lacking.

Q7.6 What objectives or policies could be included in the NPSREG regarding councils’ role in locating and planning strategically for renewable energy resources?

If a goal of regional net zero emissions is included and regions are given responsibility for publishing regional energy demand and supply long term projections, along with policies such as zero waste and farms being zero net emitters then the balancing role of the regional councils becomes clear.

Q7.7 Can you identify any particular consenting barriers to development of other types of renewable energy than REG, such as green hydrogen, bioenergy and waste-to-energy facilities? Can any specific policies be included in a national policy statement to address these barriers?

The revised NPS should be able to set principles across all renewable energy sources as there are significant overlaps between each energy technology or resulting energy form. For example anaerobic digestion of food waste is a bioenergy solution utilising waste and can be referred to as a waste-to-energy facility. It is also a biofertilizer producer.

There are a number of regional airplan rules which could be standardised across all regions and included within an NPS.

Q7.8 What specific policies could be included in the NPSREG for small-scale renewable energy projects

The policies within the revised NPSREG should be the same for small or large applications. However the level of evidence to support a consent application should be much less and appropriate to the level of likely impacts.

Q7.9 The NPSREG currently does not provide any definition or threshold for “small and community-scale renewable electricity generation activities”. Do you have any view on the definition or threshold for these activities?

The policies within the revised NPSREG should be the same for small or large applications, one can presume that the reason they are explicitly mentioned in the current NPSREG is to ensure this because of the risks of “crowding out”.

Q7.10 What specific policies could be included to facilitate re-consenting consented but unbuilt wind farms, where consent variations are needed to allow the use of the latest technology?

N/A

Q7.11 Are there any downsides or risks to amending the NPSREG

No, unless it is not even-handed across all options.

Scope National Environmental Standards or National Planning Standards specific to renewable energy

Proposal 7.2 Option A: Scope National Environmental Standards for Renewable Energy Facilities and Activities

Option B: Scope additional renewable-energy-related content for inclusion in the National Planning Standards

Q7.12 Do you think National Environmental Standards (NES) would be an effective and appropriate tool to accelerate the development of new renewables and streamline re-consenting? What are the pros and cons?

A NES covering many of the Regional Air Plan Rules would standardise consenting and the consent conditions. This would reduce inappropriate duplication when similar applications are proposed for different regions.

An effects-based NES for discharge to air would also make consenting easier and reduce applicants and council costs. This is a particular cost to businesses rolling out the same systems across a number of jurisdictions – alternative fuels by and large have distributed sources unlike fossil fuels and grid scale electricity. The regulatory regime needs to change to reflect this.

Q7.13 What do you see as the relative merits and priorities of changes to the NPSREG compared with work on NES?

The NPS would provide guidelines to councils for consenting of renewable energy projects while the NES would set out standards relating to consent conditions. The two are linked but serve different purposes. The impact of the NES will be quicker – it can be brought into effect and over ride current plans and regulations, whereas the NPS requires on adoption through the planning process and may take a decade to finally have national effect.

Q7.14 What are the downsides and risks to developing NES?

There are mainly upsides for councils and applicants.

Q7.15 What renewables activities (including both REG activities and other types of renewable energy) would best be suited to NES? For example:

- What technical issues could best be dealt with under a standardised national approach?
- Would it be practical for NES to set different types of activity status for activities with certain effects, for consenting or re-consenting? For example, are there any aspects of renewable activities that would have low environmental effects and would be suitable for having the status of permitted or controlled activities under the RMA?

Rules relating to emissions to air and disposal of biofertilizer to land.

There are areas such as combustion of uniform biomass fuel such as wood pellets where the combustion performance is consistent and where the fuel is designed to the fuel. Residential wood pellet heaters is an example where many regions already classify them to be permitted activities.

Cofiring of biomass with coal in existing heat plant can be covered by the NPSREG and the consent conditions that are to be met are set out in the NES.

Q7.16 Do you have any suggestions for what rules or standards could be included in NES or National Planning Standards to help achieve the right balance between renewable energy development and environmental outcomes?

See earlier comment (Q7.5) but following the principles of the RMA it should relate to the possible environmental effects.

Q7.17 Would National Planning Standards or any other RMA tools be more suitable for providing councils with national direction on renewables than the NPSREG or NES?

No. It is appropriate to have a NPS as this is a well established mechanism of application of the legislation.

Q7.18 Are there opportunities for non-statutory spatial planning techniques to help identify suitable areas for renewables development (or no go areas)?

Yes and considerable work has been under-taken on this in some areas of biofuels (e.g. forestry biofuels). More systematic studies should be encouraged (e.g. energy crops etc).

Q7.19 Do you have any comments on potential options for pre-approval of renewable developments?

A strength of the RMA is the public consultation processes. Pre-approval can create problems where affected parties feel side lined from the consultation. However the objective of the RMA planning process should be to target at risk uses, focus consenting processes on these, and leaving the balance as permitted (i.e. effectively pre-approval).

Q7.20 Are the current NPSET and NESETA fit-for-purpose to enable accelerated development of renewable energy? Why?

n/a

Q7.21 What changes (if any) would you suggest for the NPSET and NESETA to accelerate the development of renewable energy?

n/a

Q7.22 Can you suggest any other options (statutory or non-statutory) that would help accelerate the future development of renewable energy?

See balance of this submission – BANZ would welcome the opportunity to help develop a plan to this effect covering the regulatory regime, active policy in support, early switching to clean fuels by government and its agencies, and greater investment in longer-term research into our options.

Section 8: Supporting renewable electricity generation investment

Energy efficiency obligations

Option 8.5 Renewable electricity certificates and portfolio standards

The proposals for Renewable electricity certificates should be broadened to be Renewable Energy Certificates so as to cover all renewable energy.

Section 9: Facilitating local and community engagement in renewable energy and energy efficiency

Q9.1 Should New Zealand be encouraging greater development of community energy projects?

Yes. District heating schemes are common in Europe and where possible sharing of RE facilities between neighbours should be encouraged.

The supply of fuel for biomass energy is likely to come from aggregated action by neighbouring land owners or by partnering between fuel suppliers and fuel users. This

community approach should be encouraged as it assist provide economies of scale and the ability of suppliers to enter into long term fuel supply contracts.

Q9.2 What types of community energy project are most relevant in the New Zealand context?

Biomass fuel supply requires aggregators who purchase biomass from a number of sources and process the biomass into specified fuel or the biomass suppliers will form cooperatives to enter into long term supply contracts.

There is also considerable scope for community based waste to energy projects.

Q9.3 What are the key benefits and downsides/risks of a focus on community energy?

In the case of supply of biomass fuel the key benefit is to provide long term confidence of supply of biomass fuel.

Q9.4 Have we accurately identified the barriers to community energy proposals? Are there other barriers to community energy not stated here?

Farmers wanting to become net zero emitters by offsetting biological emissions by supply of biomass as fuel will require facilitation and assistance.

Q9.5 Which barriers do you consider most significant?

The disaggregated nature of the biomass fuel supply chain and its many players, and the “cleaning up” of raw biofuels for many uses requires scale that can involve a level of aggregation beyond the community.

Q9.6 Are the barriers noted above in relation to electricity market arrangements adequately covered by the scope of existing work across the Electricity Authority and electricity distributors?

N/A

Q9.7 What do you see as the pros and cons of a clear government position on community energy, and government support for pilot community energy projects?

Leadership and facilitation from government will be crucial if fuel suppliers are to feel confidence at the opportunities. Government can use its 52% of heat plant it owns to provide role models, and local government can look to some of their waste processing facilities as potential energy sources

Q9.8 Any there any other options you can suggest that would support further development of community energy initiatives?

Internationally waste to biogas projects have often been community based as the integration of waste sourcing and energy use is often significant in small communities.

Section 10: Connecting to the national grid

N/A

Gaps in publicly available and independent information

Q10.5 Do you think that there is a role for government to provide more independent public data? Why or why not?

Questions 10.5 – 10.10 are asked about electricity when the same questions should be addressed to heat and transport applications where the answer to each is likely to be yes..

Lack of information sharing for coordinated investment

Q10.11 Do you think that there is a role for government in improving information sharing between parties to enable more coordinated investment? Why or why not?

Similarly the questions Q10.11 – 10.14 are asked about electricity when the same questions should be addressed to heat and transport applications where the answer to each is likely to be yes..

Conclusion

The Bioenergy Association is pleased to see the discussion document and commends the Ministry for its consultation.

The association has pointed out that the policy options in the discussion Document are very electricity centric and recommends that a Renewable Energy Strategy should cover heat, electricity and transport. All sources of renewable energy should also be included

Further information to support this submission is available from the Bioenergy Association and published material is on the association website www.bioenergy.org.nz and the specific topic websites hosted by the association

www.biogas.org.nz

www.liquidbiofuels.org.nz

www.usewoodfuel.org.nz

Some material is behind a membership wall but access to this material can be arranged by discussion with the association.

The association has also recently hosted three workshops to provide oral evidence to government policy development which supports this submission with detail. The workshop proceedings are available on open access in the Bioenergy Knowledge Centre

<https://www.bioenergy.org.nz/bioenergy-knowledge-centre>

- *The Evidence for Delivering Liquid Biofuels to New Zealand*
- *The Evidence for Processing Organic Waste to Biogas*
- *The Evidence for Delivering Wood Energy to New Zealand*

The association is available to discuss any of its submission or any other matter relevant to development of the Renewable Energy Strategy.

Regards



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