21 May 2022

Transforming recycling consultation,
Waste and Resource Efficiency Division,
Ministry for the Environment,
PO Box 10362,
Wellington 6143

tranformingrecycling@mfe.govt.nz

Subject: Proposals for transforming recycling

The Bioenergy Association is pleased to see the proposals in the discussion document *2022. Transforming recycling: Consultation document* and is generally very supportive of the suggestions for:

- Improvements to household kerbside recycling
- Separation of business food matter.

Our stakeholders

The Bioenergy Association represents a significant portion of owners of biofueled heat plant, gaseous and liquid biofuel producers and suppliers, waste-to-energy investors and their consultants, gaseous biofuels users, researchers and equipment/appliance suppliers across New Zealand. It has members who have an interest in policies relating to:

- the recycling of biomass and organic residues for the production of energy and chemicals;
- reduction of emissions to air in communities from both residential and commercial/industrial scale heating applications, and
- wise use of our renewable natural biomass resources for the betterment of communities.

Residual organic matter, often treated as waste, is considered to be a recyclable biomass resource and it is pleasing to see this being recognised in this consultation.

The Association is interested in the recycling of organic residues into energy, biofuel, biofertiliser and other beneficial products. There are proven technologies such as anaerobic digestion which can recycle organics into valuable biogas and biofertiliser. Other conventional technologies are also available as are new technologies such as pyrolysis, fermentation, hydrothermal liquefaction, and gasification. Residual organic materials unsuited to recycling can go to landfill with biogas capture systems in place. With this range of options, plus the option of composting, and being supplied as animal feed, there is now no reason why any biomass or organics should be disposed of to landfill. If there is mixed organic matter which can not be recycled, then landfill gas capture is a final tool for ensuring that there are minimal methane emissions from waste.

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 advocate for bioenergy and biofuels, and disseminate information to interested parties, including those considering investment. This submission has been prepared under the oversight of the Gaseous Biofuels Interest Group.

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

Main points in our submission

We are pleased to see the importance placed on recycling and in particular separation of organic material at source. Separation of organics at source results in more and a better quality organic material less contamination being able to be recycled into energy, gaseous biofuel and other products such as biofertilser because greater volumes of suitable organics are available, and costs of recycling are able to be kept to a minimum. A focus on these basic actions can reduce unnecessary disposal of materials to landfill and assist in achieving a goal of no recyclable organic matter to landfill by 2030.

We also believe that the objectives set out in the discussion document could be achieved by 2030 if the discussion document proposals are implemented with a greater sense of urgency than currently appear in the way the timeline is presented. The objectives provide a sound platform but the suggested actions need to be more supported so that emissions reduction can be achieved much quicker.

To reduce the amount of organic matter unnecessarily going to landfill the Bioenergy Association agrees that we need policies which encourage producers, brand owners, importers, retailers and consumers to take greater responsibility to transition from a linear to a low-emissions circular economy. Adopting a circular approach to the economy will provide many of the incentives for recycling material, which is currently wasted, into valuable new products, such as energy.

Similarly, creating a bioeconomy as proposed by Government will provide a much greater range of commercial drivers for the recycling of organic residues. The biogas can be a feedstock for manufacture of other higher value products. The organic matter also often contains a wealth of chemicals which can be extracted and again used to manufacture other higher value products.

To transform recycling we need to change some of our language as the words we use can assist or hinder transformation. With a circular economy approach we should talk of residues and not use the word waste. We only have waste if we cant recycle the organics for another higher value product. Having waste in a circular economy is a signal of failure, so lets not talk about organics which can be recycled as waste.

With regard to the separate collection of green and food material we recommend that there be flexibility within any regulatory provisions. While it is ideal to collect these separately to encourage composting of the green matter, and anaerobic digestion of the organics, we believe that in some areas there may be anaerobic digestors which are efficient at recycling both feedstocks together, and joint collection avoids an unnecessary separate collection cost. Similarly some industrial food residues can be co-digested in suitable waste water treatment facilities.

There is already a momentum to achieving the objectives of zero recyclable organic matter to landfill and the proposed changes will speed up that process. Thus the proposals presented can be seen as an extension of what people are already doing and will encourage more people to follow these role models. However, we believe that if the Waste Strategy adopts a national policy of zero recyclable organic matter to landfill by 2030, then that will be a strong message which supports each region's recycling activities.

However, while there is a great focus on the collection of feedstocks via the recycling processes there needs to be a similar effort to assist with the identification and construction of recycling facilities,

otherwise all this effort on collection is of little value as councils will have to build their own recycling facilities, or continue to use landfills as their only viable solution. We cant rely simply on “we will provide it (feedstock) and they will come (private investors into AD facilities)”. That would be a long slow approach. Those investing in recycling facilities also need something on the table if we want to have best practice recycling up and running by 2030. The success of the EECA managed GIDI Fund to support capital investment for the decarbonisation of process heat and other stationary business energy should be replicated for waste infrastructure by the Waste Minimisation Fund.

The private sector is very interested in providing recycling facilities but the current barriers make investment in recycling facilities difficult and the timelines suggested in the consultation document will not be achieved.

The recycling facility investment barriers are;

- Access to financing
- Regulatory constraints on what land can be used on which to build a recycling facility
- Perception that recycling facilities are ‘nasty’ and create odours and other problems (when that is generally a failure of design, operation and consent monitoring all of which are fixable at the consenting stage)
- Obtaining of consents for facility construction.
- Councils require guidance on best practice consent conditions
- Applicants require guidance on best practice design and operation
- A lack of willingness to partner between councils and investors. Councils tend to want to have the investor take all the risks.

As can be seen from the answers below there is no clear answer as to the “rules” that should apply to food and green waste collection. It will be a regional situation and will change over time. It is recommended that MfE establish an internal Organics Recycling Unit to assist councils, composters and AD operators to work on best practice guidance for the sector and to provide assistance where needed. The MfE Organics Recycling Unit should be funded from the Waste Minimisation Fund and have a Steering Group involving representatives of the relevant parties and be staffed to be proactive with a “can do” attitude and not be reactive. MfE already has other staff who deal with regulatory, policy, and funding allocation, but there is no one in MfE responsible for organics recycling delivery. This unit should be solely focused on delivery of the desired organics recycling outcomes to be set out in the new Waste Strategy.

It is also recommended that rather than simply set the targets and rules for councils that Government develop a national Plan of Action to achieve the targets suggested and use the MfE internal unit to assist achievement of the Plan. Food waste collection is going through an evolutionary phase and most affected parties are supportive but decisions on collection should be undertaken in conjunction with recycling infrastructure development which is also going through an evolutionary phase. The Plan of Action should include programmes for capital financing assistance, and incentives for early implementation.

Finally, the Bioenergy Association would like to congratulate the officials for preparing well thought-out proposals which will address the current weaknesses of our waste recycling regime.

Responses to specific questions follow. The Association has only commented on matters it wishes to raise. No comment on a matter indicates that the Association agrees with the proposal.

Answers to specific questions

Part 2: Improvements to household kerbside recycling

Proposal 1: Collecting a standard set of materials

31 Do you agree with the proposal that a standard set of materials should be collected for household recycling at kerbside?

Yes. Uniformity will assist recovered resources to be aggregated to provide economies of scale.

32 Do you agree that councils collecting different material types (in addition to a standard set) might continue to cause public confusion and contamination of recycling?

Yes. It will also make it more difficult for those recycling the material to have confidence in the materials which they are receiving.

However, some Councils may have access to recycling a particular material type that others do not have, so there should be some flexibility according to the existing and proposed infrastructure. Regional waste planning by Councils is important so that all participants are fully informed and as a result good decision making can occur.

33 Do you think that national consistency can be achieved through voluntary measures, or is regulation required?

Regulation will probably be necessary but if a voluntary approach is used there should be strong national guidance. National guidance to regional waste planning and infrastructure development will lead to an appropriate level of national consistency.

38 What should be considered when determining whether a class of materials should be accepted at kerbside in the future?

Viable recycling technologies.

Available end markets for the material is another important consideration.

39 Who should decide how new materials are added to the list?

Ministry for the Environment staff in consultation with a reference stakeholder group.

Proposal 2: All urban populations should have kerbside food scraps collection

41 Do you agree that food and garden waste should be diverted from landfills?

Yes. All food and garden waste can be recycled into compost or energy and digestate, but lack of consistent and reliable supply of recyclable material is a major barrier to new composting and anaerobic digesters being built.

Limits also arise because of the lack of available infrastructure for the food and garden waste to be recycled, ie composting and anaerobic digestion plants, and that only a small part of NZ has access to a compost or AD plant to manage their organic material. Infrastructure construction decisions should be integrated with decisions on organic waste collection schemes.

42 Do you agree that all councils should offer a weekly kerbside food scraps collection to divert as many food scraps as possible from landfills?

Yes. If food scraps collection was available this would provide economies of scale for investment in anaerobic digestion facilities. Food waste should not be mixed with other material including packaging and green waste as this results in less efficient anaerobic digestion. A higher volume of food scraps is diverted from landfill when collecting food scraps alone, rather than as a FOGO (Food Organics Green Organics) service to residents. However there are some equipment which is designed specifically for FOGO. Decisions on separate or combined collection should be left up to Councils to decide, based on the availability of infrastructure.

Green waste and clean cardboard packaging should go to composting unless there is a separate paper and cardboard collection.

43 Do you agree that these collections should be mandatory in urban areas (defined as towns with a population of 1000 plus) and in any smaller settlements where there are existing kerbside collections?

Yes. We need to set a bold threshold if we are going to be able to collect adequate quantities to provide the economies of scale and thus incentives for new recycling facilities to be built.

44 Do you think councils should play a role in increasing the diversion of household garden waste from landfills? If so, what are the most effective ways for councils to divert garden waste?

Yes.

Councils should promote home composting through workshops and make it affordable for people to drop-off green waste at transfer stations? Encourage community composting of garden waste. In areas where there is not an established garden waste collection market (ie private companies offering garden bin collections), Councils could offer an optional bin to collect garden waste for an additional cost. This is already occurring in some councils, eg Tauranga and Lower Hutt. However, the infrastructure, ie composting facility, needs to be in place.

45 We propose a phased approach to the rollout of kerbside food scraps collections. The timeframes will depend on whether new processing facilities are needed. Do you agree with a phased approach?

Yes. Learning from communities who have already introduced successful kerbside collection. A phased approach will be necessary if processing facilities are not readily available to receive the waste collected. There is often a long lead in time for Councils to introduce a food scraps collection, ie consultation with ratepayers, tenders for collection, bins, processing etc. For the long term good of recycling it will be appropriate in some areas to have a slower roll-out of kerbside food wates collection so that it matches ability to recycle regionally. Bad experiences for communities will make progress more difficult.

46 Do you agree that councils with access to suitable existing infrastructure should have until 2025 to deliver food scraps collections?

Ideally it should be sooner if existing infrastructure is available. If Councils are starting with no existing infrastructure then it may be longer to consult, tender and award contracts. In each region there will be a need to assess the current capacity of the existing infrastructure, some may be reaching peak capacity and some may still need to be upgraded to be best practice.

47 Do you agree that councils without existing infrastructure should have until 2030 to deliver food scraps collections?

Policy should not be based on the availability of existing infrastructure but provide the incentives to have appropriate infrastructure available as quick as possible. Ideally it should be sooner but because consultation with communities take time this may have to be a goal rather than a requirement. To speed up the process will require assistance to council and investors to decide or and install appropriate infrastructure. Assistance may be required with identifying a land suitable at reasonable cost, RMA and consenting

48 Are there any facilities, in addition to those listed below, that have current capacity and resource consent to take household food scraps?

Include Ecogas – new AD facility planned for central north island early 2023

49 Are there any additional materials that should be excluded from kerbside food and garden bins? Please explain which ones and why.

For maximum efficiency food waste should not be collected with green waste as the two should be separately recycled. However, complete FOGO processing by specialist FOGO AD plants is a 100% efficient diversion of food waste from landill. The collection regime is best decided by each Council according to the recycling infrastructure available or planned to be built.

If collecting garden waste then flax, bamboo, large stumps, soil etc. should be excluded.

Food scraps should only be whatever comes out of the kitchen, ie not vacuum dust, hair, ash. However, BANZ accepts that this may be difficult to police.

There should be flexibility with this policy as there are some experienced compost processes and anaerobic digestor operators who can recycle green waste and food scraps together and combined collection would avoid the cost of separate collection. Councils need to work with infrastructure operators when determining whether green waste and food waste needs to be separately collected.

Many of the suggested exclusions could be included in a compost collection that is suitably designed to match the recycling infrastructure. What materials is collected depends on the composting operation and their process. Compostable packaging is notoriously difficult for most existing compost facilities to process.

50 For non-food products or packaging to be accepted in a food scraps bin or a food and garden waste bin, what should be taken into consideration? Tick all that apply.

- Products which help divert food waste from landfill
- Compostable products must meet New Zealand standards for compostability
- Products clearly labelled and able to be distinguished and sorted from other packaging

Food and composting waste should not be mixed but collected separately. This gives the maximum diversion of food scraps and green waste. However, each region will be unique in how it approaches collecting food scraps and green waste. A lot of this depends on the established market for private garden bin collections. For compostable packaging, each composting facility will need to assess how it behaves in their system. Look to the Italian model, where there is one “grade” of compostable packaging that is accepted. Guidance similar to that given for plastic collection should be provided.

For inclusion of serviettes, paper towels, newspaper, this could be assessed as a % of food in the scrap bin. Information should be included in a collection leaflet but also on the bin so that it instructions are not lost, ie, line bin with newspaper/kitchen towels.

51 If you think any of the materials listed above should be included in kerbside food and garden bins, please explain which ones and why.

Exclude cardboard, egg cartons as in some regions recycling already exists for this stream, or should be made available.

Exclude compostable plastic products and packaging and compostable fibre products and packaging due to the uncertainty of these breaking down in composting process. Compostable packaging generally is not suitable for AD. Difficult to determine at drop off which is "compostable" and which is not so best addressed at source.

Exclude shredded paper containing animal waste.

Food soiled cardboard containers may still contain some food, so could be included. However saying pizza boxes are OK, but not food in other containers (takeaway compostable trays) will lead to public confusion, so pizza boxes should be excluded.

Include kitchen paper towels / hand towels / serviettes. These often are food soiled or contain food scraps and are not suitable for paper recycling. Newspaper could be included only in the context of lining the food scraps bin (same for paper towels etc)

Compostable bin liners should have the option of being included. They increase the uptake of a food scraps collection by reducing the "yuk" factor. May not be suitable if food scraps diverted to compost facility. Composability checked with the processing facility for appropriateness.

Tea bags should be included as they are part of the kitchen environment. Most people compost these at home. Not aware of any scientific paper on the contribution of microplastics from tea bags when placed in a compost/AD process. In some situations, the tea bag itself may be removed/screened out. Concern is if it is too confusing for public they will not take part in food scrap collections. Best approach is to work with manufacturers of tea bags to change their manufacturing process. This is already happening through public pressure.

It is recommended that a programme of work on packaging suitability for composting and AD be undertaken to identify a scheme such as applies to hard plastics where compostable packaging is graded as to suitability for composting. Having established a packaging grading scheme, an incentive programme should be developed to encourage packaging to be of the grades that are compostable.

Proposal 3: Reporting on household kerbside collections offered by the private sector

52 Do you agree that it is important to understand how well kerbside collections are working?

Yes. Without data no one can plan or design actions to take.

53 Do you agree with the proposal that the private sector should also report on their household kerbside collections so that the overall performance of kerbside services in the region can be understood?

Yes. We need a full understanding of waste sources, its composition and quantities.

Currently councils have not collected data from commercial organic waste collectors on the grounds of commercial sensitivity. This has resulted in regions having a very poor understanding of all the

organic waste flows. It is impossible for councils to plan waste recycling in their region if they do not have all the necessary information. Councils should be assisted to collect organic waste data from commercial collectors.

The information collected should cover kerbside and commercial/industrial organic wastes.

54 Do you agree that the information should be published online for transparency?

Yes. All participants in the waste recycling sector need to have good reliable information.

55 Apart from diversion and contamination rates, should any other information be published online?

It is important to understand the composition of the waste. This could be administratively easy if the waste supplier can simply tick multichoice options. However experience with both composting and anaerobic digestion has shown that if waste composition is not clearly understood and true to label eg included contamination of material not suitable for the recycling process, then the processing will not occur efficiently or problems will arise. For example, an AD facility in the Sydney CBD changed ownership and the new owners tried processing wastes which the AD plant was not designed for and problems arose. When the food waste returned to the specification for which the facility was designed the problems disappeared.

Proposal 4: Setting targets/ performance standards for councils

56. Should kerbside recycling services have to achieve a minimum performance standard (eg, collect at least a specified percentage of recyclable materials in the household waste stream)?

Targets should be set which are progressively moved to say 70% collection of recyclable materials by 2030.

57 Should the minimum performance standard be set at 50 per cent for the diversion of dry recyclables and food scraps?

This is a useful starting point but it should progressively increased over time. At a minimum, councils should try to achieve at least 50% diversion of food scraps from landfill.

58 We propose that territorial authorities have until 2030 to achieve the minimum performance standard, at which time the rate will be reviewed. Do you agree?

Yes. The recycling technologies such as composting, anaerobic digestion or supply as an animal feed are already available but lacking the incentive which these proposed policies will provide. However, while the technologies are available, they are not in the numbers and locations required. Infrastructure and supporting networks in some cases still has to be established so a review provision should be included.

59 In addition to minimum standards, should a high-performance target be set for overall collection performance to encourage territorial authorities to achieve international best practice?

Yes. However the high performance targets should be supported by specified additional funding from the Waste Minimisation Fund for example, trialing new behaviour change incentives for residents.

60 Some overseas jurisdictions aim for diversion rates of 70 per cent. Should New Zealand aspire to achieve a 70 per cent target?

Yes. We can achieve this as the recycling technologies are available and proven but there is a lack of incentives to use them. Facilities are also not established yet in all corners of NZ. There is no composting or AD facility sitting empty waiting for feedstock.

Councils have their Waste Minimisation Plans where they have committed to provide an organics collection. However most councils do not know what this would look like, FOGO or separate food scraps.

The diversion rate should be an aspirational goal. For residential food scraps, to achieve 70% would be a gold standard. Many overseas food scrap collections do not achieve anywhere near this.

61 What should the consequences be for territorial authorities that do not meet minimum performance standards?

A carrot rather than a stick approach should be used and gaining additional funding from the Waste Minimisation Fund would provide a significant incentive.

Guidance, support and education to help them identify areas they could improve on to reach minimum standards. Use success stories from other Councils to help them tailor solutions for their region.

Proposal 6: All urban populations should have access to kerbside dry recycling

64 Should all councils offer household kerbside recycling services?

Yes. Councils should be the responsible agencies although they may contract out to others to undertake specific activities. If Councils are not the responsible agency there is no one to hold accountable. Councils are responsible for providing waste services, so recycling should come under this remit. They will contract out the work, but should retain ultimate control over how the service operates and is designed to fit with their region, residents and unique situations.

65 Should these services be offered at a minimum to all population centres of more than 1000 people?

Yes. There are economies of scale by having a single agency responsible for food waste collection. For example, in Taranaki the three Councils are working together on a regional coordinated solution covering the whole region, and all population centres within it.

There are a number of ways in which they can exercise that responsibility including contracting out to other parties parts of the system. This gives the opportunity for smaller centres to amalgamate together so their residents can receive a higher quality service, than would be offered if they went it alone.

In some regions a phased development of the food recycling system may be required so that small communities are not included until the larger communities are adequately covered.

66 Do you agree that councils without any council-funded kerbside recycling collections should implement these collections within two years of their next Waste Management and Minimisation Plan?

Yes. However some councils may require support and MfE should establish an internal Waste Recycling Unit funded from the Waste Minimisation Fund to assist all councils achieve the desired

targets. Additional funding should be available to Councils to assist them achieve the desired targets within the timeline.

Implementation support for proposals 1–6

67 What research, technical support or behaviour change initiatives are needed to support the implementation of this programme of work?

There are significant economies of scale for central preparation of best practice information, undertaking of research and provision of technical assistance.

The proposed MfE Organics Recycling Unit should manage the research, technical support and behaviour change initiatives funded from the Waste Minimisation Fund to assist all councils achieve the desired targets. Current work on organics recycling is spread across a number of entities and within MfE and there is no recognized point of contact, or any coordination of effort. Small councils may require greater assistance than larger councils.

Councils should be required to act regionally so that there are economies of scale and avoidance of un-necessary duplication of effort and infrastructure.

Capital finance assistance should also be available to those proposing to build new food waste recycling entities. The assistance could be similar to the EECA managed GIDI fund where financial assistance is a mix of grants and loans for investigation, feasibility studies and capital investment. Funding can be from a combination of the central and council components of the Waste Minimisation Fund.

Part 3: Separation of business food waste

68 Should commercial businesses be expected to divert food waste from landfills as part of reducing their emissions?

Yes. All large commercial businesses should have an Emissions Reduction Plan and these should include how they recycle food waste so that it is not disposed of to landfills. Smaller businesses are more likely to be focused on waste removal rather than emissions as they have few options.

69 Should all commercial businesses be diverting food waste from landfills by 2030?

Yes

With the support from government for the construction of food recycling facilities such as composting and anaerobic digestion all commercial businesses should be in a position to have zero food waste to landfills by 2030. To ensure this target is achieved Government should include within the Waste Strategy a requirement that there be no recyclable food wastes to landfill by 2030.

70 Should separation be phased in, depending on access to suitable processing facilities (eg, composting or anaerobic digestion)?

Yes. However the focus should be on early implementation so incentives for early implementation should be established through the funding mechanism.

71 Should businesses that produce food have a shorter lead-in time than businesses that do not?

No. Any phase in should be related only to the availability of recycling facilities, including composting, anaerobic digestion and supply as an animal feed.

72 Should any businesses be exempt? If so, which ones?

No

73 What support should be provided to help businesses reduce their food waste?
Each region should have a field officer from the suggested MfE support unit who can assist business reduce their food waste but also to understand and adopt a circular economy approach to the use of their resources. They should also assist business to access the financial support available from the Waste Minimisation Fund.

Brian Cox
Executive Officer
Bioenergy Association