Minister Parker, Minister for the Environment, Waste Portfolio

Policy proposals for improving household kerbside recycling and managing business food waste

20 July 2023

These documents have been proactively released.

- 23 November 2022, Proposals for improving household kerbside recycling and managing business food waste, Office of the Minister for the Environment
- 28 November 2022, Report of the Cabinet Environment, Energy and Climate Committee: Period Ended 25 November 2022, Cabinet Office
- 26 October 2022, Cover brief: Proposals for improving household kerbside recycling and managing business food waste, Ministry for the Environment
- 16 November 2022, Regulatory Impact Statement: Improving household and business recycling, Ministry for the Environment

Some parts of this information release would not be appropriate to release and, if requested, would be withheld under the Official Information Act 1982 (the Act).

All redactions made in these documents have been made under section s 9(2)(f)(iv) of the Act. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

In-Confidence

Office of the Minister for the Environment

Cabinet Environment, Energy and Climate Committee

Proposals for improving household kerbside recycling and managing business food waste

Proposals

1. This paper seeks policy decisions on proposals to:

    1.1. improve household kerbside recycling; and

    1.2. require businesses to separate food waste.

2. This is one of two papers providing policy recommendations in response to the *'Transforming Recycling'* consultation that took place earlier this year. I am also presenting a separate paper with advice and recommendations on a Container Return Scheme (CRS).

Relation to government priorities

3. The proposals in this Cabinet paper advance:

    3.1. Labour's 2020 Election Manifesto plans to prevent, reduce, and recycle waste;

    3.2. the Cooperation Agreement between the New Zealand Labour Party and the Green Party of Aotearoa New Zealand, in particular the commitment to take action to minimise waste and problem plastics;

    3.3. the Emissions Reduction Plan (ERP) including to reduce biogenic methane emissions from waste by 40 per cent by 2035 [CAB-22-MIN-0152 refers];

    3.4. the proposed Waste Strategy's 2050 vision for a low-emissions, low waste society, built upon a circular economy (refer to accompanying paper *Proposed new waste strategy: final approval*).

Executive Summary

4. In February 2022, Cabinet agreed to consult on a package of proposals to improve household kerbside recycling and reduce food waste in Aotearoa New Zealand [CAB-22-MIN-0041 refers]. As a result of strong support from consultation, I am now proposing:

    4.1. Regulations under section 48 of the Waste Minimisation Act 2008 (the WMA) that direct councils to collect recycling and food waste from households in urban

areas of 1,000 people or more (based on the Stats NZ definition of an urban area).[1]

4.2. Performance standards under section 49 of the WMA that:

4.2.1. standardise what materials councils accept in kerbside collections;

4.2.2. seek to divert 50 per cent of household waste from landfill by 2030.

4.3. Regulations under section 86(1)(b) of the WMA that require waste companies to record and report waste collected through kerbside services.

4.4. Regulations under the new waste legislation to require businesses to separate food waste (this decision is sought in principle until the new waste legislation is enacted).

5. This package of proposals will benefit households, councils, and the waste sector by providing consistency and clarity on what can be recycled as well as greater access to recycling and food waste services nationwide. Overall, I estimate the proposals will divert 53,000 tonnes of recycling and 130,000 tonnes of food waste from landfill annually (reducing methane emissions by 72kt CO2e per year in 2035).

6. Roll-out is proposed to occur in a staged way between 2023 to 2030, with capital costs estimated at between $180 million to $210 million. A package of funding and support measures (including $120 million of already agreed funding[2]) will enable councils, industry, and businesses to implement this change and ensure disproportionate costs do not fall on households.

7. The proposals for household recycling rely initially on regulatory provisions within the WMA and will require councils to amend their waste management and minimisation plans. These regulatory requirements will be transitioned to the proposed new waste legislation once enacted (around 2025) and will help achieve key goals within the proposed waste strategy.

Background

8. Aotearoa New Zealand's kerbside recycling system is underperforming, resulting in environmental harm, greenhouse gas emissions and economic losses. We only recycle an estimated 28 per cent of all materials, with the rest landfilled or littered. By comparison, the highest performers in the OECD are now achieving 65-70 per cent diversion from landfill.[3] In recent years, both resource recovery sector and local government have called for improvements to kerbside collections.[4]

9. Following Cabinet approval [CAB-22-MIN-0041], '*Transforming Recycling'* opened for public consultation from 13 March to 22 May 2022 and sought feedback on:

[1] 'Urban areas' in relation to these proposals follow the Stats NZ definition of urban areas and are settlements with a population greater than 1000 residents (the lower threshold for the smallest category). Currently, 46 urban areas have between 1000 and 2000 residents and only 8 of these do not offer kerbside recycling collections.
[2] The $120 million is made up of $75 million of waste Climate Emergency Response Funding (CERF) approved in Budget 22 and $45 million of Waste Minimisation Funding (WMF).
[3] For example, Wales reached 65 per cent in 2021 and Germany reached 67 per cent in 2020.
[4] For example, see the Local Government Waste Manifesto 2020 (https://eunomia.co.nz/wp-content/uploads/2020/08/Local-Government-Waste-Manifesto-2020.pdf).

9.1. a Container Return Scheme (CRS) for Aotearoa New Zealand;

9.2. improvements to household recycling collections;

9.3. separation of business food waste for recycling.

10. The proposals within this paper (covering improvements to household recycling collections and separation of business food waste) seek to lift the overall performance of kerbside recycling and reduce the amount of food waste that goes to landfill.[5] The proposals complement a CRS, which will capture beverages consumed away-from-home and associated litter (refer to accompanying paper *Seeking Cabinet agreement to implement a New Zealand Container Return Scheme*).

11. Almost 6,400 submissions were received covering the full suite of proposals in the consultation[6] (see summary of submissions in Appendix 1). Consultation feedback indicated strong support (87 per cent or higher) across all proposals on recycling and food waste, including broad support from local government (provided sufficient central government funding and investment is made available to support the proposals).

Analysis

12. I propose to take forward six of the seven proposals consulted on to improve household recycling and the business food waste proposal as outlined in Table 1, with some minor amendments to address submitter feedback.

13. I do not intend to progress the requirement for councils to separate glass or paper and cardboard from other dry recycling. Consultation feedback confirmed the impact of the proposed CRS makes the benefits of this proposal uncertain, as a CRS will change the amount of glass recycled in kerbside collections.

14. Initially, most of these proposals will be progressed through existing mechanisms under the WMA. The WMA requires territorial authorities (referred to in this paper generally as 'councils'[7]) to adopt a waste management and minimisation plan. The proposals will require:

14.1. councils to amend these plans (using section 48 of the WMA);

14.2. councils to meet performance standards for the implementation of these plans (section 49); or

14.3. waste companies to report information (section 86).

15. These proposals will then be transitioned to the new waste legislation after it is enacted (refer *Waste Legislation 3: Regulating how people manage waste)*.

16. The proposal for businesses to separate food waste will require the new waste legislation to be in place before they are developed. I am seeking an in-principle decision now to send a clear signal to the market that this requirement is coming and will continue to work with the sector on this proposal. Table 1 provides a summary of the proposed policy package.

[5] There were seven proposals in the consultation, however one is no longer being taken forward.
[6] Note: The majority of the submissions (~70 per cent) were proforma submissions on the Container Return Scheme. The maximum number of submissions for any of the recycling proposals was 1588.
[7] Note: the proposals in this paper do not apply to regional councils.

Table 1. Summary of proposals and legislative mechanism

Final Proposals		Legislative mechanism
Food waste collections for households	By 2030, all councils to provide food (or food and garden) waste collections to households within urban areas of 1000 people or more* Councils with current access to processing facilities by 2027.**	Order in council to direct councils to amend waste management and minimisation plans under section 48, WMA
Dry recycling collections for households	By 2027, all councils to provide dry recycling collections to households within urban areas of 1000 people or more* Note: *Currently, 46 towns have between 1000 and 2000 residents and only 8 of these do not offer kerbside recycling collections. Expanding collections to these towns, will improve equity of access to kerbside services across the country.*	
Standardise materials	All household kerbside recycling services must collect a standard set of materials from early 2024. The proposed standard set of materials is: • steel and aluminium tins and cans • recyclable glass bottles and jars*** • recyclable paper and cardboard including pizza boxes*** • plastic bottles, trays and containers made from plastic types 1, 2 and 5 For kerbside food waste collection, the proposed standard materials are food waste and/or garden waste only (excluding paper, cardboard, compostable packaging, and other similar materials) to be implemented by 2027.***	Performance standards for the implementation of waste management and minimisation plans under section 49 of the WMA
Performance standard for councils	Set councils a performance standard to divert 50 per cent of household waste placed at kerbside (measured based on the tonnes of rubbish collected divided by the tonnes of dry recycling and food waste recycled). To be phased in as follows: • 30 per cent by 2026 • 40 per cent by 2028 • 50 per cent by 2030 With a review period in 2027 (to assess the suitability of the targets). A voluntary high ambition target of 70 per cent by 2030 is also proposed.	
Reporting requirements for private household collections	All waste companies that provide contracted services to households for regular waste collection (e.g. weekly or fortnightly etc) must record tonnes of rubbish, recycling, contamination, and food and garden waste collected from mid 2024 and report from late 2025. ***Note: this will complement reporting requirements that are already agreed for councils.***	Regulation under section 86 of the WMA
Require businesses to separate food waste	All businesses must separate their food waste from general rubbish by 2030 Businesses with access to processing facilities must separate their food waste from general rubbish by 2027. I propose this requirement apply to ***all waste producers*** *(excluding householders).* This would mean the proposal would be inclusive of businesses, government, and other types of organisations that produce waste. Exceptions may be required for some business types, for example, for certain food producers where other legislation may apply (eg, in relation to food safety).	Duty of care under new waste legislation (once enacted)

* The proposed threshold of 1000 people for requiring household collections is based on the Stats NZ definition of a small urban area. The intention is for a service to be available to as many households as possible within these areas noting that for some households (such as those in multi-unit dwellings) access to a kerbside collection is more difficult.

** Councils are considered to have 'access' if their main centre(s) are within 150 km of a facility

*** The intent is to capture standard materials that can be recycled or composted. Clarity will be provided through guidance about a subset of items within these categories that might not be accepted or where councils may have some operational discretion.

The proposals provide important benefits for reducing emissions and improving recycling

17. As a package, the suite of proposals outlined in this Cabinet paper will:

    17.1. provide greater clarity and confidence in what can be recycled;

    17.2. improve the quality of recycling and market resilience;[8]

    17.3. divert an extra 53,000 tonnes of recycling from landfill annually through improved quality, quantity and value of dry recycling;

    17.4. divert a further 130,000 tonnes of food waste from landfill and reduce annual emissions by an estimated 72kt CO2e in 2035.[9]

18. Increasing the quantity of food waste diverted from landfill is a key action required to meet our methane targets in the ERP, including reducing methane emissions from waste by 40 per cent by 2035. Action will be needed across businesses and households if we are to make meaningful progress towards reducing emissions (business food waste alone is expected to exceed 100,000 tonnes to landfill annually by 2030).

19. Overall, the cost benefit analysis for these proposals shows a neutral to positive benefit for monetised costs and benefits across a twenty-year period (see table 2). Importantly, not all environmental benefits have been monetised and the real benefits associated with the proposals are higher than accounted for in the benefit cost ratio displayed (see Appendix 3 for a more in-depth explanation of the cost benefit analysis).

Table 2: Benefit cost ratio of proposals

Proposal	Benefit cost ratio
All councils to provide household food waste collections	1.0 to 1.6*
All councils to provide household dry recycling collections	0.9 to 1.4*
Collect a standard set of materials	1.4 to 4.7*
Set a performance standard for councils of 50 per cent diversion of materials from landfill through household kerbside collections by 2030	1.7**
Require waste companies to record and report tonnes collected from private household kerbside services	No benefits monetised
All businesses must separate their food waste from general rubbish by 2030	1.0**
Overall package	**1.0 to 1.6**

*The upper range of the benefit cost ratio presented in Table 2 provides an indication of the value people place on increases in recycling and food waste diversion. For the lower range, this value is not included.

**Only the low end of the range is given as studies did not provide an appropriate value for increases in business recycling or quality of household recycling.

[8] In 2018, China stopped importing many recyclable materials, which significantly disrupted global markets and the New Zealand recycling sector.

[9] The analysis of the proposals includes the cost of building the required food waste processing facilities (assumed to be 60 per cent composting and 40 per cent anaerobic digestion).

The proposals will affect councils, businesses and the waste sector

20. All 67 councils will be affected by the proposals to some extent. Councils may need to change existing services, increase services or make changes to improve performance. The requirement to collect food waste from households will be the biggest change for councils (with 54 councils needing to provide a new service). Whereas mandating councils to collect household recycling to urban areas of 1,000 people or more will impact a much fewer number (7 councils will need to start collections).

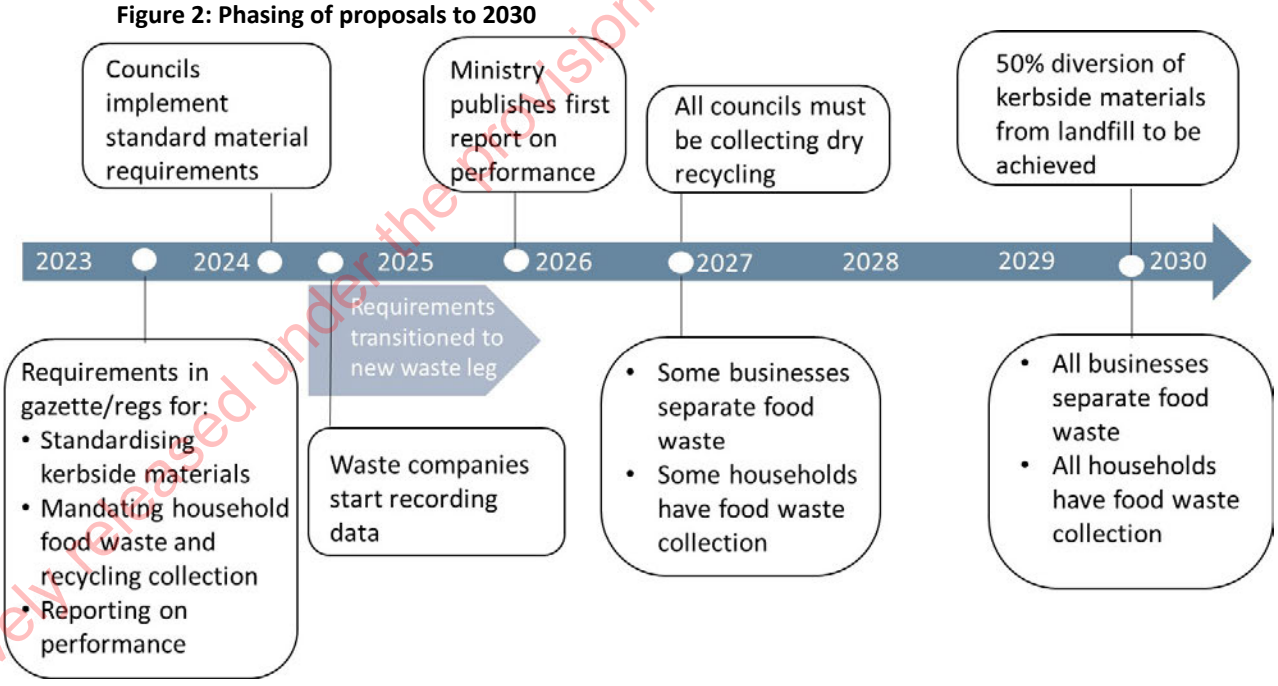
21. The business food waste proposals will affect a wide range of organisations across the economy who will need to separate their food waste. The waste sector will also need to grow to meet the requirements (providing new facilities, services and jobs). Studies show that transforming our waste and resource recovery infrastructure is likely to have a positive effect on the workforce overall.[10]

22. Given the extent of change occurring across the sector, some individual companies or councils are likely to have concerns about facing higher costs and delivering the proposals within the timeframe. Consequently, I will be providing a comprehensive package of support to ease implementation (see 23 – 26 below).

Implementation

23. The proposals will be phased in over the next eight years and be fully in effect by 2030 (see figure 2 below). The timing for each proposal is based on the amount of change required, readiness of local government and businesses to adapt and the Government's intention to move quickly on reducing emissions and waste.

Figure 2: Phasing of proposals to 2030



[10]Studies show that, on average, resource recovery creates three to four times as many jobs as landfilling. *Reducing waste: a more effective landfill levy consultation document (MfE 2019).*

Support is available to ease implementation

24. Support from councils for the household food waste collection proposal was largely conditional on central government providing sufficient investment and coordination for establishing the new services[11]. Given the scale of new infrastructure required to achieve waste strategy goals, I intend to build mechanisms (ie, Action and Investment Plans) into the new waste legislation to improve connection and planning between central and local government and the wider waste sector.

25. Increases in waste levy revenue and an already approved funding package will also make these proposals more achievable. Specifically:

    25.1. $120 million set aside for the next two years from the Waste Minimisation Fund (WMF) and Climate Emergency Response Fund (CERF) to mobilise councils and the private sector to invest in diverting food and other organic wastes from landfill;

    25.2. $7.2 million from the Government portion of the waste levy to support the seven councils with no kerbside recycling and $560,000 for the three councils who currently do not collect glass (over four years);

    25.3. Increases to the local government portion of the waste levy s 9(2)(f)(iv) will be important for increasing funds to small and rural councils (refer to accompanying paper *Waste Legislation 1: Overview and overarching provisions*). From now until 2030 councils are estimated to receive $850 – 950 million in waste levy revenue.

26. In addition, I will support implementation with[12]:

    26.1. a data platform for reporting to be developed and rolled out over the next four years;

    26.2. a behaviour change campaign to provide national level messaging;

    26.3. resources to support best practice for food and garden waste collections;

    26.4. support under the ERP for industry-led programmes to support businesses to reduce food waste.

Financial Implications

27. An estimated $180 million to $210 million of capital investment (plant, vehicles, and bins) will be required to implement the full suite of proposals in this paper.

28. Over the next two years, the initial $120 million government funding will help to stimulate further private investment in infrastructure and systems to reduce landfill emissions from organic waste (paragraph 25.1 refers). While this funding is available

[11] Of the 39 councils that responded to the consultation, 65 per cent of these councils supported mandating food waste collections *to some extent,* while 23 per cent of councils were opposed. For 80 per cent of those that did support the proposals, their support was conditional primarily on central government funding and coordinating infrastructure. Some submissions only supported the proposal in part (eg, for larger urban areas but not smaller more rural communities).

[12] Budget 2022 funding has been approved for this work through CERF.

for a wider range of initiatives than just these proposals, it can contribute up to two thirds of the capital investment required.

Costs to local government

29. The capital and ongoing operational costs specifically to local government to implement the proposals from now until 2030 will be around $121 million in total.

30. Councils will be eligible to apply for up to 50 per cent of their capital costs for establishing new household collections (or up to 75 per cent where there is coordination and collaboration with other councils), through the funding packages above. If implemented in conjunction with a CRS, there would be an estimated additional $40-$50 million in savings for councils, which will offset some of the cost from the kerbside proposals.

31. With the forecast increase in waste levy revenue, the total waste levy allocated to councils would be sufficient to cover the cost of these proposals. In total, annual costs are not expected to exceed 40 per cent of the waste levy allocated to councils in any one year (although this will vary between councils).[13]

Costs to households

32. The type of funding and ownership model that individual councils or businesses use to expand or establish services will influence the level of costs passed onto households. Councils may choose to fund infrastructure through their rates base or their waste levy allocation. Alternatively, they may encourage private sector involvement and contract for services.

33. Ultimately with the funding available and increasing waste levy revenue, I expect the costs passed on to households to be small. For example, the annual operating cost for Whanganui District Council to roll out new dry recycling and food waste collections is estimated at $0.73 million. These costs could be covered with Whanganui District Council's annual waste levy allocation, which is expected to rise to $1.2 million by 2024/25 (seven times their 2021/22 amount).

Costs to the private sector from the business food waste proposals

34. The estimated cost of the business food waste proposals is $316 million of capital and operational costs over a 20-year period, although this will be partly offset by reduced costs for rubbish disposal. Limited data means this figure assumes that no businesses currently separate food waste in Aotearoa New Zealand (in reality, some level of commercial food waste collection service is in place in many districts and some businesses compost onsite).

35 The waste sector will have an opportunity to leverage existing funding or new capital investments in organics waste (which will reduce costs to businesses), it will also increase revenue and build efficiencies of scale.

Legislative Implications

36. Implementing the household kerbside proposals will rely on sections 48, 49 and 86 of the WMA, with completion of the regulatory process forecast in 2023.

[13] Note: this percentage represents an aggregate for all councils and may be more or less depending on each council's circumstances.

37. These requirements will then transition into the new waste legislation (around 2025). Appendix 3 provides an overview of the regulations being used for each proposal and how they will be transitioned to the new legislation.

38. Sections 48 and 49 of the WMA have not been used before so have been reviewed to ensure they are fit for this purpose. Section 48 and 86 have requirements that must be met before they can be used (described in 39 – 44 below).

Section 48 directions to amend a waste management and minimisation plan

39. Section 48 of the WMA allows for the Governor-General to issue Orders in Council that direct councils to amend their waste management and minimisation plans. Before recommending Orders in Council be made, the Minister for the Environment must first be satisfied that changes to plans will achieve or assist in achieving the New Zealand Waste Strategy.

40. Cabinet is currently considering a new Waste Strategy (refer to accompanying paper *Proposed new waste strategy: final approval)*, which includes councils taking responsibility for kerbside dry recycling and food waste collections as actions under priorities 5.2 *Strengthening collections systems and services across the country*, and 7.2 *Recycle organic waste for beneficial use rather than sending it to landfills*. These proposals are also important to achieving the Government's commitments under the ERP.

41. Consequently, I am satisfied the proposed changes to councils' waste management and minimisation plans will assist in achieving the New Zealand Waste Strategy.

Section 86 information from any class of person

42. I intend to use section 86(1)(b) to require waste companies to record and report tonnes collected from private household kerbside services to the Secretary for the Environment in order to:

    42.1. measure progress in waste management and minimisation;

    42.2. report on the state of Aotearoa New Zealand's environment;

    42.3. assess Aotearoa New Zealand's performance in waste minimisation and decreasing waste disposal; and

    42.4. identify improvements needed in infrastructure for waste minimisation.

43. I have met the requirements to recommend regulations under section 86, including:

    43.1. obtaining advice of the Waste Advisory Board;[14]

    43.2. consulting the waste industry (via public consultation as well as through targeted discussion);

    43.3. considering the costs, which are mainly administrative, to be low in relation to the benefit the information will provide (see Regulatory Impact Analysis).

[14] This advice was based on the proposal outlined in the consultation document, which has not changed.

44. Additionally, I have consulted with the Government Statistician about whether this information could be obtained another way and the value of the information.

Business food waste proposals will require the new waste legislation

45. The new waste legislation proposes s 9(2)(f)(iv) [redacted] (refer to accompanying paper *Waste Legislation 3: Regulating how people manage waste*). Regulations would be developed under s 9(2)(f)(iv) [redacted] to progress the business food waste proposal, once the new legislation is in place.

46. Consequently, I am seeking an in-principle decision now. Further work on regulations for this proposal under the new legislation would likely occur in 2025, as the first category of organic waste to be specified under this new duty.

Impact Analysis

Regulatory Impact Statement

47. A regulatory impact statement (RIS) has been prepared and is provided in Appendix 4.

48. The Regulatory Impact Analysis Panel appointed by the Ministry for the Environment has reviewed the Regulatory Impact Statement (RIS) "Improving household and business recycling". The Panel considers that, overall, the RIS meets the Quality Assurance criteria. Using a clear structure, the RIS sets out the case for change through establishing the problem, objectives, preferred and alternative options, and cost-benefit analysis for the options. Public consultation was undertaken on all the options. While we have given the RIS an overall meets grade, we consider there is still scope for a more concise RIS and that this would support a clearer case for change.

Climate Implications of Policy Assessment

49. The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements does apply to this proposal as an objective of the proposal is the reduction of carbon emissions. It is expected that improved household food waste collection and business separation of food waste will result in approximately 72kt CO2e in 2035 rising more gradually to 77kt CO2e in 2050 in annual emissions reductions. A reduction in emissions is also likely as a result of the proposal to improve New Zealand's recycling system, however, the emission reduction impact is difficult to quantify due to the uncertainty in the available data.

Population Implications

50. Around 200,000 more people will have access to household recycling services for dry recycling enabling them to reduce their waste because of the proposals. Additionally, food waste collections will be rolled-out to 54 councils, providing access to food waste disposal to most New Zealand households.

51. Where costs fall to households, some rural towns or lower income communities may be disproportionately affected as some of these areas are likely to require the largest scale of change. However, my proposal s9(2)(f)(iv) [redacted] will favourably increase the proportion of funds going to smaller and more rural

councils. Additionally, the targeted financial support for councils who are undergoing the most change will help offset costs to households in those districts.

Human Rights

52. No human rights implications arise from the proposals.

Consultation

53. The following government agencies have been consulted: the Ministry of Business Innovation and Employment, the Ministry of Foreign Affairs and Trade, the Ministry of Health, the Ministry for Primary Industries and the Treasury.

54. The following agencies have been informed: the Department of the Prime Minister and Cabinet, the Department of Conservation, Te Arawhiti, Te Puni Kokiri, the Department of Internal Affairs, the Ministry of Justice, Stats NZ and the Ministry of Transport.

Communications

55. I intend to announce these proposals subject to Cabinet agreement and in coordination with the Prime Minister's office.

56. An exposure draft of the proposed regulations will be made available to a limited group of affected parties to obtain technical input and ensure workability. Officials will also work with stakeholders to draft key definitions and work through any minor and technical clarifications that are needed to inform the regulations including where exceptions may be appropriate. For instance, through this process we will test that the regulations allow the flexibility needed by councils to provide bespoke collections for households in difficult to access areas (such as multi-unit dwellings).

Proactive Release

57. This paper will be proactively released within 30 business days of the policy decision and subsequent announcements. Proactive release is subject to redaction as appropriate under the Official Information Act 1982.

Recommendations

The Minister for the Environment recommends that the Committee:

1 **note** the proposals in this paper advance:

1.1 Labour's 2020 Election Manifesto plans to prevent, reduce, and recycle waste;

1.2 the Cooperation Agreement between the New Zealand Labour Party and the Green Party of Aotearoa New Zealand, in particular the commitment to take action to minimise waste and problem plastics;

1.3 the Emissions Reduction Plan (ERP) including to reduce biogenic methane emissions from waste by 40 per cent by 2035 [CAB-22-MIN-0152 refers];

1.4 the proposed Waste Strategy's 2050 vision for a low-emissions, low waste society, built upon a circular economy (refer to accompanying paper *Proposed new waste strategy: final approval*).

2 **note** the Government received strong public support for the Transforming Recycling consultation carried out from March to May 2022 following Cabinet approval [ENV-22-MIN-0003].

3 **note** the proposals in this paper are closely connected to other proposals currently being considered by Cabinet including:

3.1 the Container Return Scheme which would reduce the amount of beverage containers (including glass) going into kerbside recycling systems and reduce related costs for councils;

3.2 the new waste legislation, including establishing new duties of care.

4 **note** the proposals will improve access and restore confidence in Aotearoa New Zealand's kerbside recycling system, reducing waste and emissions from landfill.

5 **note** the proposals will affect:

5.1 territorial authorities and the waste sector who will have to establish new services;

5.2 businesses who will need to separate food waste.

6 **note** funding available to support these proposals will minimise disproportionate costs on councils and households, including:

6.1 rising waste levy revenue, and s 9(2)(f)(iv) ;

6.2 a targeted funding package of $120 million from the Climate Emergency Response Fund Budget 2022 (CERF) and Waste Minimisation Fund (WMF);

6.3 targeted support of $7.2 million of waste levy funding to support territorial authorities with new recycling collection and $560,000 for the three councils who currently do not collect glass to enable collections (spread over four years).

Direct councils to provide kerbside collections under section 48 of WMA

7 **agree** that regulations be developed under section 48 of the Waste Minimisation Act (WMA) through order in council, to direct territorial authorities to amend their waste management and minimisation plans in a way that achieves or assists in achieving the waste strategy. Specifically, the regulations will require territorial authorities to:

7.1 implement either food waste or food and garden waste collections for all households within urban areas with 1000 people or more by:

7.1.1 2027 for the territorial authorities with access to existing food and garden waste processing infrastructure (within 150 km of a main centre);

7.1.2 2030 for all other territorial authorities.

7.2 implement dry recycling collections for households of urban areas with 1,000 people or more by 2027.

8 **note** that I am satisfied that the use of section 48 of the WMA is necessary to direct changes to territorial authorities' waste management and minimisation plans as these proposals are required to achieve or assist in achieving the proposed Waste Strategy.

9 **note** that urban areas with 1,000 people or more would be based on Stats NZ definitions and data.

10 **note** through the exposure draft process, we will test with territorial authorities that the requirements for household collections are workable across different building types such as those where access is difficult (e.g. multi-unit dwellings).

11 **invite** the Minister for the Environment to issue drafting instructions to the Parliamentary Counsel Office to draft regulations under section 48.

Set performance standards under section 49 of the WMA

12 **agree** that performance standards be developed under section 49 of the WMA to establish a standard set of materials collected at kerbside through the implementation of territorial authorities' waste management and minimisation plans.

13 **agree** the performance standard for kerbside recycling will be required to be implemented by February 2024 and will include the following standard materials:

13.1 steel and aluminium tins and cans;

13.2 recyclable glass bottles and jars;

13.3 recyclable paper and cardboard;

13.4 bottles, trays and containers made from plastics 1 (PET), 2 (HDPE), and 5 (PP).

14 **agree** the performance standard for kerbside food and garden waste standard materials will include food and garden waste (only) and be implemented by 2027.

15 **agree** performance standards be set under section 49 of the WMA to require implementation of Waste Minimisation and Management Plans to achieve 50 per cent diversion of household waste placed at kerbside to dry and food waste recycling by 2030. The performance standard will be implemented through councils' waste management and minimisation plans and phased in as follows:

15.1 30 per cent by 2026;

15.2 40 per cent by 2028;

15.3 50 per cent by 2030.

16 **note** for the household food waste standard material requirement, councils will have some discretion over whether they accept certain materials (such as fibrous plants).

17 **invite** the Minister for the Environment to set performance standards by notice in the Gazette under section 49 of the Waste Minimisation Act 2008 to:

17.1 establish the standard materials to be collected in kerbside services;

17.2 divert 50 per cent of kerbside waste to dry and food waste recycling by 2030.

Require waste companies to record and report under section 86 of the WMA

18 **agree** that regulations be developed under section 86 of the Waste Minimisation Act to require private waste companies that provide contracted services to households for regular waste collection (e.g. weekly or fortnightly etc), to record and report on the amount of waste collected annually through household kerbside services. Specifically:

18.1 total tonnes of household kerbside waste by material stream (rubbish, recycling, food waste and garden waste) by council area;

18.2 tonnes of contamination in these streams via an agreed reporting protocol.

19 **note** that I have met the requirements under section 86, as I have consulted the Waste Advisory Board, Government Statistician, as well as the waste industry and consider the costs to be low in relation to the benefit the information will provide.

20 **invite** the Minister for the Environment to issue drafting instructions to the Parliamentary Counsel Office to draft regulations under section 86 of the Waste Minimisation Act 2008.

Require businesses to separate their food waste proposal

21 **note** that the new waste legislation will include s 9(2)(f)(iv) [redacted], that would form an appropriate mechanism to progress the proposal for businesses to separate food waste (refer to accompanying paper *Waste Legislation 3: Regulating how people manage waste*).

22 **agree (in principle)** to continue to work with the sector on the business waste proposal in anticipation of preparing regulations under the proposed new waste legislation.

23 **note** that requiring businesses to separate food waste by 2030 is a key action to meet our methane targets in the Emissions Reduction Plan.

All proposals

24 **agree** that the responsible Minister may take further decisions on minor and technical matters in line with the policy decisions agreed by Cabinet.

25 **invite** the Minister for the Environment to report back to the Cabinet Legislation Committee to present regulations for approval.

Authorised for lodgement

Hon Minister David Parker

Minister for the Environment

Appendix 1 Summary of Submissions (attached)

Appendix 2 Explanation of cost benefit analysis

The overall findings of the cost benefit analysis are provided in the table below:

Proposal	Monetised costs	Monetised benefits	Net present value	Benefit cost ratio
	20 year present value ($m)			
All councils to provide household food waste collections	$303	$309 to $497	$6 to $194	1.1 to 1.6
All councils to provide household dry recycling collections	$78	$66 to $107	-$12 to $29	0.9 to 1.4
Collect a standard set of materials	$45	$64 to $211	$19 to $165	1.4 to 4.7
Require waste companies to record and report tonnes collected from private household kerbside services	$7	N/A	-$7	No benefits monetised
Set a performance standard for councils of 50 per cent diversion of materials from landfill through household kerbside collections by 2030	$19	$33	$14	1.7*
All businesses must separate their food waste from general rubbish by 2030 (some by 2027).	$172	$170	-$2	1.0*
Overall package (totals may not add due to rounding)	**$625**	**$643 to $1,017**	**$18 to $392**	**1.0 to 1.6**

*Only the low end of the range is given as studies did not provide an appropriate value for increases in business recycling or quality of household recycling.

Explanation

The cost benefit modelling for these proposals shows an overall neutral to positive benefit for monetised costs and benefits across a twenty-year period. The range presented for some household proposals shows the impacts of including the value people place on increases in recycling and food waste diversion. This is an example of more difficult to monetise, but real, benefits. The higher end of the range provides an indication that the scale of the missing environmental benefits is significant and highlights that the benefits associated with the proposals are higher than accounted for in a modelling output.

Some proposals provide direct financial savings. For example, standardising materials is expected to make existing kerbside recycling cheaper by lowering costs and enabling higher revenue through a more valuable product. Other proposals such as for food waste involve new collections and direct financial costs but have significant benefits for New Zealand as a whole (eg, emission reductions). In these instances, Government funding helps to distribute more fairly the cost of the national benefits obtained.

Costs

The cost benefit analysis includes direct costs such as investment in plant, vehicles, and bins for changed or additional collection services and any ongoing operational costs of collecting and processing material. Where material is diverted from landfill it also includes the value of lost economic activity associated with landfilling.

Benefits

On the benefits side it includes the reduced costs of rubbish collection and disposal, as well as increased revenue from the sale of a greater quality and quantity of recycled materials (eg, steel, plastic, compost, biogas). For food waste, the value of emissions reductions is also included. Other environmental benefits for recycling and food waste were too complex to monetise and could not be included in the cost benefit analysis but should be considered alongside the explicitly valued benefits.

Benefits that are difficult to monetise or are unable to be monetised

The analysis could not monetise all benefits. However, studies consistently show that people place a value on increases in recycling and food waste diversion and contextually, waste related issues remain as three of the top ten concerns for New Zealanders[15]. The higher end of the benefit cost range uses an average benefit derived from two relevant studies. Relevant studies could not be found to similarly value increases in business food waste diversion or in recycling quality.

For recycling, the analysis does not include the benefits of upstream reductions in virgin raw material extraction and processing, their direct environmental impacts and embodied emissions (ie, the benefits of using recycled materials, which are significant). It only includes the recycled materials commodity value. It also does not include the expected three to four times greater employment associated with recycling materials rather than landfilling them.

For food waste, the analysis does not include benefits associated with food waste reduction and food rescue (ie, wasted food that could have been eaten) which are likely to occur when food waste is made more obvious by separation. It does not include additional employment from resource recovery. The food waste proposals are important steps towards a circular food system, returning nutrients and fertility to the soil, displacing synthetic and energy intensive fertilizer inputs. It also does not recognise the downstream benefits of using compost such as improving soil structure, reducing flooding, erosion and nutrient leaching. All significant environmental issues in Aotearoa New Zealand.

[15] The Kantar 2022 Better Futures report found: the build-up of plastic in the environment; too much waste/rubbish generated, and; over packaging, non-recyclable packaging and landfill were three of New Zealander's top ten concerns (https://www.kantarnewzealand.com/wp-content/uploads/2019/05/Kantar-Better-Futures-Report-2022.pdf).

Appendix 3 Timing and legal mechanisms for implementing the proposals

Proposal	Summary of proposal and legislative mechanism under current Waste Minimisation Act 2008	Level of support from consultation	Timing	Legislative mechanism under new legislation [expected by 2025]
All councils to provide household food waste collections	Direction to territorial authorities (through order in council) to amend their Waste Management and Minimisation Plans (WMMP)s will be made under **section 48 Waste Minimisation Act 2008** to provide **household food (or food and garden) waste** collections for urban areas of 1000 people or more: • councils with access to food waste processing facilities by 2027 • all other councils by 2030. Urban areas with 1000 people or more are based on Stats NZ definitions and data. 'Access to processing facilities' would include districts that have a processing facility within 150km of a main centre. These districts would also be listed in the Gazette notice. The intention is for a service to be available to as many households as possible noting that for some households (such as those in multi-unit dwellings) access to a kerbside collection is more difficult.	91%	• Requirements gazetted in 2023 • Some councils implement collections by 2027, the remainder by 2030	Direct provision in primary legislation, supported by national standard on recycling collections
All councils to household kerbside dry recycling collections	Direction to territorial authorities (through order in council) to amend their WMMPs will be made under **section 48 Waste Minimisation Act 2008** to require: • all councils to provide household dry recycling collections for urban areas of 1000 people or more by 2027 As with the household food waste proposal the intention is for this service to be made available to as many households as possible within each urban area.	98%	• Requirements gazetted in-2023 • All councils implement collections by 2027	Direct provision in primary legislation, supported by national standard on recycling collections
Collect a standard set of materials	**Performance Standard(s) under section 49 Waste Minimisation Act 2008** will require all household kerbside recycling services to collect the following standard set of materials from early 2024: • Steel and aluminium tins and cans • Recyclable glass bottles and jars • Recyclable paper and cardboard • PET plastic bottles and trays • HDPE plastic bottles and trays • PP plastic trays and containers **The Performance Standard(s)** will also require that by 2027, household food and garden waste services collect **only food waste and/or garden waste**, not paper and cardboard, compostable packaging made of plastic, fibre, or a combination of both.	95%	• Requirements gazetted in 2023 • Standard recycling Implemented early 2024 • Standard food and garden waste implemented 2027	National standard on recycling collections

	Note The intent for this proposal is to capture standard materials that can be recycled or composted. Clarity will be provided through guidance about a subset of items within these categories that might not be accepted or where councils may have some operational discretion over certain materials such as fibrous plants, large woody material, or noxious weeds (that may cause processing issues). Further, a process for accepting new materials may involve setting criteria – for example: • sustainable end markets – markets are sufficiently large and have longevity • end market solutions are circular and minimise environmental harm • processing technologies are economically viable • supply chains contribute appropriately to recovery and end of life solutions of their products • materials can be processed by both automated and manual recovery facilities. New materials could be considered for inclusion, for example: • through application of a priority product stewardship scheme • every four years, or • as initiated by the Minister.			
Set a performance standard for councils of 50% diversion of household kerbside waste to dry and food waste recycling by 2030	**A Performance Standard will be created under section 49 Waste Minimisation Act 2008** to require diversion of recyclable and food waste materials from landfill through household kerbside of: • 30 % by 2026 • 40 % by 2028 • 50 % by 2030. The standard will be measured based on the tonnes of rubbish collected divided by the tonnes of dry recycling and food waste recycled and may be reviewed in 2027 to assess the impact of the CRS on diversion rates. A voluntary high ambition target of 70% by 2030 is also proposed.	88%	• Requirements gazetted in 2023 • Monitoring begins mid 2025 • Completion expected by 2030	Shift to include as targets in Action & Investment Plan
Require waste companies to record and report tonnes collected from private household kerbside services	Regulations in relation to records, information, and reports would be made by order in council under **section 86(1)(b) Waste Minimisation Act 2008** to require waste companies that provide contracted services to households for regular waste collection (e.g. weekly or fortnightly etc) to report annually on rubbish, recycling, food and garden waste including tonnes: • of household kerbside waste by council area • by material stream by council area • of contamination by council area via an agreed reporting protocol	96%	• Requirements gazetted in 2023 • Recording information commences mid 2024 • Public reporting commences late 2025	Information regulations to continue New reporting obligations to be specified in new Act and/or regulations
Business separation of food waste	*N/A - Regulatory mechanism to be developed through the proposed new waste legislation.* All businesses must separate their food waste from general rubbish by 2030. Businesses with access to processing facilities must separate their food waste from general rubbish by 2027. I propose this requirement apply to ***all waste producers*** *(excluding householders).* This would mean the proposal would be inclusive of businesses, government, and other types of organisations that produce waste. Exceptions may apply, for example, where other legislation such as food safety may apply.	96%	• Phased: Businesses with access to existing food waste processing facilities by 2027. All businesses by 2030	Duty of care under new waste legislation

Appendix 4 Regulatory Impact Statement *[attached]*

CAB-22-MIN-0539

Cabinet

Minute of Decision

Report of the Cabinet Environment, Energy and Climate Committee: Period Ended 25 November 2022

On 28 November 2022, Cabinet made the following decisions on the work of the Cabinet Environment, Energy and Climate Committee for the period ended 25 November 2022:

ENV-22-MIN-0059 ENV-22-MIN-0051 ENV-22-MIN-0055	s 9(2)(f)(iv)	
ENV-22-MIN-0057	**Agreement to Implement a New Zealand Container Return Scheme** Portfolio: Environment	Separate minute: CAB-22-MIN-0539.01
ENV-22-MIN-0058	**Improving Kerbside Recycling and Managing Business Food Waste** Portfolio: Environment	CONFIRMED
ENV-22-MIN-0053	**Proposed New Waste Strategy: Final Approval** Portfolio: Environment	CONFIRMED
ENV-22-MIN-0049 ENV-22-MIN-0050	s 9(2)(f)(iv)	

ENV-22-MIN-0052

ENV-22-MIN-0054

ENV-22-MIN-0056

s 9(2)(f)(iv) [redacted]

Rachel Hayward
Secretary of the Cabinet

Ministry for the Environment
Manatū Mō Te Taiao

BRIEFING NOTE

Cover brief: Proposals for improving household kerbside recycling and managing business food waste

Date Submitted:	26 October 2022	Tracking #: BRF-2157	
Security Level	Policy and Privacy In-Confidence	MfE Priority:	Not Urgent

	Action sought:	Response by:
Hon David PARKER, Minister for the Environment	Consider the advice in this briefing and review attached draft Cabinet paper.	2 November 2022

Actions for Minister's Office Staff	**Return** the signed report to MfE.
Number of appendices and attachments #2	Appendix 1: Summary of proposals presented in Cabinet Paper Attachment 1: Proposals for improving household kerbside recycling and managing business food waste.

Key contacts

Position	Name	Cell phone	1st contact
Principal Author	Mark Christensen	n/a	
Responsible Manager	Liz Butcher	022 517 3314	
Director	Shaun Lewis	021 101 2446	✓

NOTE - PAGE BREAK HERE – TEXT STARTS NEXT PAGE

Proposals for improving household kerbside recycling and managing business food waste

1. This briefing provides you with a draft paper (attached) seeking Cabinet approval on proposals for improving household kerbside recycling and managing business food waste. It highlights key issues and advice for your consideration prior to circulating the paper for Ministerial consultation

The draft paper seeks policy decisions on the Transforming Recycling proposals

2. The paper responds to public consultation on the *'Transforming Recycling'* proposals to improve kerbside recycling and separate business food waste from general rubbish (Parts 2 and 3 of the broader consultation document).
3. Specifically, it seeks Cabinet agreement on a comprehensive package of change based on six interrelated proposals as outlined below and in Appendix 1:
    a. standardise materials collected for recycling
    b. councils to collect household food scraps
    c. councils to collect household dry recycling
    d. reporting requirements for private waste operators
    e. performance standard to divert 50% of household waste from kerbside by 2030 (phased in over time)
    f. require businesses to separate food waste from general rubbish.
4. The proposals outlined in the draft paper are consistent with detailed advice provided to you in BRF-2102.
5. As per your feedback to officials, it does not seek decisions on an additional proposal from the consultation document, which is related to separate collection of glass or paper/cardboard.

The draft paper includes some further refinements to some of the policy proposals

6. For the proposal to create a performance standard we have added into the draft Cabinet paper a voluntary high ambition target of 70 per cent by 2030. This was included in the consultation and is intended to provide a target for high-performing councils to encourage those already achieving (or near to) the proposed mandatory 50 per cent diversion to maintain or lift performance higher.
7. For the business food waste requirement, we propose that this applies to all waste producers (excluding households). This would mean the proposal would be inclusive of businesses, government, and other types of organisations that produce waste. Exceptions may be required for some business types, for example, for certain food producers or farms where other legislation may apply (eg, in relation to food safety and biosecurity).
8. We are working with the Ministry's legal team around this aspect of the proposal but anticipate that you will need to seek delegated authority from Cabinet to make minor and

technical amendments including some exceptions (where the regulation will not apply). For now, the paper has been drafted on this basis.

9. Additionally, the business food waste proposal is reflected within the draft paper as an in-principle recommendation. This is because it will require the new waste legislation to be in place and the recommendation works in tandem with recommendations in the accompanying Cabinet Paper: *Waste Legislation 3: Regulating how people manage waste.*

Further information is also provided around how the proposed policies will be implemented under existing Waste Minimisation Act 2008 provisions

10. Under the legislative requirements section (pages 9-11) of the draft paper we have outlined the relevant powers in the Waste Minimisation Act 2008 (the WMA) that will give effect to the proposed changes.

11. Specifically, the proposed policy will use section 48 of the WMA to direct councils to amend their Waste Management and Minimisation Plans (WMMPs) in a way that achieves or assists in achieving the waste strategy. For example, it will require councils to:

    a. implement either a food scraps or, a food and garden waste, collection for all households with urban areas with more than 1000 residents

    b. implement a dry recycling kerbside collection for households in urban areas with more than 1000 residents.

12. We note that wording within the proposed waste strategy outlines that councils will take responsibility for kerbside dry recycling and food scraps collections (Under priorities 5.2 and 7.2).

13. Additionally, performance standards are proposed to be developed under section 49 of the WMA and be implemented through councils WMMPs. These standards will:

    a. establish the standard set of materials for collection at kerbside

    b. establish the 50 per cent diversion target for councils.

14. The existing WMA has limited Compliance, Monitoring and Enforcement (CME) powers. These powers also do not apply to all sections within the WMA that we propose to use. However, only two of the proposals (a standard set of recycling materials and reporting requirements) are intended to be in full effect before regulations transition to proposed new waste legislation expected in 2025. These two proposals both have associated CME tools within the existing WMA. Further detail is outlined on page 12 of the draft paper.

The costs and benefits are outlined in the draft paper noting that environmental benefits can be difficult to quantify

15. The paper presents an overall neutral to positive benefit for the monetised costs and benefits across a twenty-year period (page nine of the attached paper). Not all environmental benefits can be monetised, and the real benefits associated with the proposals are higher than accounted for in the benefit cost ratio presented.

16. Different councils are in different states of readiness. The level of change to service levels and related costs will also vary. Councils will adopt different approaches to ownership and funding of expanded or new infrastructure. They may choose to fund infrastructure through their rates base or their waste levy allocation. Alternatively, they may encourage

private sector involvement and contract for services. The type of funding and ownership model can influence the level of costs passed onto households (eg, councils may not seek a return on capital when using levy funds).

17. The reforms will present industry with several new opportunities. Some of these may involve contributions from the Waste Minimisation Fund (WMF), while others will be stand-alone commercial.

18. We believe there is a strong narrative around support, which includes the following:

    a. $120 million over the next two years through the Waste Minimisation Fund and CERF funding to mobilise councils and private sector investment (targeted at addressing food and other organic waste that generates biogenic methane in landfills)

    b. increases to the local government portion of the waste levy, s 9(2)(f)(iv) will be particularly important for increasing funds to small and rural councils.

19. The draft paper also includes additional Minister-initiated funding, should you wish to take this to Cabinet. Specifically, a further $7.2 million of the government portion of the waste levy to support eight councils with no, or limited, kerbside recycling and $560,000 for the three councils who currently do not collect glass to enable collections. The funding would be spread over four years.

20. We have very limited data on the likely impact of business food waste proposals on businesses. Additional capital and operational costs have been estimated at $316 million over a 20 year period. This will be a further opportunity for the waste sector.

Consultation and collaboration

21. Agency feedback raised concerns about the costs and ability of councils to implement the recycling proposals.

22. Additionally, the Ministry of Primary Industries (MPI) raised concerns about biosecurity and food safety in relation to the business food waste proposals. We will work with MPI on these issues as part of the work on possible exceptions to the business food waste requirements.

23. As a result of agency feedback, we built in further information to the paper around costs and implementation, particularly in relation to councils. We also sought to clarify who would be affected by the business food waste proposals.

Next steps

24. We suggest you circulate the draft Cabinet paper to your ministerial colleagues. Additionally, we will provide you with a letter to consult with the Government Statistician around the proposed reporting requirements for private waste companies. This is to meet requirements under Section 86 of the WMA.

25. We are working toward the Environment, Energy and Climate Cabinet Committee meeting on 24 November 2022. To make this date, we will need to finalise the paper for lodgement by 17 November.

26. To meet this deadline, we will:

a. continue to refine and strengthen the paper alongside the Ministry's legal team over the next two weeks and will keep you informed of any major developments

b. provide you with an updated final version of the Summary of Submissions noting that a near final draft version is attached (any further changes will be mainly to the Container Return Scheme section of the document)

c. work with the Ministry's Regulatory Impact Analysis Panel to finalise the Regulatory Impact Statement and provide you with a copy of the RIA prior to lodgement.

Recommendations

We recommend that you:

a. **Review and provide** feedback on the attached draft Cabinet paper or meet with officials to discuss

b. **Agree**, subject to any requests for changes, to circulate the draft Cabinet paper for Ministerial consultation to meet the 17 November lodgement date

Yes/No

c. **Agree** to direct up to $7.2 million from the Government portion of the waste levy to support up to eight councils to establish kerbside dry recycling services.

Yes/No

d. **Agree** to direct up to $0.56 million from the Government portion of the waste levy to support up to three councils to establish kerbside glass collections.

Yes/No

Signature

Shaun Lewis **Director - Systems Change and Investment**	

Hon David PARKER, Minister for the Environment	
[Date field]	

Appendix 1: Summary of proposals presented in Cabinet Paper

	Final Proposals	
1	**Standardise materials**	All household kerbside recycling services must collect a standard set of materials by February 2024. The proposed standard set of materials is: a. Steel and aluminium tins and cans b. Glass bottles and jars c. Paper and cardboard including pizza boxes d. Plastic bottles, trays and containers made from plastic types 1, 2 and 5.
2	**Food waste collections for households**	All councils to provide household food (or food and garden) waste collections for urban areas of 1000 people or more, by 2030. Councils with current access to processing facilities by end of 2026 and the rest by 2030. *Note: Councils that are considered to have 'access' if most of the district is within 150 km from a facility[1]. The 1000-person threshold is based on the Statistics New Zealand definition of a small urban area and was tested in consultation.*
3	**Kerbside dry recycling for households**	All councils to provide household kerbside dry recycling collections for areas greater than 1000 residents by end of 2027. *Note: of the 48 towns with a population between 1000 and 2000 people, 40 already receive a council kerbside recycling collection.*
4	**Reporting requirements for private household collections**	All waste companies must record tonnes of rubbish, recycling, contamination, and food and garden waste collected from private household kerbside services from July 2024 and report from late 2025. *Note: this will complement reporting requirements that are already agreed for councils*
5	**Performance standard for Councils**	Set councils a performance standard to divert 50% of household waste placed at kerbside (measured based on the tonnes of rubbish collected divided by the tonnes of dry recycling and food waste recycled). This performance standard would be phased in: • 30 % by 2025 • 40 % by 2028 • 50 % by 2030. With a review period in 2027 (to assess the suitability of the targets). A voluntary high ambition target of 70% by 2030 is also proposed.
6	**Require businesses to separate food waste**	**All businesses must separate their food waste from general rubbish** by 2030. Businesses with access to processing facilities separate their food waste from general rubbish by 2026.
7	**Glass/Fibre separation**	All councils must collect either glass or paper/cardboard separately by 2030, but they can choose what material to separate.

[1] This requirement is based on councils that have main centres within 150 km of a processing facility

Regulatory Impact Statement: Improving household and business recycling

Coversheet

Purpose of Document	
Decision sought:	*Analysis produced for the purpose of informing: final Cabinet policy decisions*
Advising agencies:	*Ministry for the Environment*
Proposing Ministers:	*Minister for the Environment*
Date finalised:	*16 November 2022*

Problem Definition

New Zealand's kerbside recycling and food scraps collections are underperforming resulting in environmental harm, greenhouse gas emissions, and economic losses.

Collections are not diverting enough quantity from landfill, the quality of the materials collected is low, confidence in the system is low and access is unequal:

- Our national recycling and food waste diversion rate for kerbside collections is 35 per cent, almost half that of high performing countries.
- Each year an estimated 70,000 tonnes, or 16 per cent, of materials placed in recycling are contamination, rising to nearly a third in some collections.
- More than a third of New Zealanders believe most recycling is landfilled, while only one in four has access to a food waste collection.

The main causes of Aotearoa New Zealand's low recycling rate and quality is the inconsistency of materials collected nationally (causing confusion around what can be recycled), as well as and lack of access to kerbside services (particularly for food waste).

Executive Summary

Improving kerbside recycling and food waste collections will be required to achieve legislated targets and a circular economy for New Zealand. These systems are underperforming due to issues stemming from a lack of national consistency in the materials collected, and unequal access to services and information.

The Government aims to achieve a circular economy by 2050 and has ambitious targets for reductions in waste and greenhouse gas emissions as set out in the:

Emissions reduction plan (ERP)- target by 2035 [1]

- reduce biogenic methane from waste by 40 per cent

Proposed Waste Strategy – targets by 2030[2]

- reduce waste generation by 10% per person
- reduce waste disposal by 30% per person
- reduce biogenic waste methane emissions by at least 30%.

[1] Further detailed in table 1

[2] The proposed Waste Strategy the kerbside proposals are being considered at the same Cabinet meeting.

New Zealanders feel strongly about waste and recycling[3]. The resource recovery sector and local government have called for improvements to kerbside collections[4], and the Government committed to improving kerbside systems in the Labour Party 2020 election manifesto.[5]

What gains can be made in kerbside recycling and food scraps collections?

The Government has initiated a broad and transformational waste programme.[6] Household kerbside dry recycling[7] and food scraps collections are a foundational system in our circular economy. They are the main way that households can divert waste from landfill and return resources to the economy.

Improving kerbside collections and how businesses manage food waste can:

- divert an extra 53,000 tonnes of recycling from landfill annually through improved quality, quantity and value of dry recycling
- divert a further 130,000 tonnes of food waste from landfill and reduce annual emissions by an estimated 72 kt CO2e in 2035

Objectives

The proposals to improve kerbside recycling and food scraps collections aim to:

- reduce contamination and increase the quality of materials collected in kerbside dry recycling and food scrap collections
- increase the quantity of the targeted materials placed in kerbside dry recycling and food scraps collections rather than in the rubbish
- increase public confidence, participation, and engagement in kerbside collections.

The proposal consulted on and analysed in this impact statement

This impact statement analyses the household recycling and food waste proposals and the business food waste proposal consulted on in *Transforming Recycling* in early 2022.[8]

1. Standard materials for kerbside recycling and foods scraps collections
2. Require food scraps collections for all urban households
3. Reporting on private sector kerbside collections from households
4. Set performance standards to encourage best practice in kerbside collections
5. Increase household access to kerbside dry recycling collections
6. Increase business food scraps diversion from landfill

One proposal is not being progressed post-consultation – *options to reduce glass contamination of other recyclables.* This is due to uncertainty about the benefits if a New Zealand Container Return Scheme (CRS) were introduced. A CRS would affect the amount of glass recycled via kerbside or CRS return locations, potentially reducing the

[3] Three of New Zealanders' top ten concerns in 2021 relate to waste and recycling, specifically: the build-up of plastics in the environment, too much waste/rubbish generated, and overpackaging, non-recyclable packaging, and landfill. (Kantar 2022) Better Futures Report 2022 (kantarnewzealand.com)

[4] National Resource Recovery Taskforce and Local Government Waste Manifesto

[5] Labour's 2020 Election Manifesto - NZ Labour Party

[6] Waste reduction work programme | Ministry for the Environment, for the waste hierarchy see pg. 10

[7] 'Dry recycling' refers to the collection of common recyclable packaging materials such as glass, steel, aluminium, some plastics, paper and cardboard. 'Food scraps' collections can also be known as 'wet recycling' or 'organics collections'. Organic waste may include paper and cardboard, but more usually includes garden waste. The resource recovery sector often abbreviates food organics and garden organics to 'FOGO collections'. Unless otherwise specified the proposals in this document relate to food scraps collections. This term has been used for greater clarity.

[8] Transforming recycling: Consultation document | Ministry for the Environment

impact of broken glass to the point that source separation of glass or paper and cardboard is not warranted.

The proposal for a CRS were also consulted on in *Transforming Recycling* but are analysed in a separate impact statement.

Up to 1,500 submissions were received on each of the kerbside proposals and indicated strong support across all proposals with 87 percent to 98 percent of submissions in favour.

In general, local government, the waste sector and business submitters were supportive but did highlight some concerns. In particular:

- the scope of the standard set of materials (eg, whether some products not proposed should be included)
- the timeframes, costs, capacity and infrastructure required for delivering new services (or changing existing ones)
- separation of glass/paper from other recyclables and uncertainty about how volumes of glass may change if a CRS is implemented
- how to phase in the separation of business food waste and whether all businesses should be included.

Minor changes were made to the proposals reflecting consultation feedback.

Impacts of the proposals

The whole package of proposals shows a positive or cost-neutral impact for monetised costs and benefits across a 20-year period. An independent contractor developed the cost benefit analysis which was then further supported by the Ministry for the Environment's own work.

The proposals would be implemented between 2023 to 2030, with capital costs estimated at $180 million to $210 million. A $120 million package of funding and support measures[9] and significant increases in waste levy revenue would enable councils, industry, and businesses to implement these changes and minimise disproportionate costs to households.

The package of proposals to improve household and business recycling will benefit households, councils, and the waste sector by providing consistency and clarity on what can be recycled as well as greater access to recycling and food waste services nationwide. The proposals will divert an estimated 53,000 tonnes of recycling and 130,000 tonnes of food waste from landfill annually and reduce methane emissions by 72kt CO2e per year in 2035. In addition, the proposals will also provide social and environmental benefits that are more difficult to monetise such as more equitable access to services and reductions in extraction of virgin raw materials and associated climate impacts.

[9] Waste Minimisation Fund re-opens on 18 October | Ministry for the Environment

These changes in kerbside collections will be widespread and will affect councils, the waste sector, businesses, households, and central government. The scale of change for councils is indicated in figure 1 below.

Figure 1. Scale of change required by local government

Implementation of proposals

The proposals would be implemented under the Waste Minimisation Act 2008 (WMA) or, for business food waste, proposed new waste legislation expected to be enacted in 2025. The timing for each proposal is staged from now until 2030 based on the amount of change required, the readiness of local government and businesses to adapt, the mechanism that will be used to give effect to the policy, and the need to move swiftly to meet targets for waste and emissions reductions.

Committing to these proposals now provides greater certainty and clear direction for councils, the waste industry and businesses who will need to implement them, while the staged timeframe allows some time to invest in infrastructure and adapt.

The proposed changes are high impact but have strong support. They are intended to be transformative to achieve ambitious action on climate change and towards a circular economy. It brings opportunities as well as costs.

The proposals are part of a broader government work programme. The government has identified ways to redistribute costs and minimise disproportionate impacts. The increases to the waste levy and the funding and support package already announced will provide significant investment to implement the proposals and support their ongoing delivery.

Limitations and Constraints on Analysis

The analysis presented in this Regulatory Impact Statement (RIS) is limited to the proposals publicly consulted in early 2022. It focuses on the preferred options within those proposals. Analysis of alternative options is only presented where required to provide relevant comparisons.

National kerbside waste estimates are based on the best available data, but the data is incomplete and inconsistent. While this is a limitation on the analysis the proposals aim to provide more robust data in order to evaluate the effectiveness of the interventions.

The cost benefit analysis was commissioned from, and developed by, an independent contractor. The Ministry updated the cost benefit analysis to align with broader policy work such as the ERP. The update process was overseen by the Ministry's chief economist and the climate impact policy assessment team.

Responsible Manager
Shaun Lewis *Director – Waste and Resource Efficiency* *Ministry for the Environment*  *16 November 2022*

Quality Assurance	
Reviewing Agency:	The Ministry for the Environment's Regulatory Impact Analysis Panel (RIAP)
Panel Assessment & Comment:	*The Regulatory Impact Analysis Panel appointed by the Ministry for the Environment has reviewed the Regulatory Impact Statement (RIS) "Improving household and business recycling". The Panel considers that, overall, the RIS meets the Quality Assurance criteria. Using a clear structure, the RIS sets out the case for change through establishing the problem, objectives, preferred and alternative options, and cost-benefit analysis for the options. Public consultation was undertaken on all the options. While we have given the RIS an overall meets grade, we consider there is still scope for a more concise RIS and that this would support a clearer case for change.*

Section 1: Diagnosing the policy problem

What is the context behind the policy problem and how is the status quo expected to develop?

Overview

1. Reducing waste to landfill is essential for meeting New Zealand's commitments to reduce greenhouse gas emissions and to shift to a circular economy.
2. Kerbside collections for recycling and food waste are key systems for diverting waste material from landfill.
3. These systems are underperforming due to issues stemming from a lack of national coordination, and unequal access to services and information.

Desired future state: A low-waste, low-emissions circular economy

4. The Government aims to achieve a low-emissions circular economy by 2050 as set out in the Emissions Reduction Plan (ERP) and the proposed Waste Strategy[10].
5. This is deliberately ambitious, achieving a low-emissions circular economy within 30 years will require transformational change and require us to think differently about waste.

Table 1: Key waste related targets and actions from the ERP and Waste Strategy

Emissions Reduction Plan	**Proposed Waste Strategy**
Achieve a low-emissions, low-waste circular economy by 2050	
Targets • Reduce biogenic methane by 25 to 47 per cent by 2050, including 40 per cent from waste by 2035 *Actions* • 9.1 Develop a circular and bioeconomy strategy • Focus area 2 Increase the amount of organic waste diverted from landfills • 15.2.1 Improve household kerbside collections of food scraps and garden waste • 15.2.3 Require separation of organic waste	*Targets* • Reduce biogenic methane emissions from waste by at least 30 per cent by 2030 • Reduce waste reaching final disposal by 30 per cent per person by 2030 *Actions* • 5.2 Strengthen collection systems and services across the country • 7.2 Recycle organic waste to keep it away from landfills These actions support the standardisation of recycling and food scrap collections

6. In the desired future state, and towards achieving these targets and ambitions, our kerbside services will ensure:
   a. low quantities of materials are discarded as waste and high quantities of materials are returned to productive cycles in the economy and environment
   b. the quality of materials collected and processed allows materials to be maintained at their highest use in line with circular economy principles
   c. confidence in recycling and food waste collections is high, they are widely accessible, understood, and easy to use

The current regulatory framework and available funding

The Waste Minimisation Act 2008

7. The WMA is New Zealand's main legislative framework for waste minimisation. It encourages a reduction in the amount of waste we generate and dispose. The aim is to

[10] Emissions Reduction Plan: Aotearoa New Zealand's first emissions reduction plan (environment.govt.nz). For the proposed Waste Strategy see the Cabinet paper *Proposed new waste strategy: final approval.*

protect the environment from harm and provide New Zealand with economic, social and cultural benefits.

8. The WMA requires councils to promote effective and efficient waste management and minimisation through a six yearly Waste Management and Minimisation Plan (WMMP). To provide for effective and efficient waste management and minimisation, most councils provide household kerbside collections of domestic rubbish and recycling.

9. The Government is currently reviewing the waste legislation and consulted in 2021 on issues and options for updated legislation. The timeframe for a new Act is by 2025. It is expected that the new legislation would provide new obligations, regulatory tools and a modernised compliance, monitoring and enforcement framework.[11]

10. With one exception, proposals in this RIS would be implemented via regulations under the WMA and any requirements transitioned into the new waste legislation once it is enacted. The proposal for businesses to separate food waste from general rubbish cannot be formally put in place until the proposed new legislation enables it.

Waste Disposal Levy

11. The Waste Disposal Levy, introduced under the WMA, raises revenue for the promotion and achievement of waste minimisation and to recognise the external costs that disposal incurs on the environment, society, and the economy.

12. The broader and increased levy is expected to raise revenue sevenfold, providing significant new funds for waste minimisation infrastructure and services.[12]

13. Half of the funds raised through this levy go to councils to spend on promoting or achieving waste minimisation activities set out in their WMMPs. Distribution of funding between councils is population-based. The other half of the levy is managed by central government primarily through the Waste Minimisation Fund.

14. In the new waste legislation, the approach to distributing the waste disposal levy funds to councils is expected to change. A percentage of the council portion will be allocated at a flat rate across all councils, with the remaining local government portion allocated on a population-basis. This will provide greater funding to smaller and more rural councils though the impacts of this change will not be realised until 2025/2026.

15. The Government has announced that more than $120 million in funding will be available over the next two years to improve and accelerate Aotearoa New Zealand's ability to reduce landfill emissions from organic waste. This includes $75 million of Climate Emergency Response Funds (CERF) announced as part of the New Zealand Budget 2022.[13] The funding is available and can be used to support the proposals in this RIS. It is intended to support councils, mobilise private sector investment, and is targeted towards investment in:

    a. Kerbside collection assets, infrastructure and support for the roll-out of services for food scraps and garden waste

    b. Food scraps and garden waste processing facilities, as well as other organics

    c. Resource recovery infrastructure including construction and demolition facilities, and transfer station upgrades to enable resource recovery.

Upper limits of diversion and emissions reduction food scraps options

16. Under the most ambitious option, a ban on disposal of food scraps to landfill by 2030, the maximum theoretical diversion is estimated at 374,000 tonnes in 2030, or 95 per

[11] Waste legislation and strategy under development | Ministry for the Environment

[12] https://environment.govt.nz/assets/Publications/waste-disposal-levy-cabinet-paper-2020-C-06452_0.pdf

[13] Waste Minimisation Fund re-opens on 18 October | Ministry for the Environment

cent of projected annual food scraps (allowing for growth in food scraps over that period). This could reduce annual emissions by 144 kt CO2e in 2030.[14]

What is the policy problem or opportunity?

Issues and trends: kerbside collections are underperforming

17. New Zealand produces a large quantity of waste, the fourth largest per person in the OECD.[15] Waste to Class 1 landfills[16] has increased by nearly 50 per cent over the past decade, reaching 3.7 million tonnes in 2018/2019, with per capita waste increasing from 580 kilograms to 740 kilograms per annum.[17] Without action this trend is expected to continue.

18. Biological materials in landfill, such as food scraps, paper, and wood, rot in the absence of oxygen and emit methane. Waste disposal and treatment in Aotearoa New Zealand produced 3.3 million tonnes CO2e, around four per cent of gross emissions in 2019. Food scraps make up nine per cent of waste sent to Class 1 landfills, but account for 22 per cent of these landfills' emissions.

19. These emissions can be produced for up to 50 years even after a landfill is closed. While some of these emissions can be captured to generate power, some still escape into the atmosphere. To reduce future emissions, it is important to start removing organics, including food waste, from landfill as soon as possible.

20. New Zealand's kerbside services are a key part of our resource recovery system. Well performing kerbside recycling and food waste collections that are easy to use and widely accessible would help to reduce emissions and waste.

21. New Zealand's kerbside recycling and food waste collections are underperforming collecting low a quantity of low-quality materials, while the public has low confidence in, and unequal access to, collections.

Low quantities of materials are being recycled or composted

22. An estimated 1.3 million tonnes of material were collected from kerbside in 2019, with roughly one third in recycling and food waste collections and two thirds in rubbish collections.[18] In our kerbside rubbish alone it is estimated that more than 400,000 tonnes of recyclable or compostable materials are sent to landfill every year.

23. Around 13 per cent of materials placed in the rubbish bin could have been recycled, 108,000 tonnes annually. In addition, food scraps make up 30 to 40 percent of household rubbish collected from kerbside yet most councils do not provide a food scraps collection. Consequently around 300,000 tonnes of food waste are placed in rubbish bins and could have been diverted.

24. An estimated 25 per cent of the food scraps sent to landfill come from businesses. Around 75,000 tonnes currently, forecast to rise to 100,000 tonnes by 2030.[19]

25. Reporting on the performance of kerbside collections is not mandatory, and many councils do not report on the performance of their collections in a way that that allows comparisons of the effectiveness of the different systems or their engagement with their communities to promote recycling. Of 14 councils that report diversion rates in

[14] A ban scenario also assumes a number of other food scraps emission reduction measures are taken to support the ban such as kerbside collection systems and investment in new food scraps processing facilities.

[15] Waste - Municipal waste - OECD Data https://data.oecd.org/waste/municipal-waste.htm

[16] New Zealand landfills are categorised into five classes by the material they are designed to accept. Class 1 landfills have the highest design requirements and can accept the most hazardous types of waste. As the classes ascend, they accept less hazardous material. For example, Class 2 landfills accept construction and demolition waste, while Class 5 landfills can only accept virgin excavated material i.e. clean soil and rock.

[17] Online Waste Levy System https://environment.govt.nz/facts-and-science/waste/estimates-of-waste-generated/

[18] Yates S, 2019. Rethinking Rubbish and Recycling – bin audits. Prepared for the WasteMINZ TAO Forum by Sunshine Yates Consulting. Auckland: WasteMINZ

[19] B. Middleton. Waste Not Consulting, pers. comm., 2021

their Waste Management and Minimisation Plans (WMMPs) the performance ranges from 19 per cent to 53 per cent (ie the percentage of kerbside material recycled or composted).

26. Nationally it is estimated that of waste materials placed at kerbside on average only 35 per cent are placed into recycling collections and diverted from landfill.[31] High performing countries are aiming to divert and recycle at least 65 per cent of kerbside materials.[32] In New Zealand, the high contamination, by materials incorrectly put into recycling, also reduces the quality and value of the materials that are recycled.

High levels of recycling are contaminated – affecting the quality of material collected

27. It is estimated that 16 per cent of all materials placed in kerbside recycling bins are contamination[30], which equates to 35 kilos per household per year, or around 70,000 tonnes nationally. Together with recyclable materials placed in rubbish around 178,000 tonnes of recyclable materials are being placed in the wrong bin at kerbside.

28. Contamination reduces the viability of recycling services. Unwanted materials add to collection, sorting, and disposal costs. Contamination that cannot be sorted from the target materials reduces the quality, value and uses of recycled materials.[20] Contamination can also mean recyclable materials are sent to landfill instead of recycled. This can be when the contamination is too difficult or costly to sort out, or when even low levels of contamination present such risk that the materials are rejected.

29. Contamination varies greatly depending on the type of service offered[21] and demographics. This combined with irregular data collection makes trends in recycling collection contamination over time difficult to gauge.

30. Contamination is also a concern for food waste collections. Materials that do not breakdown biologically, such as plastics, remain in the finished product restricting its uses, lowering its value, and are potential hazards to ecological and human health. Concern is growing internationally about the impact of microplastics and persistent bio-accumulative chemicals such as per- and poly-fluoroalkyl substances commonly used in fibre packaging and plastic packaging.[22,23,24]

31. Through WasteMINZ (a waste sector industry body), councils have already agreed to a level of voluntary standardisation, by agreeing not to accept compostable packaging in food scraps or garden waste collections.[25] However, councils and composters report increasing contamination levels as more businesses move towards 'greener' compostable packaging despite suitable disposal options being limited.

32. It should be noted the Ministry for the Environment's wider work programme will also affect contamination rates for example the phase-out of some problematic plastic packaging that is a source of contamination[26], and investment in recycling infrastructure that is better able to sort contamination[27].

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[20] For example paper contaminated with broken glass cannot be recycled in New Zealand and is exported. The low value for contaminated paper and high international freight costs recently raised to possibility of this material being landfilled instead of recycled (refer National Resource Recovery Project situational analysis report | Ministry for the Environment)

[21] Yates S, 2019. Rethinking Rubbish and Recycling – bin audits. Prepared for the WasteMINZ TAO Forum by Sunshine Yates Consulting. Auckland: WasteMINZ

[22] PFAS in food packaging (Packaging Forum 2022)

[23] compostables-packaging-position-statement.pdf (environment.govt.nz)

[24] Organic Materials Guidelines – Organic Contaminants Review (2003) https://www.waternz.org.nz/Attachment?Action=Download&Attachment_id=1731

[25] Position statement from New Zealand composters on compostable packaging | WasteMINZ.

[26] Phasing out hard-to-recycle and single-use plastics | Ministry for the Environment

[27] Waste-reduction-work-programme-final.pdf (environment.govt.nz)

Lack of confidence in kerbside services

33. In 2020, a national survey of 1,000 people found the public could only correctly identify 20 out of 30 items as being recyclable or not and 51 per cent felt that knowing what they can and cannot recycle at home is confusing. Only 40 per cent of people were confident that all the recyclable items they put in kerbside recycling actually get recycled and 35 per cent believed that most recycling ends up in landfill.[29]

34. More than two thirds of people check the label on pack most or all of the time before putting items in the recycling bin, yet because of variability in collections this information will give the wrong advice in some areas. For the same reason the system is confusing for manufacturers as they cannot choose a material that can be recycled, or label products to be accurate, throughout New Zealand.

Inequitable access to services

35. New Zealanders feel strongly about waste and recycling.[28] Broad access to environmentally responsible systems for waste disposal is important so New Zealanders are not excluded from, or face higher costs to access, our circular economy.

36. Around 80 per cent of New Zealand households can dispose of recycling in council provided collections from the kerb outside their house.[29] Nearly 200,000 people do not have access to this service, despite living in urban areas that would be provided with this service in nearly all other councils areas (59 out of 67). Where kerbside services are not offered household surveys suggest that 30 percent of people put their recycling in the rubbish bin instead of using drop-off services[30].

37. Access to kerbside recycling has been incrementally increasing as more councils provide services, with only occasional instances of decreases in services provided.

38. Around 17 per cent of households have access to food waste collections. This is set to rise to almost half of New Zealand over the next two years as Auckland and five other smaller councils roll out planned collections.[31] Not counting Auckland, increasing access has been incremental and on current trends would take 30 years before all councils provided access to urban households.

39. To be on track to meet our emission budgets, the Climate Change Commission have estimated that in 2030 biogenic methane emissions from waste should be reduced by 633 kt CO2e. Further, they estimated that diverting food scraps are an important component of reducing emissions and have the potential to make up 23 per cent of that reduction.

Causes

40. The major causes of the low quantity, quality, confidence in, and inequitable access to, recycling and food waste services are a:

- lack of national consistency, or high variability in recycling services around the country (affecting all of the problems around quantity, quality, confidence and access)
- A lack of, and misleading, information (low quality and confidence)
- A misalignment of who benefits and faces costs (lack of access)

[28] Three of New Zealanders' top ten concerns in 2021 relate to waste and recycling, specifically: the build-up of plastics in the environment, too much waste/rubbish generated, and overpackaging, non-recyclable packaging, and landfill. (Kantar 2022) Better Futures Report 2022 (kantarnewzealand.com)

[29] 13 per cent of New Zealanders live rurally where access to kerbside services is unlikely to be viable.

[30] Horizon research (2022) prepared for The Packaging Forum - survey of 1150 respondents nationwide.

[31] 21 councils offer a kerbside food scraps, garden waste, or combined collection to at least parts of their district or are in the process of rolling out a collection. Seven councils are scoping collections or have active trials, and a further nine have actions in their WMMP to investigate a food scraps collection.

Lack of national consistency

41. Variability in what is accepted in recycling collections around the country (as well as changes over time) introduces confusion to households about what is recyclable. As a consequence, more recyclable materials end up in the rubbish bin instead of the recycling. Public submissions during consultation emphasised the connection between variability of services and confusion as well as a lack of confidence in the system.

42. Councils with high internal visitor numbers report an increase in contamination during peak visitor season. The contaminating materials match materials accepted in the dominant home councils of visitors.

43. Councils and the recycling sector agree that a lack of national consistency contributes to confusion and low quantity and quality of recycling.[32]

44. Variability between food waste collections is not yet as much of an issue as fewer households have access to food waste collections.

A lack of, and misleading, information

45. Households and businesses find it difficult to know what is accepted in collections as provisions of information is highly variable. This is particularly so when households and business live, work, or visit across more than one council area.

46. Recycling and composting claims made on packaging frequently provide information that is not accurate for a households kerbside recycling or food waste collection, yet people rely on them. Correspondence the Ministry for the Environment receives from manufacturers often indicates a desire to do the right thing but confusion about what is accepted in recycling and food waste collections across the country.

Misaligned benefits and costs

47. Many of the benefits of recycling and food waste collections are national or environmental benefits including reduced emissions, resource extraction, and movement toward a more circular economy. These are shared broadly across all New Zealanders, yet the costs of collections fall to individual councils and their ratepayers. This misalignment leads to suboptimal provision of these services and a lack of access for many New Zealanders leading to unequal treatment depending on where you live.

What objectives are sought in relation to the policy problem?

48. The Government's commitments to reducing emissions, reducing waste, and achieving a circular economy require a well-functioning resource recovery system. Household recycling and food scraps collections are key parts of this system. Normalising the diversion of food waste from landfill, including from businesses, will also be necessary to achieve the targeted emissions and waste reductions.

49. This RIS analyses options to improve household kerbside collections and business management of food waste. While these will advance the Government's wider emissions, waste and circular economy objectives, the options are assessed against more specific objectives which directly address the issues identified in the problem definition section above. The objectives are to:

- reduce contamination and increase the quality of materials collected in kerbside dry recycling and food scrap collections
- increase the quantity of targeted materials placed in kerbside dry recycling and food scraps collections rather than in the rubbish
- increase public confidence, participation and engagement in kerbside dry recycling and food scraps collections.

[32] Local-Government-Waste-Manifesto-2020.pdf (eunomia.co.nz)

How the proposals link to the policy objectives for improving kerbside collections

50. In Table 2 below the blue highlighted boxes show which objectives are expected to be affected by each proposal for improving kerbside recycling performance. Not every proposal achieves every objective. The proposals work together as a package, but they are also distinct and can be considered on their merits separately.

Table 2: Policy objectives achieved by the proposals

Proposal	Objectives		
	Increase public confidence in, and access to, kerbside dry recycling and food scraps collections	Increase the quality of materials collected for dry recycling and food scraps collections	Increase the quantity of dry recycling and food scraps placed in recycling
1. A set of standard materials collected	■	■	■
2. Household food scraps collections			■
3. Private sector reporting	*Reporting does not directly achieve the three objectives but is necessary to measure the other proposals impact on the objectives.*		
4. Setting performance targets	■	■	■
5. Increase access to kerbside dry recycling collections	■		■
6. Separation of business food scraps			■
Proposal not progressing: Reduce glass contamination of other recyclables		■	■

Section 2: Options Analysis

51. This section assesses the options for each proposal against the counterfactual – how we expect things would turn out if we carried on as we are now.

Criteria to assess options

52. Evaluation criteria are used to assess how well options within each proposal meet the relevant objectives. Some evaluation criteria are common across proposals, and some are proposal specific. How the common criteria are defined varies from one proposal to another and is outlined under each proposal.

Table 3: Assessment criteria for each proposal

Criteria	Proposal it applies to
Effectiveness	All
Timeliness	All
Cost	All
Equity and inclusiveness	All except proposal 3, reporting on private sector household collections
Economies of scale	Proposal 2, food scraps collections for urban households
Compliance and monitoring	Proposal 6, diverting business food scraps from landfill

53. Options are scored across the criteria for each proposal. The five-point scoring scale starts with '0' which is equivalent to the status quo. Options can then be scored 'worse' or 'better' than the status quo ('-' or '+' respectively), or 'much worse' or 'much better' than the status quo ('- -' or '++' respectively). A summary low, medium, or high shows how well the option achieves the objectives relevant to that proposal.

Public consultation

54. In 2022 the Government released the document '*Transforming Recycling'* for public consultation. The consultation was open from 13 March to 22 May 2022 and sought feedback on the six preferred proposals to improve kerbside recycling and one proposal to for businesses to separate food waste. The consultation also covered a proposal to introduce a Container Return Scheme, which is not the subject of this RIS.

55. Options explored in this RIS build on the previous public consultation and interim RIS, accounting for changes to proposals as a result of consultation feedback and decisions made by the Minister for the Environment.

Structure of analysis

56. The RIS assesses each proposal for improving kerbside recycling considered in the consultation document individually.

57. The order of analysis is as follows:

    Proposals taken forward to improve household and business recycling performance:

    1. Standard materials for kerbside dry recycling and foods scraps collections
    2. Food scraps collections for all urban households
    3. Reporting on private sector household collections
    4. Setting performance targets for councils
    5. Increase household access to kerbside dry recycling collections
    6. Increase business food scraps diversion from landfill

    Proposals not taken forward:

    7. Reducing glass contamination of other recyclables

Cost-benefit analysis

58. The Ministry commissioned Morrison Low to conduct a cost-benefit analysis (CBA) for the proposals to improve kerbside recycling and the management of business food waste. The model has been updated by the Ministry to reflect recent changes in council collections, to align emissions modelling with the approach taken in the ERP and to model household willingness to pay to reflect the extent of non-financial benefits. This work was overseen by the Ministry's chief economist and the climate impact policy assessment team.

59. The options within the proposals were modelled as separate initiatives in the CBA. The preferred options were then aggregated to produce an overall cost-benefit assessment for the full package of proposals. See Appendix 1. for more information on key assumptions and how the model was produced.

2.1 Proposal 1. Standard materials for kerbside collections

Box 1. Summary of proposal

Currently, kerbside recycling and food scraps collections accept different materials in different council areas. Variability in materials accepted across the country leads to confusion, contamination, and landfilled resources.

Over the past five years councils and the resource recovery sector have voluntarily made efforts to standardise aspects of rubbish, recycling, and food scraps collections. Many in the sector now think that stronger support from central government is needed or variability in materials accepted will continue to cause problems across the country.

Having standard materials will reduce confusion for household and manufacturers about what is recyclable. It will lead to less contamination, better quality recycled materials and materials such as compost, and reduce the amount of recyclable materials placed in the rubbish bin.

The preferred option is to regulate a set of standard materials in council dry recycling (by 2024) and food scraps collections (by 2026), in addition to a national education and behaviour change campaign.

This option is expected to result in a net benefit of between $19 million to $165 million present value over 20 years, with a benefit-cost ratio ranging from 1.4 to 4.7.

Impacts on households, councils, and the waste sector will vary by district depending on the level of change they are required to implement. Most kerbside services already accept the standard materials. Though half of councils will need to stop accepting one or more problematic materials, ceasing collection is low cost. On the whole households are expected to benefit from this proposal through a simpler system to engage with and reduced costs of more profitable services.

Relevant objectives

60. The primary objective of standardising materials is to increase the quality of materials collected but is likely to positively affect all three objectives:
    - reduce contamination and increase the quality of materials collected for dry recycling and food scrap recycling
    - increase public engagement and confidence in kerbside dry recycling and food scraps collections
    - increase the quantity of targeted materials placed in kerbside dry recycling and food scraps collections rather than in the rubbish.

Current state and materials for standardisation

61. Councils and the resource recovery sector have been working together through the industry body WasteMINZ to encourage wider adoption of a voluntarily standard set of materials for dry recycling collections. The voluntary standard set of materials includes four key materials: paper and cardboard, aluminium and steel cans, glass bottles and jars and three types of plastic (PET, HDPE and PP).[33]

62. The proposed mandatory standard set of materials includes these same materials. It excludes materials for which there are no or limited recycling markets when collected through household kerbside recycling collections (eg, plastics such as PVC), where the collection of the material causes issues at the recycling facility, such as soft plastics

[33] Recommendations for standardisation of kerbside collections in Aotearoa | Ministry for the Environment

which can entangle machinery, or where they may contaminate other recyclables, such as compostable plastics.

63. Most of the materials from the standard set are already collected in almost all dry recycling collections. For 17 councils there would be no change as they currently collect only the standard materials. A further 32 collect all the standard materials, but also accept other materials which they would need to stop collecting. Nine councils accept five of the six standard materials (six do not collect plastic #5, three do not collect glass). One council only collects glass and would have to start collecting the other materials. Appendix 2 provides more information about council services and what is accepted in each.

64. Most council collections are delivered under contract by private waste companies. The private sector may also provide individual collections on a commercial basis (households or businesses pay a fee to have rubbish or recycling collected). Private companies collect different materials in different areas depending on commercial decisions about demand and profitability. Generally, the private collections align with the materials accepted by the local council.

Other materials that councils may need to stop collecting

65. Eleven other materials are accepted by a handful of councils around the country, often only two or three councils for each material. Increasing consistency will also mean stopping collecting materials accepted by only a few councils.

66. See Appendix 3 for information on these materials and the specific issues involved in ensuring they are genuinely recycled.

Standard materials for food scraps collections

67. Through WasteMINZ, councils have already agreed to a level of voluntary standardisation, by agreeing not to accept compostable packaging in food scraps or garden waste collections.[34]

68. The standard materials proposed for kerbside food scraps collections are food scraps, and where garden waste is also collected, vegetation from gardening. This would exclude some items commonly considered compostable such as paper and cardboard, and compostable packaging made of plastic, fibre, or a combination of both. These items risk introducing contamination to our soils and the food we grow. Concern is growing internationally about the impact of microplastics and persistent bio-accumulative chemicals such as per- and poly-fluoroalkyl substances commonly used in fibre packaging and plastic packaging.

A system fit for purpose now and in the future

69. Packaging materials and circular economy technologies are rapidly evolving and changing. A consistent system across New Zealand provides more equitable access and efficient collections and processing. But it will also have to be adaptable to allow for innovation and change over time. A potential process to allow for changes to what is accepted over time is detailed in Appendix 4.

Consultation feedback

70. More than 95 per cent of submitters supported standardising materials accepted in kerbside recycling, including very strong support from recyclers, local government, and businesses. The most common reason submitters supported this proposal was to reduce confusion about what materials were collected within kerbside recycling.

71. Views were more mixed about only accepting food waste and garden waste with some submitters wanting fibre products such as paper towels and packaging accepted along with compostable plastic packaging and items such as tea bags.

[34] Position statement from New Zealand composters on compostable packaging | WasteMINZ

72. For implementing a standard set of materials some submitters, including several councils, highlighted challenges, such as the availability of processors and other infrastructure, acquiring assets such as bins and collateral, redesigning services, and ensuring the public is on board and understand the changes.

73. Submitters noted that because materials vary across councils, costs of standardisation and education will vary, and each council will face different challenges depending on the resources and context of their district. Some submitters emphasised the need for greater financial support from central government and greater product stewardship from packaging producers to overcome the challenges associated with implementing this proposal.[35]

74. A small number of submitters did not agree with this proposal in full or wanted to see some changes, including:

    a. Additional materials added to the standard list

    b. Proposing that the standard set of materials should be a minimum and individual councils to have the ability to collect 'additional materials'.

Options considered

75. Four options are analysed for increasing the consistency of materials accepted in kerbside collections. They are set out from least intervention to most.

Table 4. Proposal 1 options for standard materials

Option	Option description and likely effect
1. Counterfactual.	Councils continue to have freedom to choose what materials they collect in dry recycling and food scraps collections. Voluntary efforts to standardise materials are likely to continue through industry bodies such as WasteMINZ.
2. A national education and behaviour change campaign.	Central government or another entity runs a national recycling and food scraps education and behaviour change campaign. Councils continue to have freedom to choose to collect what materials they collect in dry recycling and food scraps collections. Voluntary efforts to standardise materials are likely to continue through industry bodies such as WasteMINZ.
Option 2 represents the minimum additional intervention from central government. Each further option would be in addition to a national education and behaviour change campaign.	
3. Collect a set of standard materials in council dry recycling and food scrap collections (in addition to option 2). ***Preferred option***	Central government regulates a standard set of dry recyclables and food scraps that must be collected in council kerbside collections (where councils provide or contract those collections). Materials not in the standard set cannot be collected through council kerbside collections but could be collected through other means such as transfer stations or community recycling centres.
4. Collect a set of standard materials in all private and council kerbside collections (in addition to option 2).	Central government regulates a standard set of dry recyclables and food scraps that must be collected by any kerbside waste collector, council owned or contracted (WMA) and private (new waste legislation). Materials not in the standard set cannot be collected through kerbside collections.

Options discarded

A voluntary code of practice

76. This would clearly define a national set of standard materials, in addition to a national campaign.

[35] Auckland Council submission (20402)

77. This option was assessed in the interim RIS but was not considered to gain many benefits beyond the voluntary efforts to date. It has not been further assessed in this RIS and this decision is supported by the results of public consultation, where 90% of submitters agreed voluntary measures would not be enough to effectively address the policy objectives of this proposal.

78. Another option considered but discarded is providing direct financial incentives to councils for adopting the standard materials. This was discarded as it appears to have reached it limits. Funding has been available to support many of these changes and those councils that were engaged and willing to change have already used this support to make changes. More information on this option can be found in the interim RIS.

Assessment of options

Table 5: Increasing the consistency of materials accepted in kerbside dry recycling and food scraps collections	**Option 1** **Counterfactual – Industry continues to encourage voluntary adoption**	**Option 2** **A national education and behaviour change campaign**	**Option 3** **Collect a set of standard materials in council kerbside collections**	**Option 4** **Collect a set of standard materials in all kerbside collections (council and private services)**
	Counterfactual	*Assessed in comparison to the counterfactual*		
Effectiveness *The degree of standardisation achieved* Impact on quantity, quality, and confidence	0 Continued divergence expected over time. Some materials accepted as recyclable continue to be landfilled undermining confidence in recycling.	+ Some additional standardisation may occur	++ Some private collections may still be inconsistent. Improved confidence in, quality, and quantity of, recycling in most places but not all.	++ Improved confidence in, quality, and quantity of, recycling.
Timeliness *How soon would the action, agreement or regulation be able to be put in place?* *How soon would councils, and collection contracts adjust?*	n/a No action planned	++ 2023 National campaign could happen immediately.	++ 2023-2024 Implementation will need to wait until regulations in place	+ 2026 -2027 Regulation for private waste companies takes longer as requires new legislation

Financial cost *The costs considered are to New Zealand as a whole, not individual parties such as councils or waste companies.* *Short term spans one to five years and indicates the costs of change.* *Long term is five to ten years out and indicates lower financial costs and increased revenues.*	*Short term:* 0 Costs continue due to contamination and recyclable materials placed in rubbish. *Long term:* 0 Costs may increase if variation in collections, packaging materials, recycle labelling and contamination increase.	*Short term: -* Cost of national campaign. *Long term: +* Lower contamination costs and some additional capture of recyclables. Also beneficial to food scraps collections as they become widespread. *20-year present value ($m)* Costs $45 Benefits $45 to $146 Net -$0.2 to $101 Benefit/cost 1.0 to 3.3	*Short term: - -* Cost of regulation and council renegotiation of collection contracts. Cost of national campaign. *Long term: ++* Lower contamination costs and additional revenue from improved quality and quality of recycling. *20-year present value ($m)* Costs $45 Benefits $64 to $211 Net $19 to $165 Benefit/cost 1.4 to 4.7	*Short term: - -* Cost of licencing system for central government and private sector. Cost of national campaign. *Long term: ++* Lower contamination costs and additional revenue from improved quality and quality of recycling. *20-year present value ($m)* Costs $45 Benefits $64 to $211 Net $19 to $165 Benefit/cost 1.4 to 4.7
Equitable and inclusive outcomes *How well does the option provide equal opportunity to recycle the standard materials at kerbside?* *confidence the materials placed in kerbside collections will have positive outcomes?*	0 Inconsistent access and confidence in recycling.	+ Improved access to recycling for households, but some households will be able to recycle more than others.	++ Every urban household can recycle the same set of materials.	++ Every urban household can recycle the same set of materials
Overall Assessment	(0) Unsatisfactory – will not achieve desired outcomes for New Zealand	(4) Medium Partially achieves desired outcomes for New Zealand but not consistently	(6) High Preferred option. Achieves desired outcomes in a timely manner	(5) High Achieves desired outcomes but takes longer to implement

Key for qualitative judgements:		
0 about the same as the counterfactual	- worse than the counterfactual - - much worse than counterfactual	++ much better than the counterfactual + better than the counterfactual

Preferred option

79. The preferred option for this proposal is Option 3 *Collect a set of standard material in council dry recycling and food scraps collections*, in addition to a national education and behaviour change campaign. A standard set of materials directly addresses the problem of inconsistency in recycling across the country. This option would improve both the quality of recycling (through less contamination) and quantity of recycling (through providing certainty for households and manufacturers about what can be recycled). It is also able to be delivered within a reasonable timeframe, and at a mid-level of cost, compared to all other options.

80. Setting a standard set of materials would allow for consistent national messaging to counter misleading information and reduce confusion that can arise from the conflicting recycling and foods scraps messages from different councils. Ultimately this should lead to increased household engagement and confidence and reduced contamination of recycling streams and improve quality of collected materials. Manufacturers will also benefit with greater certainty about what recyclable materials they can choose, and the resource recovery sector is expected to benefit from more consistent quality and value of materials collected.

81. Greater clarity, participation, and engagement are likely to lead to a decrease in recyclable materials placed in the rubbish and an increase in the quantities placed in the appropriate collection.

82. For most councils, the impact of the preferred option would be ceasing to collect materials not widely collected and/or of questionable recycling merit. A smaller number of councils would need to start collecting a material or materials. Most councils would have to stop collecting two or three materials and a small number of councils would need to start collecting one or more materials and may require new collection infrastructure.

83. A small amount of variation in materials collected may remain where councils do not offer kerbside collections or if private companies choose to offer a kerbside service which does not conform to the standard materials.

84. While Option 4 *Collect a set of standard materials in all kerbside collections (council and private services)* also achieves the policy objectives, it will take longer to implement, hence the benefits of this option will take longer to be realised.

Marginal costs and benefits

85. Collecting a set of standard materials in council dry recycling and food scraps collections is expected to result in $45 million in costs, $64 to $211 million in benefits over 20 years, resulting in a net impact of $19 to $165 million and a benefit cost ratio of 1.4 to 4.7. A more detailed breakdown of monetised costs and benefits, including key assumptions, risks and uncertainties can be found in Appendix 5.

Limitations

86. The analysis could not monetise all benefits. However, studies consistently show that people place a value on increases in recycling and food scraps. The higher end of the benefit cost range includes an estimate of the average benefit associated with the value people place on recycling and food scraps collection from two relevant studies. It indicates the scale of missing environmental benefits is significant and highlights that the benefits associated with the proposals may be higher than accounted for in the model output.

87. Table 6 presents the impacts of the proposal which have not been monetised and included in the cost-benefit analysis summary. These impacts consider consultation feedback, the level of regulatory change required relative to other policy approaches, and changes for the New Zealand economy and society.

Table 6: Non-monetised impacts for proposal 1 option 3 (preferred)		
Affected group	Benefits	Magnitude
Households	Will be able to recycle the same materials regardless of where they live and if they need to travel around New Zealand, reducing confusion.	Medium
Councils/waste sector	Councils and waste companies can leverage off existing investments in collections and receptacles. May benefit from economies of scale as all councils will be required to collect the same material mix, hence will require access to facilities with appropriate processing capability.	Medium
End users	Increased certainty for manufacturers around the recyclability of materials in kerbside collections. Increased high quality recycled material available for manufacturers to increase the recycled content in their products and packaging. Marketing opportunities through the promotion of recycled packaging or organic soil improvers (compost). Greater availability of high-quality compost/digestate to improve soil structure and fertility and/or as feedstocks for bioeconomy and bioenergy.	Medium
Environment	Higher quality material collected supporting more circular uses, avoiding the need for new raw material. Greater clarity about materials accepted in kerbside encourages more manufacturers to switch to these more sustainable materials.	High
Total non-monetised benefits		Medium-High
Affected group	Costs	Magnitude
Councils/waste sector	Possible additional costs for collecting plastic #5 in the short term. In the long-term product stewardship for plastic packaging may offset. Possible reduction in revenue for councils collecting aerosols and foil (who will need to stop collecting these through kerbside).	Low
End users (packaging manufacturers and specifiers, primary industries, and energy sector)	Potential loss of customers if packaging is not part of standard materials and customers move to options with more recyclable packaging. Future changes in the standardised list of materials could incur costs especially if materials are removed.	Medium
Total non-monetised costs		Low-medium

2.2 Proposal 2. Food scrap collections for urban households

Box 2. Summary of proposal

Food scraps make up 30 to 40 per cent of household rubbish collected from kerbside yet most councils do not provide a food scraps collection. Households send an estimated 250,000 to 300,000 tonnes of food scraps to landfill in 2019. Without action this total is expected to continue to increase.

Organic matter in landfills breaks down in the absence of air and produces methane, a potent greenhouse gas. Food waste accounts for 22 per cent of emissions generated by class 1 landfills, despite only making up nine per cent of waste received.

Sending food scraps and garden waste to landfill also represents a loss of valuable resources from the circular economy. These waste streams can be composted into products to improve soil quality, water retention, and displace synthetic petrochemical fertilisers. Food scraps can also be anaerobically digested to generate power and produce fertiliser.

Expanding food scraps collections will increase the quantity of food scraps diverted from landfill through kerbside services, achieving reduced emissions, reduced waste to landfill, and increased circularity of our food system.

The preferred option is to require food scraps collections or food and garden waste collections for urban areas of more than 1,000 people by 2030. This option achieves the policy objectives in a timely manner, at least cost, and would ensure around 4.3 million New Zealanders have access to food scraps collections. Councils near existing processing infrastructure would need to provide food scraps collections by the end of 2026, while the remaining councils would have until 2030.

Household food scraps collections are expected to reduce emissions from landfill by 20kt CO_2e in 2030, rising to 45kt CO_2e in 2035.

This option is expected to result in net monetised benefits between $6 million and $194 million in present value. Despite significant benefits which could not be monetised, such as expected but unquantified reductions in food wastage, the proposal has a benefit cost ratio between 1.0 to 1.6.

Impacts on councils and households will vary depending on factors such as existing services and access to funding. Recognising that many of the benefits, such as emission reductions, accrue to New Zealand as a whole, and avoid disproportionate cost to individual parties, the Government has made an initial $120 million available to invest in this transformation of our resource recovery system. An increasing waste disposal levy is also expected to provide significant funding to councils to support the costs of new kerbside services.

Current state and driver for action

88. Of the 67 districts, just over half have a food waste, garden waste or combined collection, are actively scoping a collection, or have actions in their WMMP to investigate a food waste collection.

89. Growing awareness of the impacts of climate change and the emissions from landfilling food waste has seen a rapid increase in the number of councils implementing food waste collections. However, the main barriers to further collections remain the cost of new services and growing the coverage and capacity of food waste processing plants. About a third of New Zealand districts do not have nearby processing plants with sufficient scale to take the volume of food waste widespread urban collections would collect.

90. For central government the main driver for diverting food scraps from landfill is to reduce greenhouse gas emissions and contribute to the ERP and proposed Waste Strategy emissions reduction targets.[36]

91. Secondary drivers are contributing to the proposed Waste Strategy targets for reduced waste disposal and establishing the foundations of a circular food system. A circular economy requires returning nutrients and organic matter to the soil. The proposal seeks to increase food scraps collections to a scale sufficient to kickstart the infrastructure necessary to recycle foods scraps.

Overseas examples

92. Scotland, Wales, and Canada have already implemented mandatory requirements to divert food waste from landfill with marked effect. For example, 100 per cent of councils in Scotland now have a food scraps collection with an increase in diversion of 40 per cent diversion since 2013. Countries with voluntary measures have had comparatively less success. For example, New South Wales in Australia has invested $105 million over 9 years on diverting organics from landfill in 2012 and in 2021 still only had 33 per cent of councils who offered an organic waste collection.[37]

Relevant objectives

93. This section considers options to increase household food scrap diversion from landfill. This proposal primarily addresses the objective of:

- increasing the quantity of food scraps placed in kerbside collections rather than the rubbish.

Consultation feedback

94. The consultation document discussed *Mandatory kerbside food scraps collection* as the preferred option for this proposal.

95. There is broad and strong support for this proposal with most submitters agreeing that food and garden waste should be diverted from landfills to reduce methane emissions.

96. However, some submitters also acknowledged areas of concern with diverting food and garden waste from landfills, such as

> *Access to suitable facilities for processing this material is a limiting factor in many parts of New Zealand. In addition to being diverted from landfill, the organics strategy, planning and management.*

97. Most submitters, including most councils, agreed that councils should play some role in increasing the diversion of household garden waste from landfills. Consequently, the preferred option has changed to allow councils flexibility to offer either a food scraps or a food and garden waste collection.

Timing of implementation

98. Most agreed with a phased approach to the roll-out of kerbside food scraps collection, as a phased approach will allow time for markets and the appropriate infrastructure to develop.

99. Some councils did agree that councils with access to suitable existing infrastructure should have until 2025 to deliver food scraps collections. Other councils believed that 2025 was not enough time to successfully implement this proposal and suggested a

[36] To reduce biogenic methane emissions from waste to at least 40 per cent below 2017 levels by 2035 and to reduce biogenic methane from waste by 30 percent by 2030 respectively.

[37] https://www.environment.gov.au/system/files/pages/5a160ae2-d3a9-480e-9344-4eac42ef9001/files/national-waste-report-2020.pdf

2027 timeframe instead. Consequently, this timeframe has been extended to 2026. This also aligns better with the timing of many councils' long-term planning processes.

Options considered

100. Five options are analysed for increasing the diversion of household food scraps from landfill in New Zealand. They are set out from least intervention to most.

Table 7: Proposal 2 options

Option	Option description and likely effect
1. Counterfactual	Kerbside food scraps collections continue to be rolled out, but slowly and in a patchy manner. It is likely that councils will continue to roll out collections over time, but not every council will choose to do so. Auckland Council is implementing a city-wide food scraps collection by 2023. So even under the status quo option an additional 33 per cent of New Zealanders will be able to divert their food scraps from landfill.
2. Technical support and increased investment to encourage faster uptake by councils of collections and infrastructure development.	The Government has made $120 million available to invest in organics infrastructure via the WMF and CERF. The funding will leverage council and private investment in a range of activities which includes infrastructure such as bins, vehicles, or processing plants such as composting or anaerobic digestion facilities or facilities which make stock food from food scraps. Increased investment is likely to speed up the adoption of food scraps collections. For smaller councils, the initial capital cost of collection bins and transition costs needed to roll out food scraps collections can be significant. Other councils may lack a local facility to process food scraps. Assuming investment allows all councils that have indicated an interest in food scraps collections to implement them, then by 2030 more than half of councils and most of New Zealand's population may have food scraps collections in place. However, it is unclear if regional processing facilities would be built near every council interested or to an ideal scale.
Option 2 represents the minimum additional intervention from central government. Each further option would be in addition to technical support and increased investment.	
3. A mandatory food scraps diversion target (in addition to option 2).	A mandatory target requiring councils to divert a specified percentage of food scraps from landfill by 2030. A diversion target allows councils flexibility in terms of achieving the outcome, although kerbside collections would be the most likely way to achieve any substantive target. Uncertainty remains about whether all councils in a region would implement a collection, potentially undermining regional coordination efficiencies and economies of scale. Many councils may choose to provide a kerbside food scraps collection as the most straightforward way to reach a diversion target. It may promote some increase in cooperation and efficiencies. Measuring progress towards the target would likely require frequent solid waste audits which are costly.
4. Mandatory kerbside food scraps collections (in addition to option 2). ***Preferred option***	Require councils to implement kerbside food scraps or food and garden waste collections by 2030, for areas of more than 1,000 residents. Those councils with nearby food waste processing facility (within 150 kilometres of the main urban area) by the end of 2026. This option would enable collection of more food scraps. Compliance, monitoring and enforcement costs would be lower than for Option 3 as solid waste audits would not be required to determine whether a target had been met. Instead, the council would be able to report on tonnes diverted with the information supplied by the processing facility.

5. Ban disposal of food scraps to landfill, (in addition to option 2).	Ban the disposal of food scraps to landfill by 2030 (in line with options in the ERP). Phased implementation could include an earlier deadline of the end of 2026 for districts and cities which already have appropriate food scrap processing capacity. Systems would need to be established to ensure food waste was not disposed of to landfill. Adequate collection and processing infrastructure would need to be developed (including in both urban and rural areas) to ensure food scraps could be disposed of in other ways eg, kerbside collections. A ban would be likely to require a greater level, and wider range, of infrastructure and collection fleet than Option 4 to ensure that settlements with less than 1,000 people would also be able to divert their food scraps. This option has the highest compliance cost due to the level of auditing required. However, it is the option which would have the maximum impact on waste to landfill and emissions reductions.

Options considered and discarded

A voluntary food scraps diversion target

101. This option, in addition to technical support and increased investment, would encourage faster uptake by setting a national level of ambition and seeking joint commitments from councils and industry.

102. This option was assessed in the interim RIS but following public consultation it has become clear that only regulatory mechanisms will be able to achieve the level of food scraps diversion needed to effectively address the policy objectives of this proposal and make meaningful progress towards emissions reduction targets.

103. The interim RIS contains more information on the following options which were also considered and discarded:

- Encouraging food waste reduction
- Home composting only
- Drop-off services only
- Charge a higher waste levy for household food scraps disposal to landfill

Assessment of options

The impact of the options is compared to the counterfactual and the maximum theoretical emissions reduction from food scraps diversion in 2030. Diversion is also noted for 2035, the next ERP emissions budget period, as the options do not reach their full potential until after 2030.

Table 8: Incentivising the roll out of food scraps collections	**Option 1** ***Counterfactual***	**Option 2** **Technical support and increased investment**	**Option 3** **Mandatory food scraps diversion target**	**Option 4** **Mandatory food scraps collections**	**Option 5** **Ban on all food waste to landfill**
	Counterfactual	*Assessed in comparison to the counterfactual*			
Effectiveness *Tonnes of food scraps are diverted from landfill and emissions reduced.* *Readiness of councils for implementation.* *Effectiveness of interventions overseas.*	0 Most organic material lost to landfill with the least reduction biogenic methane emissions Planned rollouts lead to: • 42,000 to 57,000 tonnes of food scraps diverted annually in 2030 • 22 to 30 ktCO2e fewer annual emissions in 2030	+ Support and investment motivate some councils to fund new services, with some emission reduction. Extra to the counterfactual: • 35,000 extra tonnes of food scraps diverted annually in 2030 (69,000 in 2035) • 10 ktCO2e total reduction in 2030, (9 per cent of the maximum). Rising to 37 ktCO2e in 2035	+ Fast uptake of food scraps collections but some exceptions. In addition to the counterfactual: • 46,000 extra tonnes of food scraps diverted annually in 2030 (83,000 in 2035) • 14 ktCO2e total reduction in 2030, (12 per cent of the maximum). Rising to 45 ktCO2e in 2035. Difficult to measure and enforce.	++ Fast and comprehensive uptake of food scraps collection. In addition to the counterfactual • 69,000 extra tonnes of food scraps diverted annually in 2030 (83,000 in 2035) • 20 ktCO2e total reduction in 2030 (18 and per cent of the maximum). Rising to 45 ktCO2e in 2035 Easier to monitor and enforce.	++ Comprehensive uptake of food scraps collections. Significantly more emission reductions than the counterfactual: • 317,000 tonnes of food scraps diverted annually by 2030 • 114 ktCO2e reduction in emission in 2030 (the theoretical maximum). Difficult to measure and enforce.
Efficiency / Economies of scale *Promotes regional coordination and, efficiencies.*	0 Higher costs for individual councils implementing collections due to lack of regional infrastructure efficiencies.	+ Minimal savings Potential for greater uptake which allows some regional efficiencies and shared service implementation.	++ Moderate savings Most Councils would be likely to implement a food scraps collection. But some may not, reducing regional efficiencies	++ Significant savings Mandatory uptake provides significant regional and service coordination and efficiencies.	++ Significant savings Mandatory uptake allows significant regional and service coordination and efficiencies.

Timeliness *Alignment with targets in the ERP and proposed Waste Strategy?*	0 No action planned, but ad hoc changes likely to occur slowly	0 Technical guidance and investment possible in 2023. Indeterminate timeframe but faster than Option 1.	++ Regulations could be in place by 2023 Progress faster than Option 2	++ Regulations could be in place by 2023 Progress faster than Option 3	+ Direction indicated immediately but not likely to be fully in force until 2030
Cost *How costly to implement this option relative to the counterfactual?*	0 Medium cost Costs are spread out over time. Least cost as fewest collections	- Medium cost Reduced costs for councils who access funding. *20-year present value ($m)* Costs $231 Benefits $232 to $373 Net $1 to $142 Benefit/cost 1.0 to 1.6	- - High cost Many councils will face costs to implement but offset by access to funding *20-year present value ($m)* Costs $265 Benefits $239 to $432 Net $4 to $167 Benefit/cost 1.0 to 1.6	- - High cost Most councils will face costs to implement but offset by access to funding *20-year present value ($m)* Costs $303 Benefits $309 to $497 Net $6 to $194 Benefit/cost 1.0 to 1.6	- - Very high cost Cost of increased investment. All councils will face costs to implement. Businesses are also affected. A ban was not modelled in the CBA
Equitable and inclusive outcomes *Fairly treats all stakeholders (rural, urban, future generations, the elderly and those with disabilities)*	0 Households have unequal access to food scraps collections.	+ Minor change Greater access for more communities, but still unequal.	++ Significant change Widespread access for communities, but some exceptions.	++ Significant change High access across communities, with flexibility or tailored approach for dispersed communities.	++ Significant change Greatest access across all communities.
Overall assessment	(0) Unsatisfactory – will not achieve desired outcomes.	(2) Low Partially achieves desired outcomes.	(5) High Mostly achieves desired outcomes.	(6) High Preferred option. Mostly achieves outcomes in a timely manner at least cost.	(5) High Achieves outcomes but takes time and most costly.

Key for qualitative judgements:			
0	about the same as the counterfactual	-	worse than the counterfactual
		- -	much worse than counterfactual
		++	much better than the counterfactual
		+	better than the counterfactual

Preferred option

104. The preferred option for this proposal is Option 4 *Mandatory food scraps collection* for towns with population of 1,000 or more, in addition to technical support and increased investment.

105. This option would directly address the problem of high quantities of food scraps and garden waste going to landfill, by providing widespread access for households to composting services. It would also achieve the policy objectives, particularly the objective to increase the quantity of waste diverted from landfill. The option can be provided in a timely manner at least cost compared to other options.

106. This option would provide around 4.3 million people, 85 per cent of NZ's population, live in urban areas of 1,000 people or more with access to food scraps collection, resulting in an estimated 45kt CO2e reduction in emissions in 2035.

107. While Option 5 *Ban on all food waste to landfill* better achieves the policy objectives than the preferred option, it is the most costly option and would take the most time to implement.

108. This option would require increased access to composting facilities around the country. Some councils currently have composting facilities and anaerobic digestion facilities in their region with capacity to take more food scraps. In other parts of the country new or larger facilities will need to be introduced (we estimate 13 regions will require new infrastructure or significant upgrades).[38]

109. If there is less regional collaboration, a greater number of facilities may be needed. By mandating collections within a specified timeframe, councils would have a greater incentive to work together, and regional infrastructure could be appropriately sized. Regional collaboration is therefore key to building these facilities in a cost-effective manner and will provide the private sector the confidence to invest.

Marginal costs and benefits

110. Mandatory food scraps collections are expected to result in $303 million in costs and $309 to $497 million in benefits over 20 years, resulting in a net impact of $6 to $194 million and a benefit cost ratio of 1.0 to 1.6. A more detailed breakdown of monetised costs and benefits, including key assumptions, risks and uncertainties can be found in Appendix 5.

Limitations

111. Table 9 presents the impacts of the proposal which have not been monetised and included in the cost-benefit analysis summary.

Table 9 Non-monetised impacts for proposal 2 option 4 (preferred)

Affected group	Benefits	Magnitude
Households	Reduction in personal climate change footprint. Some households may save time as they may choose to no longer home compost.	Low
Councils/waste sector	Can demonstrate they are achieving emissions reduction targets. Contamination from food in dry recycling bins will decrease.	Medium
End users	Large on-going increase in availability of soil amendment products will increase access across regions and lower prices.	High
Environment	Extended landfill life for existing landfills has long-term benefits with fewer landfill sites, a smaller footprint and environmental impacts.	High

[38] We estimate nine large and four small scale facilities will be required to process food scraps.

	Compost and digestate will displace some synthetic fertiliser use and improve soil structure which can reduce flooding, erosion, nutrient leaching, and crop losses from drought. If electric vehicles are used or processing facilities are closer than landfill, transport emissions may be a reduced.	
Total non-monetised benefits		Medium-High
Affected group	Costs	Magnitude
Households	Additional time to separate food scraps	Low
Councils/waste sector	Many new processors may result in more soil amendment products which could impact prices.	Low
Environment	If diesel vehicles are used to collect food scraps and processing facilities are further away than landfill there may be an increase in transportation emissions.	High
Total non-monetised costs		Medium

2.3 Proposal 3. Reporting on private sector household collections

Box 3. Summary of Proposal

Proposal 3 considers options to improve data reported about household waste and materials collected from kerbside by private services (not council contracted).

To know what proportion of household waste is diverted from landfill, it is necessary to know the total amount of waste collected by each of the kerbside services; recycling, food scraps, garden waste, and rubbish collections, whether it is collected by a private company or a council.

Most councils do not know how well their collections are performing because they only have one side of the data. Council reporting on kerbside collection data has already been agreed and is due to come into effect in 2023 or 2024.[39] This proposal would provide matching requirements for private companies that also provide these services.

Reporting kerbside collection data is necessary to understand current performance and the effectiveness of any changes, such as the proposals in this RIS. Consultation feedback found very strong support for this proposal.

The preferred option is to require private waste companies to report kerbside collection data to the Ministry for the Environment to aggregate with council data. This option is expected to cost $7m over 20 years in present value terms. The main costs are administrative reporting for private sector and data collection and analysis for central government. No benefits have been monetised for this option, but it is necessary to measure the impact and our progress towards a circular economy.

Relevant objectives

112. Reporting itself does not contribute directly to the three objectives for improved kerbside collections, but without it any resulting impacts on the objectives cannot be measured.

113. The options are assessed in terms of their cost to implement, timeliness, and effectiveness.

Current state and drivers for action

114. New Zealand is unusual in that councils do not control all household collections and therefore do not have complete data. The private sector often provides collections for rubbish services (48 districts), and/or garden waste, and in some instances dry recyclables (13 districts).

115. Some private providers of household kerbside collections are reluctant to share their data with councils, especially where they may be delivering a competing service. This means councils do not know how well households are recycling and whether efforts to encourage people to reduce their waste are effective. It also makes the planning of future services and activities difficult for both local and central government.

116. Reporting on the waste collected from kerbside is necessary to:

- know the amount of materials that households discard
- understand how those materials are divided between dry recycling, food scraps, garden waste, and rubbish collections and our progress towards a circular economy

[39] Cabinet paper: Additional proposals to improve the availability of waste data (2021) https://environment.govt.nz/assets/publications/improving-the-availability-of-waste-data-cabinet-paper.pdf

- allow comparisons of performance and which areas, systems, and interventions produce better results. This data will inform future decisions to reduce our emissions and make our economy more circular.

Consultation feedback

117. The consultation document discussed '*Require private waste companies to report kerbside collection data to the Ministry for the Environment'* as the preferred option for this proposal.

118. Public support for the preferred option was very strong. Almost all submitters, including recyclers, agreed that it is important to understand how well kerbside collections are performing.

119. Many submitters agreed reporting would be an effective tool to determine if objectives were being met and resources were being used efficiently. These submitters said that the data on kerbside collections would help to achieve outcomes in reducing emissions and waste, inform change, improve transparency, support decision-making and community recycling practices.

120. A few submitters did not agree with the preferred option or were concerned about a potential risk of reporting duplication where private companies have contracts with councils to deliver household kerbside collections.

121. Almost all submitters agreed that reporting information should be published online for transparency, though some were concerned around commercial sensitivity and sought further clarification on what would be reported on and measured.

122. The proposal and preferred option remain unchanged following consultation.

Options considered

123. Two options are analysed for improving data about household waste collected through private kerbside services (those not delivered or contracted by councils).

    1. *Carrying on as we are now:* waste companies are not required to report on kerbside collections. Councils and central government continue to have incomplete data. Performance measurement and effective decision making are hindered.
    2. *Require private waste companies to report kerbside collection data to the Ministry for the Environment (preferred option):* Regulate that private waste companies must report household kerbside collection data to the Ministry for the Environment.

Options discarded

124. An option assessed and discarded in the interim RIS was requiring councils to collect and report on data from private waste companies (through use of council by laws). However, this option would take some time for councils to implement bylaws and waste companies would have to comply with multiple bylaws across the country.

125. The waste sector also confirmed during consultation that reporting directly to central government is preferred over reporting to each council.

126. The interim RIS also considered and discarded a voluntary reporting option as it was considered unlikely to achieve comprehensive reporting across the country.

Preferred option

127. Option 2 *Require private waste companies to report kerbside collection data to the Ministry for the Environment* is most likely to cost-effectively address the problems around lack of information (thereby allowing councils to track and improve their performance). The status quo is cheap but ineffective. A requirement to report to the

Ministry for the Environment is administratively simple, it avoids the time and expense of multiple council systems, minimises the private sector's reporting burden and data sensitivity impacts.

128. The information that private companies are required to report is largely information they already collect. The costs to implement these proposals are relatively low compared to other proposals as they are mostly administrative.

129. While no benefits have been monetised for this proposal, it is necessary to understand the effectiveness of the other proposals for improving kerbside recycling performance. It allows both the Ministry and councils to assess the current state of performance on an ongoing basis and plan the management of recycling services to improve the amount of diversion at a national, regional and local level. Reliable and consistent performance information against targets will help councils to prioritise investment in changes to local services and should speed up the adoption of best practice systems.

Marginal costs and benefits

130. Requiring private waste companies to report kerbside collection data is expected to result in $7 million in costs over 20 years. A more detailed breakdown of monetised costs and benefits, including key assumptions, risks and uncertainties can be found in Appendix 5.

Non-monetised impacts

131. Table 10 presents the impacts of this option which have not been monetised and included in the cost-benefit analysis summary.

Table 10: Non-monetised impacts for proposal 3 option 2 (preferred)

Affected group	Benefits	Magnitude
Households	Able to see performance of local collections and how these compare nationally.	Low
Waste sector	Able to benchmark their own performance against others and improve services.	Low
Central government	Allows measurement of best practice, circularity, and effectiveness of interventions.	High
End users	Able to see local recovery rates for different packaging materials and make locally effective choices.	Low
Environment	Over time we can monitor the impact of improved kerbside services that will reduce emissions and resource related environmental impacts.	High
Total non-monetised benefits		Medium
Affected group	Costs	Magnitude
Waste sector	Access to collection data is currently uneven. Large dominant companies may lose some advantage gained from restricting access to their data, but smaller companies or new entrants may gain from access to more comprehensive public data.	Low
Total non-monetised costs		Low

2.4 Proposal 4. Encourage best practice in kerbside collections

Box 4. Summary of proposal

Proposal 4 considers options to encourage councils to adopt best practices to ensure their kerbside collections are effective at diverting materials from landfill for recycling, composting and digestion.

The way a service is delivered can affect the quantity of material collected, for example a small rubbish bin may encourage greater recycling. The collection method can also affect the quality of materials and the amount of collected material which is then recycled or composted, for example a comingled bin typically has higher contamination rates.

However, data is insufficient in New Zealand to suggest any one method of collection would deliver the best outcomes in all locations. Setting a level of diversion expected from kerbside collections allows councils the flexibility to choose the most appropriate methods to achieve this rate of diversion.

Encouraging best practice kerbside collections is likely to impact all three objectives as it provides a framework that encourages the adoption of the other proposals. Consultation feedback found broad support for this proposal and the preferred option.

The preferred option for this proposal is to set a progressively increasing mandatory minimum diversion rate, a high-performance target, and provide technical support and investment.

A rising minimum diversion rate would bet set at:

- 30% diversion by 2026
- 40% diversion by 2028
- 50% diversion by 2030.

A voluntary high-performance target of 70% by 2030 would align with targets in the proposed Waste Strategy.

Diversion would be measured as tonnes of recycling and food scraps collected divided by the total amount of waste set out a kerbside (garden waste would be accounted for separately due to high variability as discussed later).

This option has an expected net benefit of $14 million over the next 20 years (present value), with a benefit-cost ratio of 1.7. The costs associated with this proposal are largely administrative and the benefits reflect an increase in quantity and quality from increased best practice design and implementation of services.

Relevant objectives

132. This section considers options to encourage councils to adopt best practice kerbside collections. The proposal is likely to affect all policy objectives as it provides a framework that encourages the adoption of the other proposals.

- increase public engagement and confidence in kerbside dry recycling and food scraps collections.
- reduce contamination and increase the quality of materials collected for dry recycling and food scrap recycling.
- increase the quantity of targeted materials placed in kerbside dry recycling and food scraps collections rather than in the rubbish.

Current state and drivers for action

133. Most council do not publish information about how well their collections are performing. Many may be missing the information to do so (see proposal 3), and where information about other collections is available it is often not compiled in a consistent way.

134. There are good indications of what best practice is in New Zealand, but more consistent data would help to refine these. Available information and international literature indicate the key parameters are communications, kerbside service design, frequency and collection methods.

135. Improving kerbside performance will contribute to the ERP and proposed Waste Strategy 2030 targets already outlined. The speed of improvement is important, especially for the biogenic methane target as even modest diversion earlier on is likely to have a larger emission reduction impact than greater diversion later.[40]

What is achievable?

136. For the 14 councils that report performance, diversion ranges from 19 per cent to 53 per cent. Nationally average diversion is estimated at 35 per cent.[41] The average composition of New Zealand household kerbside waste is roughly 40 per cent food scraps, 30 per cent recyclable materials, and 30 per cent other waste. To achieve 50 per cent diversion many councils may find it necessary to provide both a kerbside dry recycling and a food scraps collection. For councils already close to, or exceeding, 50 per cent diversion a voluntary high-performance target of 70 per cent diversion by 2030 is proposed.

Consultation feedback

137. The consultation document proposed a '*Mandatory minimum diversion rate of 50 per cent by 2030 and a high-performance target of 70 per cent'* as the preferred option for this proposal.

138. This proposal was broadly supported. Most submitters, including many councils agreed with using minimum diversion rates to measure performance.

139. Others agreed there should be performance standards but disagreed that a minimum diversion rate should be the measure, or expressed concerns about achieving these rates, eg, a CRS could impact their ability to achieve the minimum diversion rate.

140. Some concerns were expressed that those councils who offered garden waste or food and garden waste collections would appear to have higher diversion rates, but that these services often capture garden waste that is not being 'diverted' from landfill because it previously used private service or was composted on site. Consequently, the proposal has been amended to account for garden waste separately.

Options considered

141. Three options are analysed for encouraging best practice collections. They are set out from least intervention to most in Table 11.

[40] Organic waste continues to release methane after it has been landfilled. The cumulative emissions from landfilled waste early in the period is difficult to offset even with large reductions later on.

[41] Yates S, 2019. Rethinking Rubbish and Recycling – bin audits. Prepared for the WasteMINZ TAO Forum by Sunshine Yates Consulting. Auckland: WasteMINZ

Table 11: Proposal 4 options	
Option	Option description and likely effect
1. Counterfactual.	Councils continue to make choices about kerbside services, most with incomplete information about performance or best practice guidance. It is difficult to know if services are effective or improving.
2. Guidance, technical support, and investment. *Option 2 is the minimum intervention. All following options are in addition to option 2.*	Central government facilitates the development of national guidance for best practice in kerbside collections, and shared communications and collateral. Best practice guidance includes information on the range of performance across New Zealand, international examples, and indicative effectiveness of specific practices. Additional investment supports councils to move to best practices. If proposal 3, to require private sector reporting, is implemented, councils will know how well they are performing compared to other councils. Additional guidance and investment may assist those who are then motivated to improve.
3. Mandatory minimum diversion standard and a high-performance target (in addition to option 2). ***Preferred option***	A minimum performance standard of 50 per cent by 2030 is proposed. Lower standards introduced earlier are intended to encourage lower performing councils to improve their household kerbside collections in a timely manner: • 30% diversion by 2026 • 40% diversion by 2028 • 50% diversion by 2030 A voluntary high-performance target of 70 per cent by 2030 is also proposed to encourage councils to continue to optimise their performance. These targets are ambitious but are aligned with the targets in the proposed Waste Strategy. A review period is proposed for 2027 to understand the impact of a CRS. If a significant amount of material is removed from kerbside collections as a result of the scheme, then the performance standards for 2028 and 2030 could be altered accordingly.

A potential Container Return Scheme (CRS) is likely to affect best practice

142. The possible implementation of a CRS, covering glass, metal, and plastic beverage containers, may have a significant impact on the quantity of material collected at kerbside. Access to container return locations and the size of the deposit can affect the amount of recycling collected through a CRS as opposed to kerbside.

143. Current systems deemed to be best practice at kerbside may no longer be optimal under a CRS. It may be prudent to monitor the impact of a CRS scheme for at least one year to determine what the implications are for kerbside best practice and to inform a review of diversion standards.

Options considered and discarded

144. An option for a voluntary version of the minimum diversion standard was considered and included in the interim RIS. However, consultation has confirmed the assessment that voluntary mechanisms would be unlikely to achieve the required level of participation and speed of action to meet the ERP and proposed Waste Strategy targets.

145. An option to mandate a method of collecting rubbish and recycling was also considered in the interim RIS but did not merit further investigation. Evidence was not strong enough to support the high cost of moving to a single preferred method for collecting rubbish and recycling across New Zealand.

Assessment of options

Table 12: Best Practice Collections	**Option 1** ***Counterfactual***	**Option 2** **Guidance, technical support and investment**	**Option 3** **Mandatory minimum and voluntary high-performance target**
	Counterfactual	*Change from counterfactual*	
Effectiveness	0 National estimates suggest performance is variable and often low.	+ Will motivate some councils to fund new services.	+ + Significant increase in overall performance. Councils have choice about how they improve performance.
Timeliness	n/a	+ Change could start in 2023 but uptake is expected to be patchy.	+ + Could start in 2023 with most councils expected to achieve the minimum performance by 2030, and some exceeding.
Cost	0 No costs, but no additional savings.	- *20-year present value ($m)* Costs $4 Benefits $4 Net $0.2 Benefit/cost 1.1	- - *20-year present value ($m)* Costs $19 Benefits $33 Net $14 Benefit/cost 1.7
Overall Assessment	0 Unsatisfactory – will not achieve desired outcomes for New Zealand.	(1) Medium Partially achieves desired outcomes for New Zealand but not consistently.	(2) High Preferred option. Mostly achieves desired outcomes in a timely manner.

Key for qualitative judgements:			
0	about the same as the counterfactual	-	worse than the counterfactual
		- -	much worse than counterfactual
		++	much better than the counterfactual
		+	better than the counterfactual

Note: mandatory private sector reporting is assumed for all options except the counterfactual. Reporting is required to determine the effectiveness of any options implemented. Most options also include targets or baseline performance measures which require reporting to see if they are achieved.

Preferred option

146. The preferred option for this proposal is Option 3 *A mandatory minimum diversion rate and a high-performance targe*t, in addition to guidance, technical support, and investment. This option provides a strong incentive for improved collections, ensures speedy change, and moderates cost by allowing councils choice about how to achieve the performance targets. This option is expected to increase the quantity and quality of materials collected through kerbside recycling and food scraps services.

147. In comparison Option 2 *Guidance, technical support and investment* on their own, is expected to have slow and patchy uptake generating insufficient action towards the policy objectives or to meet the ERP and proposed Waste Strategy targets.

Marginal costs and benefits

148. It is likely most councils would need to make changes to achieve the minimum target of 50 per cent diversion by 2030. Performance standards are expected to drive adoption of the other proposals as well as best practice collections. The costs and benefits of adopting the other measures are not included here to avoid double counting.

149. The preferred option is expected to result in $19 million in costs and $33 million in benefits over 20 years, resulting in a net impact of $14 million and a benefit cost ratio of 1.7. The costs associated with this proposal are largely administrative and the benefits reflect an increase in quantity and quality from increased best practice design and implementation of services. A more detailed breakdown of monetised costs and benefits, including key assumptions, risks and uncertainties can be found in Appendix 5.

Limitations

150. Table 13 presents the impacts of the proposal which have not been monetised and included in the cost-benefit analysis summary.

Table 13: Non-monetised impacts for proposal 4 option 3 (preferred)		
Affected group	Benefits	Magnitude
Households	Potential for higher customer satisfaction with improved/clearer services.	Low
Councils/waste sector	Benefit from economies of scale as all councils will be required to deliver to the same performance standards and therefore will require access to facilities with similar characteristics. Introduction of further services in areas where minimum binding targets are not being achieved widens service offerings.	Medium
End users	Increased availability of compost and digestate. Best practice collections may also increase the widespread acceptance of recyclability labelling. Increased marketing opportunities through the promotion of recycled packaging and compost.	Low
Environment	More material collected and in circulation, avoiding the need for new raw material (ie, supporting a circular economy) and associated impacts. Extended landfill life for existing landfills has longer term environmental benefits with less landfill sites and a smaller environmental footprint. Changes to receptacles, collection fleet or processing facilities only need to be made where Councils are not meeting the standards, otherwise existing resources can continue to be used.	High
Total non-monetised benefits		Medium
Affected group	Costs	Magnitude
Councils/waste sector	Would have to implement additional services in areas with marginal profits to be made because of smaller scale of services.	Medium

Environment	Likelihood of increased vehicle movements with an increase of collections of different types of material over a wider range of areas with greater distances to processing facilities.	Medium
Total non-monetised costs		Medium

2.5 Proposal 5. Wider access to kerbside dry recycling

Box 5. Summary of proposal

Kerbside dry recycling collections are the main way that households recycle their waste and return materials to our economy and is the most convenient way for households to recycle. People living in the few districts without council kerbside recycling find it harder and more costly to recycle and the districts have lower rates of diversion.

Improving access to kerbside recycling is expected to increase public participation, social equity, and the quantity of dry recycling placed in kerbside collections rather than in the rubbish. Consultation feedback found very strong support for this proposal.

The preferred option is to require councils to provide kerbside recycling to urban areas of more than 1,000 people by the end of 2026. Guidance, technical support, and funding would be provided. This option will achieve the objectives in the most consistent and timely way.

The preferred option is expected to result in net monetised impacts between a cost of $12 million to a benefit of $29 million over the next 20 years (present value), with a benefit-cost ratio ranging from 0.9 to 1.4. It is important to note the only benefit monetised in the lower figure for this proposal is the commodity value of collected recyclable materials.[42] The social and environmental benefits around equity of access, greater employment, reduced use of raw materials and associated climate impacts are not captured. Some aspects of which may be reflected in the value households place on increased recycling included in the higher figure.

Relevant objectives

151 This proposal primarily addresses the objectives of:

- increasing the quantity of dry recycling placed in kerbside collections rather than the rubbish.
- increasing public confidence, participation and engagement in kerbside dry recycling collections.

Current state and drivers for action

152 Currently 8 out of 67 councils do not offer kerbside recycling services. Six rely on private user pays recycling collections and two have no or limited private collections. Councils also differ on how large a community needs to be before it is serviced.

153 Councils that do not provide kerbside dry recycling services have lower rates of recycling performance or do not know their district's performance. Based on available information, diversion rates range from 16 to 28 per cent for councils where only private collections are available – lower than the 35 per cent national diversion rate.

154 These councils also have limited means to improve performance of kerbside collections. Some have invested in drop off networks or have licensed waste and recycling collectors, but these tools are limited in their effectiveness.

155 Over time more councils may offer kerbside dry recycling services as households increasingly demand this service. However, it may take a long time in some districts, and it is possible some councils may reduce services.

156 Across New Zealand most towns of 1,000 people already have kerbside recycling. For instance, New Zealand has 46 towns with a population between 1,000 and 2,000

[42] Reduced rubbish disposal costs are also included but these are offset by loss of this income to landfill operators. An expected three to fourfold increase in employment compared to landfill is not monetised. *Reducing waste: a more effective landfill levy consultation document (MfE 2019).*

people[43]. Of those only eight do not have a service and only one of those is in a district with existing council kerbside recycling collections.

157 In the seven districts, around 200,000 people live in 21 towns with a population of 1,000 or more and do not have access council kerbside recycling.

Consultation feedback

158 The consultation document discussed '*Councils must provide a kerbside dry recycling collection'* as the preferred option for this proposal.

159 There was very strong support for the preferred option. Most submitters agreed that all councils should offer household recycling services. These submitters considered that offering kerbside recycling services provided households with an opportunity to deal responsibly with their waste and noted that it was important to move our economy to a more circular and sustainable economy.

160 Some submitters offered conditional support, or emphasised considerations for communities that do not meet the urban area threshold of more than 1,000 people. They suggested alternative options, such as access to council recycling services via drop off networks may be appropriate for isolated rural communities.

161 One council which would be affected if the proposal were implemented noted that they did not know how a kerbside collection would be implemented, as it was not supported by their community, and reiterated earlier suggestions about the need for alternative solutions where kerbside recycling was not feasible.

162 Overall, this proposal remains unchanged in light of consultation feedback.

[43] Following the Stats NZ definition of small urban area. This excludes rural settlements some of which have more than 1,000 people but do not meet other criteria such a population density to qualify as a small urban area.

Options considered

163 The options analysed for increasing access to kerbside dry recycling collections are set out in Table 14 from least intervention to most.

Table 14: Proposal 5 options

Option	Option description and likely effect
1. Counterfactual.	Councils can choose to offer kerbside recycling services to households or not and choose which households in their districts have access. At present this means that in eight districts there is no council kerbside recycling service. Councils also choose which areas in their districts receive a service. If public pressure for these services increases, a few councils may elect to offer a service.
2. Guidance, technical support and investment. *Option 2 represents the minimum additional intervention. Each further option would be in addition to option 2.*	The government could provide best practice guidance and support to overcome initial barriers to setting up collections. Increasing waste levy revenue for both central government and councils is expected to support establishment of new collections and leverage private sector investment in new infrastructure. In seven districts, a private recycling service is the only collection option available to households. Three councils have indicated they intend to start collections if funding is made available. Some of the seven may be satisfied that they provide adequate access to recycling either via drop-off networks, or by requiring private companies in their district to offer a user pays recycling service alongside any rubbish collection.
3. Councils must provide a kerbside dry recycling collection (in addition to option 2). ***Preferred option***	Councils must provide a kerbside service directly (council run or contracted) to urban areas with a population of more than 1,000. Seven of the eight councils not currently offering a kerbside recycling collection would be required to start services for around 200 000 people.[44] Households in towns of more than 1,000 population will receive a new rates-funded service encouraging higher participation. A few councils already offering kerbside recycling would have to expand their collections if they have towns with a population greater than 1,000 that do not currently receive the recycling service.

Options discarded

164 No feasible options were discarded as a result of consultation feedback or in the interim RIS.

[44] Chatham Islands has a population of less than 1,000 so would not be required to offer a kerbside collection.

Assessment of options

Table 15: Wider access to kerbside dry recycling collections	**Option 1** ***Counterfactual***	**Option 2** **Guidance, technical support and investment**	**Option 3** **Councils must provide a kerbside recycling collection**
	Counterfactual	*Change from counterfactual (refer Table 14)*	
Effectiveness	0 Councils without recycling continue to have no access	+ Minor increase in provision of dry recycling collections and access. Minor reduction in environmental harm.	++ Increase in kerbside dry recycling collections maximised. Largest reduction in environmental harm.
Timeliness	0 Slow and uncertain.	++ Investment could begin in 2023, but access still incomplete in 2030.	++ Regulation in 2023 but several years for councils to incorporate into WMMPs.
Cost	0 Low cost Lower fiscal cost for councils that choose not to implement collections.	- Moderate cost *20-year present value ($m)* Costs $62 Benefits $52 to $84 Net -$10 to $22 Benefit/cost 0.8 to 1.4	- Moderate cost *20-year present value ($m)* Costs $78 Benefits $66 to $107 Net -$12 to $29 Benefit/cost 0.9 to 1.4
Equitable and inclusive outcomes *The extent to which households are able to recycle at kerbside.*	0 No change - unequal access	+ Small change Some more access for more communities, but still unequal.	++ Small to moderate change High access across communities.
Overall assessment	(0) Unsatisfactory – Partially achieves desired outcomes for New Zealand.	(3) Medium Unsatisfactory – Partially achieves desired outcomes for New Zealand.	(5) High Achieves desired outcomes in a timely manner.

Key for qualitative judgements:			
0 about the same as the counterfactual	- worse than the counterfactual	++	much better than the counterfactual
	- - much worse than counterfactual	+	better than the counterfactual

Preferred option

165 The preferred option is Option 3 *Councils provide a kerbside dry recycling collection to urban areas of 1,000 people or more***.** Guidance, technical support and investment would be provided. This option addresses the problem of unequal access to kerbside recycling in New Zealand and reaches the largest number of households, providing greatest equity and convenience for households.

166 This option will achieve the policy objectives of increasing public participation and quantity of recycling collected in a timely and equitable manner. Access to kerbside recycling and quantity collected would be maximised across the country – with all councils providing a kerbside dry recycling service to urban areas. Both participation and engagement with the service is likely to increase. Costs to households for accessing a recycling collection are likely to decrease. Guidance, technical support, and investment will help councils provide kerbside collections that are in line with best practice and reduce the cost to households of establishing new services.

Marginal costs and benefits

167 Ensuring councils provide kerbside dry recycling collections is expected to deliver $78 million in costs and $66 to $107 million in benefits over 20 years, resulting in a net impact of -$12 to $29 million and a benefit cost ratio of 0.9 to 1.4. A more detailed breakdown of monetised costs and benefits, including key assumptions, risks and uncertainties can be found in Appendix 5.

Limitations

168 Table 16 presents the impacts of the proposal which have not been monetised and included in the cost-benefit analysis summary.

Table 16: Non-monetised impacts for proposal 5 option 3 (preferred)		
Affected group	Benefits	Magnitude
Households	Households are automatically enrolled for the service reducing effort, increasing convenience and potentially satisfaction with service. Households who already recycle using a private service will save money as rates funded services benefit from economies of scale. Households will reduce the time they spent dealing with recycling.	Low
Councils/waste sector	Greater progress on diverting resources from landfill and positioning their district to gain from emerging circular economy opportunities. Waste sector may have the opportunity to generate more revenue through provision of service to more councils.	Low
End users	Small increase in recycled materials available for new packaging. Recycling information on packaging will be accurate across more of New Zealand.	Low
Environment	Recycled materials replace higher emission virgin materials. The diversion of paper and cardboard will reduce landfill emissions. Increased materials collected and recycled avoiding the use of new raw materials. Minor extension to landfill life and in the long-term fewer landfill sites. Potentially reduced transportation emissions as fewer households need to make trips to resource recovery centres to recycle.	Medium
Total non-monetised benefits		Low
Affected group	Costs	Magnitude
Councils/waste sector	Additional services may be in areas with marginal profits because of smaller scale. Where companies offer competing services, some may lose business.	Low

Environment	Minor increase in commercial vehicle movements with increased recycling collections, potentially in areas with greater distances to processing facilities.	Low
Total non-monetised costs		Low

Proposal 6. Diverting business food scraps from landfill

Box 6. Summary of proposal

To achieve the emissions reduction targets in the ERP, business food scraps must also be diverted from landfill alongside household food scraps as 25 per cent of the food scraps sent to landfill come from businesses.

Diverting business food scraps complements proposal 2 'food scraps collections for urban households' in terms of building the necessary scale and processing infrastructure and in terms of the cumulative emissions and waste reductions. This proposal aims to increase the quantity of food scraps placed in kerbside collections rather than in rubbish. Consultation feedback strongly supported this proposal.

The preferred option is to require all businesses (all non-household waste producers) to separate out their food scraps by 2030, in addition to investment in business food scraps infrastructure. Businesses near to existing food waste processing infrastructure would have until December 2026 to separate food scraps. Remaining businesses would have until 2030 so that new infrastructure can be built.

Requiring separation of business food scraps is expected to reduce emissions from landfill by 11 ktCO2e in 2030, rising to 27ktCO2e in 2035.

The monetised costs and benefits of the preferred option show a net cost of $2 million over 20 years (present value) with a benefit cost ratio of one. Benefits that could not be monetised are likely to be significant and should be considered alongside the monetised figures. These benefits include food waste reduction, greater employment, displaced synthetic inputs to agriculture and associated emissions, improved soil structure and reduced flooding, erosion and leaching which are all significant environmental issues in New Zealand. The alternative cost of meeting methane reduction targets, eg agricultural reductions, are expected to be high.

Relevant objectives

169 The proposal primarily addresses the objective of:

- increasing the quantity of food scraps placed in recycling collections rather than the rubbish.

Current state and drivers for action

170 Unlike household food scraps, where we have reasonable data and can make some estimates as to the impact of different options on both tonnage and emissions, data on business food scraps has much greater uncertainties around the overall tonnes, the most significant sources, and current disposal choices.

171 We know that to achieve our emissions reduction targets it is not going to be enough to divert just household food scraps from landfill. We will also need to divert business food scraps from landfill.

172 We know that not every business and not every town has access to commercial food scraps collections. We also know that more and more businesses are looking to reduce their emissions and that reducing food waste and then diverting food scraps from landfill is becoming more of a focus.

173 The main driver for diverting food scraps from landfill is to reduce greenhouse gas emissions and contribute to the proposed ERP targets. Secondary drivers are contributing to the proposed Waste Strategy targets and establishing the foundations of a circular food system.

174 Separating business food at the same time as expanding household waste collections allows new plants and infrastructure to be appropriately sized and designed to benefit from combined economies of scale from both household and business waste.

Overseas examples

175 A range of approaches have been implemented overseas to divert food waste from businesses, including mandated collections in Scotland, some states and cities in the USA as well as Canada. Of the 28 EU members in Europe, six have implemented total bans on landfill disposal of organic and/or FOGO waste and 17 have mandated separating business (and/or household) food waste. England has differentiated taxes on landfill disposal to encourage diversion of food waste.

Consultation feedback

176 The consultation document discussed 'All businesses must separate food scraps' as the preferred option, and it received very strong support.

177 Some submitters, including councils and businesses, supported the proposal on condition that collection and processing facilities are accessible and effective, different types of food waste have appropriate solutions, and end products have markets. Some councils noted that rural areas may have less access to collections and processing and agreed with the proposal that businesses should be able to choose how to deal with their food waste once separated.

178 Others wanted the Government to provide support and encourage but not mandate the proposals. Similarly, submitters who disagreed with the proposal were concerned about mandating the proposal, noting that many businesses including those that produce food already separate food waste and that other existing measures would support a reduction in food waste going to landfill. A few businesses and industry associations expressed concerns about the costs to business.

Timeframes and implementation

179 Requiring businesses to divert food scraps from landfills by 2030 was supported by 86 per cent of submitters. Others suggested that this proposal should happen by 2025.

180 Some submitters, including businesses and two councils, did not agree that this proposal should be mandatory by 2030, and suggested timelines be set based on region and access to infrastructure.

181 The preferred option would phase the requirement depending on access to suitable processing infrastructure. Businesses in council areas identified to have processing infrastructure nearby[45] will need to divert their food scraps by December 2026, while the rest will have until 2030.

Options considered

182 The options analysed for increasing the diversion of business food scraps are set out in Table 17 from least intervention to most.

[45] The main settlements in the council area are within 150 kilometres by road of food waste processing infrastructure.

Table 17: Proposal 6 options	
Option	Option description and likely effect
1. Counterfactual.	Businesses in some towns and cities have access to commercial food scraps collections, but many do not. The service might only be offered in regions where it is profitable for the private sector to do so. The distance to a facility which can process the food scraps is the main barrier to waste companies offering collections to businesses.
2. Investment to set up business food scraps collection infrastructure.	The Government has made $120 million available to invest in organics infrastructure via the WMF and CERF. The funding will leverage council and private investment in a range of activities which includes food waste processing facilities that could take business food waste, supporting the expansion of business food waste collections. Investment may go towards collection infrastructure such as bins or vehicles, or processing infrastructure such as composting or anaerobic digestion facilities or facilities which make stock food from food scraps.
Option 2 is the minimum intervention to accelerate food scrap diversion and processing. All following options include increased investment.	
3. Food businesses must separate food scraps (in addition to option 2).	Regulation could require businesses which produce or sell food to collect food scraps separately from other waste materials. This option aims to target businesses more likely to produce significant amounts of food scraps. Most businesses producing large quantities of food scraps are likely to be covered. The publicly available record of businesses registered under the New Zealand Food Act 2014 could be a mechanism for identifying businesses which produce and sell food. This option could be phased in where food businesses with access to existing food scraps processing facilities (within 150km) would be required to separate food scraps by December 2026. The remaining food businesses would be required to separate food scraps by 2030 to allow more food scrap processing facilities to be built.
4. All businesses must separate food scraps (in addition to option 2). ***Preferred option***	Regulation could require all businesses to separate food scraps from other waste materials. This option would be phased similarly to Option 3. The broad application to all businesses may allow for simpler compliance checks in comparison to option 3, for example checking that all waste companies provide a food scraps collection container with every business rubbish collection. Phasing would be the same as for option 3 above.
5. Ban on all food waste to landfill (in addition to option 2).	Businesses (and households) would not be permitted to landfill food scraps. This option could be phased similarly to option 3 and 4. A ban before 2030 would be difficult to achieve. However, it is one option contemplated in the ERP as potentially necessary to meet the methane reduction targets. Systems would need to be established to ensure food waste is not disposed to landfill. Businesses would need to put steps in place to ensure their waste collection does not include food scraps. Adequate collection and processing infrastructure would need to be developed (including in both urban and rural areas) to ensure food scraps could be disposed of in other ways. A ban would be likely to require a greater level and wider range of infrastructure and collection fleet than option 4 to ensure that businesses in rural and low population areas would be able to divert their food scraps. Monitoring through a waste tracking system would be required at disposal sites and/or of businesses' and households' waste disposal to verify that landfill waste does not contain food scraps.

Options discarded

A higher waste levy on landfilled food scraps.

183 The waste levy on food scraps could be made higher than on other materials sent to landfill.

184 This option was assessed in the interim RIS. Implementation is impractical or would involve separation of food waste which is covered by another option. A separate levy on food waste would mean an audit and estimation regime for all of material disposed of to landfill to calculate tonnages of food waste on which to charge a higher levy, or the separation of food waste from general rubbish.

185 The interim RIS also considered and discarded an option with no geographical phasing which would have either meant delayed implementation or separation required with no local processing to take the food waste.

Assessment of options

Table 18: Business food waste options	**Option 1** ***Counterfactual***	**Option 2** **Invest in business food scraps infrastructure**	**Option 3** **Food businesses must separate food scraps**	**Option 4** **All businesses must separate food scraps**	**Option 5** **Ban disposal of food scraps to landfill**
	Counterfactual	*Change from counterfactual*			
Effectiveness	0 Collections increase only slowly and in an ad hoc manner. Limited increase in food scraps diverted from landfill.	+ Encourages more processing facilities and collections to be setup, but access to services in some regions would remain challenging. Low diversion of food scraps in 2030 (16,000 tonnes), rising to 34,000 tonnes in 2035 with annual emissions reductions estimated at 4 ktCO2e in 2030, rising to 18 ktCO2e in 2035.	++ High private sector confidence to invest in food scrap processing and collections. Medium diversion of food scraps in 2030 (28,000 tonnes), rising to 34,000 tonnes in 2035, with annual emission reductions estimated at 7 ktCO2e in 2030, rising to 18 ktCO2e in 2035.	++ The private sector has high confidence to invest in additional food scrap collections and processing facilities. Medium-High diversion of food scraps by 2030 (42,000 tonnes), leading to high by 2035 (50,000 tonnes) with annual emissions reductions are estimated at 11 ktCO2e in 2030, rising to 27 ktCO2e in 2035.	++ Maximum food scraps diversion. Strongest signal to private sector to invest in collections and processing. Separate modelling indicated the maximum theoretical impact of a ban in 2030 would divert 374,000 tonnes per annum of both business and household food scraps. Reducing emissions by 144 ktCO2e in 2030 (about 23 per cent of the ERP targeted emissions reductions).
Timeliness	0 Without regulation and investment change will be slow.	+ Uncertainties around demand and the risks of expansion and establishing new facilities means change will be slow.	++ With high investment certainty. Businesses near facilities start reducing emissions sooner.	++ High investment certainty. Businesses near facilities start reducing emissions sooner.	++ High investment certainty. More and larger facilities required. Could be geographically phased as investment may be stretched in earlier years if all regions in competition.

Cost	0 Where available businesses chose whether to use collections or access funding.	- A small increase in infrastructure built and where available more businesses chose whether to use collections. *20-year present value ($m)* Costs $62 Benefits $55 Net -$7 Benefit/cost 0.9	- Fewer processing economies of scale for than for Options 4 and 5 due to fewer businesses separating. *20-year present value ($m)* Costs $90 Benefits $114 Net $24 Benefit/cost 1.3	- - All businesses separate food scraps incurring costs if using a commercial collection. Greater economies of scale for processing capacity. Some small areas marginal. *20-year present value ($m)* Costs $172 Benefits $170 Net -$2 Benefit/cost 1.0	- - Increased economies of scale compared to Options 3 and 4, but higher monitoring and compliance costs. Option not modelled in CBA.
Equitable and inclusive outcomes *How fairly the option treats all businesses* *Equitable outcomes: Dol businesses have equal opportunity to divert food scraps and reduce their emissions?*	0 Businesses in smaller towns are likely to be most disadvantaged.	0 Businesses in some regions who want to reduce their carbon footprint or divert food scraps are unable to access collections. Businesses in smaller towns are likely to be most disadvantaged.	++ Food businesses would divert food scraps from landfill. Non-food businesses could voluntarily access services.	++ All businesses would divert food scraps from landfill.	++ All businesses would divert food scraps from landfill. Processing facilities and
Compliance and Monitoring *Technical feasibility and effort to monitor compliance.*	N/A None required	N/A None required	- - Identifying food businesses takes time and resources. CME may require a change to the Food Act and local government involvement.	- Collection companies could be audited to see whether all their customers are provided food scraps collections.	- - This option requires the most compliance due to the level of auditing required.
Overall Assessment	0	Low (1) Partially achieves desired outcomes.	High (3) Mostly achieves desired outcomes in a timely manner but complex to implement.	High (3) Mostly achieves desired outcomes in a timely manner. Preferred option.	Medium (2) Completely achieves desired outcomes but takes time and at the greatest cost.

Key for qualitative judgements:			
0	about the same as the counterfactual	-	worse than the counterfactual
		- -	much worse than counterfactual
		++	much better than the counterfactual
		+	better than the counterfactual

Preferred option

186 The preferred option is Option 4 *All businesses must separate food scraps*, in addition to investment in business food scraps infrastructure. This option would see significant diversion of food waste achieved by 2030 and largely achieving the policy objective in a cost-effective way. This would be likely to see low to medium diversion of food scraps by December 2026, leading to high diversion by 2030.

187 While this option is expected to divert less food scraps from landfill by 2030 compared to Option 5 '*Ban disposal of food scraps to landfill*', the costs of compliance and monitoring (eg inspecting loads at landfill for food scraps) for Option 5 are likely to be higher, and a ban would likely require a greater level and wider range of infrastructure investment.

188 Option 5 would also require a greater lead in time for the more comprehensive infrastructure coverage to be established, whereas Option 4 can be implemented faster. This means that the benefits arising from Option 4 can be realised faster.

Marginal costs and benefits

189 Requiring all businesses to separate food scraps is expected to result in $172 million in costs and $170 million in benefits over 20 years, with a net impact of -$2 million and a benefit cost ratio of 1.0. A more detailed breakdown of monetised costs and benefits, including key assumptions, risks and uncertainties can be found in Appendix 5.

Limitations

190 Data availability dictated a top-down approach to modelling business separation of food waste. The approach for the other proposals aggregated up from a household level data. For business food waste the overall tonnages of food waste disposal are allocated across different businesses using information on business type and size.

191 The costs of this proposal therefore assume that all businesses do not currently divert food waste from landfill. The benefits, however, reflect best estimates of actual business food waste disposal to landfill. Many businesses already have food scrap diversion practices in place eg, diverting excess food as stockfeed, and may not face further costs from this proposal. The cost analysis for this proposal should be treated as an upper estimate.

Non-monetised impacts

192 The preferred option is likely to result in the following non-monetised impacts which have not been included in the cost-benefit analysis summary (Table 19). These impacts have been determined through consultation feedback, the regulatory change required relative to other policy approaches, and relative to the impact that this proposal will have on the New Zealand economy and society.

193 The monetised benefits do not include benefits associated with food waste reduction and food rescue which are likely to occur when food waste is made more obvious by separating it. It does not include additional employment from resource recovery. The food waste proposals are important steps towards a circular food system, returning nutrients and fertility to the soil, displacing synthetic and energy intensive inputs. It also does not recognise the downstream benefits of using compost such as improving soil structure, reducing flooding, erosion and nutrient leaching which are all significant environmental issues in New Zealand. The alternative cost of meeting methane reduction targets, eg agricultural reductions, are expected to be high.

Table 19: Non-monetised impacts for proposal 6 option 4 (preferred)		
Affected group	Benefits	Magnitude
Households	May be higher satisfaction with goods and services knowing food waste minimised. May be more food donated to food rescue or foods close to expiry dates sold at discounted prices to reduce food waste.	Low
Councils	Reduction in waste to landfill from commercial sector which is a sector that councils have little influence over. For smaller councils, household kerbside food scraps collections may become more affordable due to combined economies of scale.	Medium
Businesses	Large businesses may see financial and reputational gains in reducing their emissions, which may not be as significant for smaller businesses. Separating food waste often leads to upstream actions of much greater value and impact such as food waste reduction and food rescue. Councils rolling out new food scrap collections may offer the service to businesses through a targeted rate leveraging economies of scale.	Medium
End users	Large on-going increase in availability of soil amendment products will increase access across regions and lower prices.	High
Environment	Similar landfill and agricultural benefits as for proposal 2 in table 9.	
Total non-monetised benefits		Medium
Affected group	Costs	Magnitude
Households	May see a slight increase in cost for food-related goods and services as higher waste management costs are passed onto customers.	Low
Councils	Could play a role in enforcement of collection service provision, with associated enforcement costs.	Medium
Waste sector	Additional services for commercial customers in areas with marginal profits due to smaller scale. Cost of new processing facilities and vehicles could be shared with central government and councils if household food scraps collections also increase.	Medium
Businesses	Additional time spent to separate food waste from general waste.	Low
Environment	Some additional vehicle movements due to additional collection.	Low
Total non-monetised costs		Low-Medium

Proposal not taken forward: Reducing glass contamination of other recyclables

Box 7. Summary of proposal

Seven councils around New Zealand collect glass comingled (mixed together) with other dry recycling in wheeled bins. When collected by the compactor truck the glass is broken and fine shards of glass are spread through the recycling. This makes sorting more difficult reducing the amount of recyclable materials recovered and increasing the amount sent to landfill. Glass fine contamination of recovered recyclable materials also reduces the quality, value, and options for reprocessing, especially for paper and cardboard.

Requiring separate collection of glass or of paper and cardboard would reduce the impact of glass fines on the quantity and quality of material recovered for recycling.

However, because Auckland and Christchurch (two of the largest councils), use comingled bins, change would be costly. Other factors requiring a larger system change, also limit the current benefits, for example New Zealand's only bottle and jar glass furnace is near capacity restricting the amount of additional glass that could be recycled onshore.

In addition, the proposed CRS is likely to see significant quantities of glass shift from kerbside recycling to other return systems. This will alter both the costs and benefits of separating glass. Further detail of these issues is provided in the interim RIS.

Consultation confirmed it would be prudent to determine the impact of any CRS before reassessing a proposal to separate glass or paper and cardboard. For these reasons the proposal has not been taken forward at this time and is not further analysed in this RIS.

2.1. Overall package of recommended options

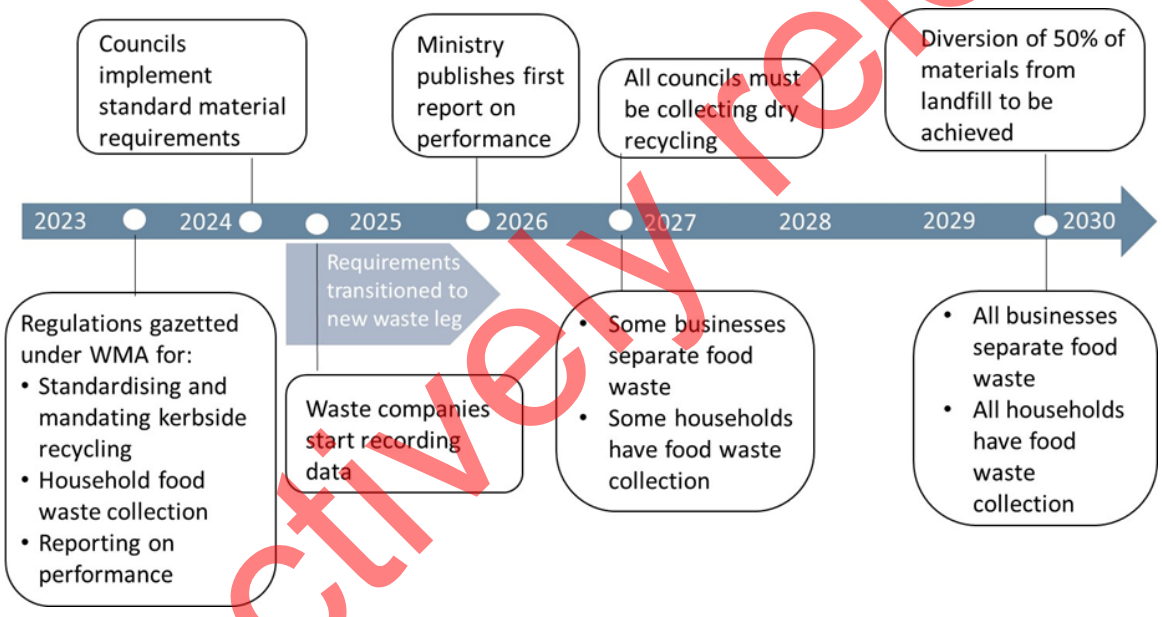
194 This package of proposals will benefit households, councils, and the waste sector by providing consistency and clarity on what can be recycled as well as greater access to recycling and food waste services nationwide. Overall, the proposals are estimated to divert 53,000 tonnes of dry recycling and 130,000 tonnes of food waste from landfill annually (reducing methane emissions by 72kt CO2e per year in 2035).

195 The package advances the policy objectives of reducing contamination, increasing the quality and quantity of targeted materials and public confidence and participation in kerbside dry recycling and food scraps collections.

196 Together they lay the foundations for our transition to a circular economy by 2050 and reduce emissions and waste to landfill in line with ERP and proposed Waste Strategy targets.

197 Roll-out is proposed to occur in a staged way between 2023 to 2030 (see figure 2), with capital costs estimated at between $180 million to $210 million. A package of funding and support measures (including $120 million of already announced funding[46]) will enable councils, industry, and businesses to implement this change and ensure disproportionate costs do not fall on households.

Figure 2. *Timing of proposals for improving household and business*



198 The cost benefit modelling for these proposals shows an overall neutral to positive benefit for monetised costs and benefits across a twenty-year period (Appendix 5). The range presented for some household proposals shows the impacts of including the value people place on increases in recycling and food scrap diversion. This is an example of more difficult to monetise, but real, benefits. The higher end of these ranges provides an indication that the scale of the non-monetised benefits is significant and highlights that the benefits of the proposals are higher than accounted for in the modelled output.

199 Some proposals provide direct financial savings, for example, standardising materials is expected to make existing kerbside recycling cheaper (lower costs and higher revenue). Other proposals such as for food waste involve new collections and direct financial costs but have significant benefits for New Zealand as a whole (eg, emission reductions). In these instances, Government funding helps to distribute more fairly the cost of the national benefits obtained.

[46] Waste Minimisation Fund re-opens on 18 October | Ministry for the Environment

Costs

200 The cost benefit analysis includes direct costs such as investment in plant, vehicles, and bins for changed or additional collection services and any ongoing operational costs of collecting and processing material. Where material is diverted from landfill it also includes the value of lost economic activity associated with landfilling.

Capital and operational costs for the full package of recycling and food waste proposals

201 An estimated $180 to $210 million of capital expenditure would be required to implement the proposals, $50 to $59 million of which relates to business separation of food waste. The largest costs are for additional collection vehicles, bins and processing facilities for new food scraps collections.

202 Choices about the technology used will affect costs (for example for the food waste proposals, windrow composting is less expensive to establish than anaerobic digestion). To reduce emissions, electric collection vehicles could be purchased instead of diesel. The upper end of capital expenditure includes electric vehicles, which are significantly more expensive to purchase but much cheaper to operate, changing the balance of capital to operating costs.

203 Evaluating the ongoing operational costs on an annual per household basis the proposals range from $1 in savings to $12 costs. These figures are indicative only as costs in each district will largely depend on the extent of a council's alignment to the proposals. Councils already aligned to best practice are likely to see savings while councils currently without food scraps or recycling collections will face greater costs, though the Government is also making greater support is available for these councils.

204 Some businesses have cost neutral arrangements where food waste is collected for stockfood or similar. For many businesses though current service costs weekly commercial food waste collections are higher than for an equivalent rubbish service. Rates vary with location but would be expected to decrease as services scale-up and become more competitive.

205 How capital investment is funded will also shift who bears the costs and when. Waste disposal levy increases will provide greater funding to councils to spend on establishing new services and ongoing delivery. Government funding of $120 million is available to invest in new collection infrastructure and will help to stimulate further private investment in processing facilities and services. Broader funding will also support activities such as a national behaviour change campaign, a data reporting portal, and best practice guidance and technical support. Capital investment in organics processing infrastructure, bins, and service implementation will reduce direct costs to the recycling sector, councils, and households.

Benefits

206 The cost benefit analysis includes monetised benefits for the reduced costs of rubbish collection and increased revenue from the sale of a greater quality and quantity of recycled materials (eg steel, plastic, compost, biogas). For the food waste proposals the value of emissions reductions is also included.

207 The analysis could not monetise all benefits. As is often the case the costs of the change are much easier to monetise than the environmental benefits, meaning the environmental costs of doing nothing are not counted and the environmental benefits of change are underrepresented.

208 However, studies consistently show that people place a value on increases in recycling and food waste diversion and contextually, waste related issues remain as three of the top ten concerns for New Zealanders.[47] While the value is real, the exact figure is often

[47] The Kantar 2022 Better Futures report found: the build-up of plastic in the environment; too much waste/rubbish generated, and; over packaging, non-recyclable packaging and landfill were three of New Zealander's top ten concerns (https://www.kantarnewzealand.com/wp-content/uploads/2019/05/Kantar-Better-Futures-Report-2022.pdf).

contested as it varies from study to study and between places and contexts. The higher end of the benefit-cost range uses an average benefit derived from two relevant studies. Relevant studies could not be found to similarly value increases in business food waste diversion or in recycling quality.

209 For recycling, the analysis does not include the benefits of upstream reductions in virgin raw material extraction and processing, their direct environmental impacts and embodied emissions (ie the benefits of using recycled materials). It only includes the recycled materials commodity value. It also does not include the expected three to four times greater employment associated with recycling materials, including food waste, rather than landfilling them.[48]

210 For food waste, the analysis does not include benefits associated with food waste reduction and food rescue which are likely to occur when food waste is made more obvious by separating it. It does not include additional employment from resource recovery. The food waste proposals are important steps towards a circular food system, returning nutrients and fertility to the soil, displacing synthetic and energy intensive inputs. It also does not recognise the downstream benefits of using compost such as improving soil structure, reducing flooding, erosion and nutrient leaching which are all significant environmental issues in New Zealand.

Summary of impacts on different groups

Councils

211 All councils will be affected by the proposals to some extent. Some will see savings, but most will also need to provide increased levels of services, improve performance, invest in infrastructure as well as collect data and report on performance. Some councils will be more affected than others:

- Most councils will need to establish new food waste collections (refer appendix 2)
- Seven councils who do not currently offer kerbside collections will face costs to establish new services (two have already decided to do so).
- Some councils will need to start collecting new materials while others will need to stop collecting some problematic materials (refer appendix 2).
- Some councils may need to extend their service to new areas

Waste sector/industry

212 The waste sector will need to invest to upgrade or provide new processing facilities and collection fleet to meet requirements where new materials must be collected, largely related to food waste. There will be costs to set up a reporting system and other change across the sector (for example less revenue from rubbish collection but more from food waste). Overall, however, we expect the proposals to increase revenue in this sector as the quality and quantity of recyclables improve.

Businesses

213 Businesses will be most impacted by proposal 6, separation of business food waste. This proposal will affect a wide range of organisations across our economy from small to medium enterprises to hospitals, schools and prisons. While more and more businesses are choosing to recycle their food waste, donate any surplus food to food rescue or send it as stock food, many businesses still default to landfill. Businesses will have choices about how they chose to dispose of their food waste from composting onsite to commercial collections. Businesses producing a comparable amount and type of food waste as a household may choose to use household services.

[48] Studies show that, on average, resource recovery creates three to four times as many jobs as landfilling. *Reducing waste: a more effective landfill levy consultation document (MfE 2019).*

Households

214 The proposals will have variable impacts for different households and from district to district. Some proposals are expected to result in savings and greater convenience for households, while others may increase costs if councils fund the change through rates. Cost impacts on households can be minimised if council use increased waste levy to fund change and are supported by available Government funding.

Central Government

215 Central Government will be responsible for supporting the implementation of the proposals, ensuring that cost do not fall disproportionately. A packaging of funding and support is available to do so infrastructure investment, supporting the establishment of new services, a national education campaign, and developing providing guidance. Ongoing cost will relate to administration, technical support, and data analysis, as well as compliance, monitoring and enforcement for these proposals.

Section 3: Delivering an option

How will the new arrangements be implemented?

Legislative mechanisms and timing

216 All the preferred options being taken forward involve regulation. The relevant legislative mechanisms are in the current WMA, or for business food waste, are proposed in new waste legislation expected to be enacted in 2025.

217 All proposals would be phased in over the next eight years and will be in effect by 2030. The timing for each proposal is based on the amount of change required, the readiness of local government and businesses to adapt, the mechanism that will be used to give effect to the policy (eg, existing WMA or new legislation) and the need to move swiftly to take tangible actions on climate change.

218 Implementation of the package of proposals will rely on sections 48, 49 and 86 of the WMA 2008. The proposed regulations would either set a performance standard for implementation of a council's WMMP, require them to amend a WMMP, or place an obligation on private waste companies to report information.

219 Table 20 summarises the legislative mechanisms to be used and the timing of implementation for each proposal.

Table 20: Summary of the legislative mechanisms and timing of implementation for each proposal

Proposal	Legislative mechanism	Timing
A set of standard materials for kerbside dry recycling and food scraps collections	Performance Standard Under section 49 WMA 2008	Mid-2023: Requirements gazetted February 2024: Implementation
Food scraps collections for urban households	Direction to Territorial Authorities Under section 48 WMA 2008	Mid-2023: Requirements gazetted December 2026: Some councils implement collections 2030: Remainder of councils implement collections
Reporting on private sector household collections	Regulations in relation to records, information, and reports Under section 86(1)(b)(i) WMA 2008	Mid-2023: Requirements gazetted July 2024: Recording information commences Late-2025: Public reporting commences
Setting performance targets for councils	Performance Standard Under section 49 WMA 2008	Mid-2023: Requirements gazetted July 2025: Monitoring begins 2030: Expected completion
Wider access to kerbside dry recycling	Direction to Territorial Authorities Under section 48 WMA 2008	Mid-2023: Requirements gazetted December 2026: All councils implement collections
Diverting business food scraps from landfill	Duty of care under the new waste legislation	Regulations developed in parallel with new Act December 2026: Some businesses separate food scraps 2030: Remainder of businesses separate food scraps

220 This is the first-time sections 48 and 49 of the WMA have been used. The Ministry is confident that these provisions can be used for the proposals above. These requirements will be transitioned across into the new Act.

Proposal 1

221 Under the existing WMA the Minister may set performance standards for councils' WMMPs. A performance standard could be used to specify what can be collected in council kerbside dry recycling or food scraps collections. The standard could be put in place by mid-2023 with implementation by councils in 2024.

Proposal 2

222 Under the existing WMA a performance standard for collecting food scraps could be in place in 2023.

223 Implementation could occur in two phases. Councils with access to existing processing capacity could move first and begin collections by December 2026 (see Appendix 6 for a list of these facilities and councils). Regions where more capacity has to be built would have until 2030 to start collections. This would allow time for the waste levy to increase, providing a potential source of investment for regions requiring new infrastructure.

Proposal 3

224 The existing WMA allows for regulations to be made to require any class of person to provide information to assess waste minimisation performance and decrease waste disposal. Regulations could be enacted as early as 2023. Private company reporting would commence from mid-2024 to allow time for companies to prepare.

Proposal 4

225 A minimum performance and a high-performance target could be set in a performance standard under the existing WMA. A minimum performance target is more effective if there are appropriate consequences if the target is not met. The revised Act is anticipated to provide a more appropriate range of monitoring, compliance and enforcement tools.

Proposal 5

226 Under the existing WMA a performance standard for councils to collect kerbside dry recycling could be in place by December 2026.

Proposal 6

227 This proposal requires new powers to be added to primary legislation. Hence only in-principle decisions are being sought for this proposal, as the revision of the WMA already underway is intended to provide appropriate powers.

Implementation process

228 If Cabinet agrees to the proposed policies, regulations for each proposal will be developed under their relevant section of the WMA (see table 20 above) and the Ministry will work with the Parliamentary Counsel Office (PCO) to draft regulations.

229 The Ministry will develop a project management workplan to ensure that the proposed changes are implemented in a timely manner and possible risks and issues are identified and managed appropriately.

Responsibilities for implementation

230 A range of parties across the product, waste and resource recovery value chain have responsibility for different aspects of implementing any chosen options. Table 21 below provides a generalised example:

Table 21: Parties and potential responsibilities for kerbside recycling and food scraps services						
Parties	Central government (MFE)	Iwi / tangata whenua	Councils (Territorial authorities)	Waste and resource recovery sector	Producers, retailers, and packaging sector	Households and businesses
Potential responsibility	Evaluation and review Legislation Governance	Treaty partner Partner with councils on circular economy in their rohe.	Service design and delivery Reporting Governance	Service design and deliver Reporting Governance	Product and packaging design and labelling Product stewardship Governance	Correct placement of materials at kerbside

Description of potential roles

231 The Ministry for the Environment will be responsible for developing any legislation or regulations to implement the proposals. The regulatory stewardship role would extend to evaluation of effectiveness and facilitating any governance roles (eg if a governance body were established, oversee any subsequent changes to a standardised kerbside system).

232 Māori as Te Tiriti partners and tangata whenua will have a role in shaping enduring solutions for a circular economy in Aotearoa New Zealand. The proposed Waste Strategy and new waste legislation recognise the importance of finding new ways to work effectively and in partnership with tangata whenua on waste and circular economy issues and note the opportunities to significantly increase the participation of Māori in the waste sector. Iwi / tangata whenua may have a particular interest in local systems, such as kerbside recycling and food scraps collections, which affect their rohe.

233 Councils have a key role in service design, communication, and delivery, being responsible for most household kerbside services. Several proposals also place a responsibility for monitoring and reporting on councils. It would be expected that councils or representative bodies would be involved in any ongoing governance of kerbside collections.

234 The waste and resource recovery sector spans collectors and recycling processors, through to remanufacturers and composters. The proposals are expected to affect the services that the sector provides and may introduce new responsibilities, such as providing specific services or reporting requirements. The sector is also expected to be involved in any ongoing governance of kerbside collections.

235 Producers, retailers and the packaging sector will be less directly affected. No proposals are expected to impose new responsibilities on the sector. However, they will be affected by any changes to what is accepted in kerbside recycling and food scraps collections. The sector has a role to play in designing products and packaging fit for a circular economy and communicating end of life disposal to households. The sector is expected to increasingly take responsibility for the end of life of products and packaging through product stewardship schemes. These schemes may play a role in determining which materials are collected in kerbside recycling in the future.

236 Households and businesses are responsible for correctly sorting and placing their rubbish, recycling and food scraps at kerbside, although this is an indirect requirement (except in a few proposals). For example, a ban on disposal to landfill would explicitly require households and businesses to not place food scraps in the rubbish. Similarly, businesses may be made responsible for separating food scraps from other waste.

Effective implementation

237 The preferred option for proposal 1 involves a national education and behaviour change campaign. Consistent national messaging through this campaign will help

households and businesses better understand how the proposals impact them and deliver support for effective implementation at the household and business end.

238 Proposals 2, 4, 5, and 6 all involve some combination of best practice guidance, technical support, and investment. These will support councils to implement best practice and effective kerbside collections.

239 Funding through the increased waste disposal levy and the CERF will also aide in the effective implementation of these proposals.

Risks and mitigations

240 Whilst there is strong and wide public, local government and industry support for these proposals, there may be opposition from some individual companies or councils who may be opposed in principle to government regulation or who may face higher costs to implement the proposals. Highlighting the role that diverting waste from landfill and improving the circularity of products and packaging can play to prevent further climate change will help mitigate this risk, alongside outlining the advantages for communities of improved access to recycling services.

241 One of the main risks to achieving the proposed timelines for organic waste diversion is the length of time it takes for processing facilities to either expand their operations or set up a new facility in a new region. Consents can take two years or longer, and continued urban sprawl is also challenging for existing facilities. Currently a fast-track consenting process for these types of facilities provides some mitigation.[49] There may be a need to investigate a similar mechanism beyond July 2023.

242 Other risks are the ability of the sector and in particular local government to manage the degree of change as a result of the Ministry's overall extensive and ambitious work programme. Publishing the proposed Waste Strategy and highlighting the changing roles of local and central government will give the sector greater certainty on the direction of travel.

243 There may also be pushback from councils and ratepayers as ongoing operational costs for collections may lead to rates increases. The increase in the waste disposal levy and funding through CERF for organic collections will support councils to reduce their transition costs.

How will the new arrangements be monitored, evaluated, and reviewed?

244 The Ministry for the Environment is the primary regulator for the WMA and would be responsible for undertaking audits and investigating potential breaches of any regulations resulting from these policy proposals.

245 As part of the Ministry's regulatory stewardship responsibilities, it may undertake compliance, monitoring and enforcement (CME) to:

- determine the extent of compliance with the regulations
- investigate and determine the nature and extent of any non-compliance
- take appropriate enforcement action.

246 Under section 76 of the WMA, the Secretary for the Environment can appoint enforcement officers to do this. CME includes compliance monitoring and auditing, as well as investigation and enforcement.

247 The Ministry has a CME team responsible for the WMA. The team has a compliance strategy and policies and procedures in place that can be adapted to work required to monitor the proposals for improved kerbside recycling.

[49] COVID-19 Recovery (Fast-track Consenting) Act 2020 No 35 (as at 03 November 2021), Public Act – New Zealand Legislation.

248 In general, central government's compliance relationship with local government is based on accountability and governance. Central government sets standards, monitors if they are met and, if not, initiates a conversation about how to lift performance to achieve the standard.

Monitoring

249 Routine CME auditing will provide information that will assist in understanding compliance and the identification of any preliminary issues with implementation. The powers to audit recipients of waste levy funding are proposed to be carried over and expanded on in the new legislation.

250 The regulated community will have the means to raise concerns via the Ministry's CME Team following implementation of the proposals.

251 Additionally, stakeholders will have the opportunity to raise concerns during subsequent engagement efforts.

Monitoring and data

252 Monitoring will be used to show the effect of the proposals on household and business kerbside recycling streams.

253 There is significant room to improve the data that is collected on waste disposed of, and diverted, from kerbside. Improved data will be necessary for the Ministry to monitor, review, and measure the effectiveness of the proposals in this impact statement.

254 Some improvements to data collection and reporting have already been consulted on in proposed amendments to Waste Minimisation (Information Requirements) Regulations 2021.[50] These amendments would require councils to report on their performance in achieving waste minimisation and against any standards for implementation of their WMMP.

255 A performance standard could be an effective mechanism to implement proposal 4. Reporting on progress towards these targets could then be required from councils. The amended information requirement regulations are likely to be in place before 2023, although development of a performance standard, or standards, make take slightly longer.

256 Private waste companies also collect waste and recycling from kerbside. To gain more complete data on waste and diversion, proposal 3 in this document suggests requiring reporting from private companies on their kerbside collections. If the preferred option is adopted, it is possible that private companies could be required to start reporting in 2024.

257 Proposed new waste legislation was consulted on in November 2021. One of the proposals considered a national waste licencing regime. Such a system would provide much improved waste data more generally. However, the development and implementation of a national system if adopted would be expected to take several years and may not see reporting start until 2026 or later. This is likely to be too late to monitor the early gains intended from many of the proposals in this document, some of which have early actions phased for completion by 2025 and later actions for completion by 2030.

Non-compliance and breaches

258 Enforcement outcomes will ideally be proportionate to the seriousness of the non-compliance, following an investigation process.

259 The existing WMA has limited CME powers, and these do not apply to all sections proposed to implement the proposals (see table 22). However, only two of the proposals (a standard set of recycling materials and waste company reporting) are

[50] Proactively released Cabinet paper Additional proposals to improve the availability of waste data

intended to be in full effect before regulations transition to proposed new waste legislation expected in 2025. These two proposals both have associated CME tools within the existing WMA.

Table 22: CME tools relevant to the proposals

Section of the WMA	Proposal(s)	CME tool
Section 48 – Direction to amend a Waste Management and Minimisation Plan	Proposals 2 and 5	Under the existing WMA, there is no way for regulations requiring councils to amend their WMMPs to be enforced. Both proposals will not be in full effect until after their intended transition to new waste legislation and a new CME framework.
Section 49 – Performance standards set by the Minister for the Environment	Proposals 1 and 4	Under the WMA, the waste levy payment may be retained if a council does not meet a performance standard. Only proposal 1 would be in full effect until before the intended transition to new waste legislation and a new CME framework.
Section 86 – information from any class of person	Proposal 3	Fines of up to $100,000 are available for a person who knowingly supplies false or misleading information or makes any material omissions in relation to information required under section 86.

260 The proposed new waste legislation will modernise the CME framework with a broader range of tools and powers The process of transitioning regulations to the new legislation would also involve ensuring the regulations have access to the new CME framework as appropriate. These may be used to enforce proposal 6.

261 CME resourcing has been considered and costed into the proposals. Monitoring of the regulated obligations would be added to the Ministry for the Environment's existing council audit programme under the WMA.[51] Council diversion rates will be calculated, and monitored for performance, using data reported by councils under the proposed Waste Minimisation (Information Requirement) Regulations [CAB-21-MIN-0181] and complemented by the data proposed in this paper to be reported by waste companies.[52]

Reviews of the regulations

Proposal 1

262 Proposal 1, *collecting a standard set of materials at kerbside*, will involve an initial list of standard materials. As packaging materials, markets and technology changes over time there needs to be a process for considering additional materials for inclusion.

263 The initial list can be created through a gazette notice so that any future changes to the list do not need to go through Cabinet. The process and criteria for accepting new materials would be included in the gazette notice.

264 Additional classes of materials could be added to the list using reports produced by the Ministry for the Environment following engagement with affected stakeholders.

[51] This would involve adding further questions to the existing audit program when visiting councils.

[52] Diversion would be calculated as the ratio of material diverted from kerbside via recycling and food waste collections as a proportion of total household waste placed at kerbside. The data reported by councils and private waste collectors would be reported through the data platform that is part of this package. Key results for each district are intended to be published on an online performance dashboard.

Inclusion of new materials would be based on a specific set of criteria and a reason for consideration (refer Appendix 4).

Proposal 4

265 If proposal 4, *best practice in kerbside collections*, goes ahead, it will be reviewed in 2027 to take into account the impact of the proposed CRS. If a significant amount of material is removed from kerbside collections because of the scheme, then the performance standards for 2028 and 2030 could be altered accordingly.

Appendix 1. Cost-benefit analysis model

Core assumptions

Table 23: Core assumptions of the cost-benefit analysis model

Factor	Value	Notes
Discount rate	5%	Treasury advice (2021)
Evaluation Period	20 years	Agreed estimate of relevant period for benefits to be realised and recognised
Total household numbers	1,931,500	Statistics NZ household numbers - Family and household projections: 2018 (base)–2043 - Year 2023 Medium Scenario
Household growth	0%	No factor is included for growth. A growth factor would apply equally to all proposals and therefore has little impact on the relative benefits of proposals or options.
Annual household waste materials generated	681 kg	This value and the underlying mass balance for each household is used as the baseline for modelling and material flows (ie use of rubbish, recycling or organics services to manage material). Based on data in "Rethinking Rubbish and Recycling" Sunshine Yates (2020)
C02e conversion factor	0.46-0.47	This is the average net emissions reduction per tonne of food waste diverted across the 20-year period of the analysis. MfE internal modelling aligned with landfill decay modelling used to inform the emissions reduction plan.

Modelling approach

1. The modelling is predicated on the proposals, each being a separate initiative that in theory can be implemented as a policy proposal in its own right. While in some cases, costs and benefits can be discretely and directly attributable to a single proposal, other costs and benefits can accrue across the different proposals on an incremental basis. Therefore, the model assigns costs and benefits to specific proposals where they best lie.
2. Table 24 outlines the key parameters in modelling the cost-benefit analysis.

Table 24: Cost-benefit analysis modelling approach

Parameter	**Description**
Affected households and councils	The model uses figures for household entitled to receive a collection service (service entitled premise, SEP) taken from Stats NZ as a basis of modelling. Many inputs to the model are first calculated as a value per SEP which is then multiplied out across the number of 'qualifying' SEPs for a particular proposal to derive an estimate of total national cost or benefit.
Material generation	The amount of rubbish, organic material and recyclable material generated by households annually are based on the 'Rethinking Rubbish and Recycling' rubbish audits prepared by Sunshine Yates for WasteMINZ (2020).
Council type	Councils are classified as 'metro', 'provincial', and 'rural' based on their population size to apply appropriate levels of fixed costs associated to a proposal.
Council performance	Councils are classified as low, medium, or high performance to reflect the services they currently provide in relation to what the proposal addresses, based on council service data. These classifications are used to determine which councils are impacted by each of the proposals. For

	example, the costs and benefits that apply to the introduction of kerbside recycling services (to reach an outcome of all councils having a recycling service) only applies to those households where the Council's performance level has been categorised as low.
Commodity revenue	Commodity prices used to calculate revenues are based on Morrison Low's experience in council recycling markets. The prices represent average revenues across multiple projects covering both North and South Island councils from 2019 to 2021. Prices are exclusive of shipping and distribution costs.
Capital costs	Capital costs (receptacles, plant and vehicles) are aggregated from recent Morrison Low procurement processes.
Commercial food scraps diversion	Proposal 6 was modelled differently to other proposals due to a lack of data. A top-down approach was taken by attributing a percentage of total food waste to landfill as generated by businesses. A likely diversion factor of 50% also reflects the likely effectiveness of the proposal. Overall disposal tonnages are then allocated across businesses based on their industry and size.

Appendix 2. Table of council kerbside services and accepted materials

Table 25 below summarises the key features of council kerbside recycling and food waste collections including what services are provided, which materials are accepted, and where relevant the method of collection. The data was first collected in 2021 with the help of WasteMINZ and updated in 2022.

Table 25. Council name	**Aluminium & steel cans**	**Glass bottles & jars**	**Paper and card**	**Plastics**	**Food and garden waste**
For Aluminium and steel 'F' indicates aluminium foil or trays accepted, 'A' aerosols accepted For Glass – the following acronyms are used for the method of collection: CWB – comingled wheeled bin, GWB - separate glass wheeled bin, GC separate glass crate, CC – comingled crate sorted at kerbside For Paper and card 'P' indicates pizza boxes collected, 'S' indicates collected separately For Plastics the numbers indicate which types of plastics are accepted For Food and garden 'FO' indicates food only, 'GO' garden only, 'FOGO' food and garden combined, FO/GO food only and garden only collections. Dates indicated a planned start date					
Ashburton District Council	1	GC	P	1, 2, 5	Scoping
Auckland Council	F, A	CWB	P	1-7	FO
Buller District Council	1	GC	P	1, 2, 5	None
Carterton District Council	A	GC	P	1, 2, 5	None
Central Hawke's Bay District Council	1	CC	P, S	1, 2, 5	None
Central Otago District Council	1	GC	1	1, 2, 5	FOGO 2023
Chatham Islands Council	No council collections but also no urban areas with greater than 1,000 people				None
Christchurch City Council	A	CWB	1	1, 2, 5	FOGO
Clutha District Council	F	0	P	1, 2, 5	None
Dunedin City Council	F	GC	P	1, 2, 5	FO/GO 2023
Far North District Council	No council collections				None
Gisborne District Council	A	1	1	1, 2, 5	None
Gore District Council	0	GWB	0	0	None
Grey District Council	F, A	GC	P	1, 2, 5	None
Hamilton City Council	A	GC	P	1-7	FO
Hastings District Council	1	GC	P, S	1, 2, 5	None
Hauraki District Council	A	GC	1	1, 2, 5	Scoping
Horowhenua District Council	1	GC	1	1, 2, 5	None
Hurunui	A	0	P	1, 2, 5	None
Hutt City Council	1	GC	P	1, 2, 5	GO
Invercargill City Council	F, A	CWB	P	1-7	None
Kaikoura District Council	1	GC	P	1, 2, 5	None
Kaipara District Council	No council collections. User pays bags available.				None
Kāpiti Coast District Council	No council collections. Private companies must offer recycling with rubbish collection.				None
Kawerau District Council	1	CC	P	1, 2	GO
Mackenzie District Council	F, A	GC	P	1, 2, 5	FOGO
Manawatu District Council	1	GC	P	1-5	FO 2024
Marlborough District Council	F	CC	P	1-7	None
Masterton District Council	A	GC	P	1, 2, 5	None
Matamata-Piako District Council	A	GC	P	1, 2, 5	None
Napier City Council	1	GC	P, S	1, 2, 5	None
Nelson City Council	1	GC	P	1, 2, 5	None
New Plymouth District Council	F, A	GC	P	1, 2, 5	FO
Opotiki District Council	A	CC	P	1-7	None
Otorohanga District Council	A	CC	P	1, 2	None
Palmerston North City Council	A	GC	P	1, 2, 5	None

Porirua City Council	A	GWB	P	1, 2	None
Queenstown Lakes District Council	A	C	P	1, 2, 5	Scoping
Rangitikei District Council	No council collections.				None
Rotorua Lakes Council	1	GC	P	1, 2, 5	Scoping
Ruapehu District Council	1	CC	P	1, 2, 5	FO
Selwyn District Council	A	CWB	P	1, 2, 5	FOGO
South Taranaki District Council	F, A	GC	P	1, 2, 5	GO
South Waikato District Council	F, A	CC	P, S	1, 2	FO 2024
South Wairarapa District Council	A	GC	P	1, 2, 5	None
Southland District Council	F, A	CWB	P	1-7	None
Stratford District Council	F, A	GWB	P	1, 2, 5	None
Tararua District Council	1	GC	P	1, 2, 5	None
Tasman District Council	F, A	GC	P	1, 2, 5	None
Taupo District Council	1	GC	P	1, 2, 5	Scoping
Tauranga City Council	F	GC	P	1, 2, 5	FO/GO
Thames-Coromandel District Council	1	GC	P	1, 2, 5	FO 2023
Timaru District Council	F, A	GWB	1	1, 2, 5	FOGO
Upper Hutt City Council	No council collections.				None
Waikato District Council	A	CC	P, S	1, 2, 5	Raglan trial
Waimakariri District Council	A	CWB	P	1, 2, 5	FOGO
Waimate District Council	F, A	GC	P	1, 2, 5	FOGO
Waipa District Council	F, A	GC	P	1, 2, 5	None
Wairoa District Council	1	CC	P	1, 2, 5	None
Waitaki District Council	No council collections.				None
Waitomo District Council	F	CC	P, S	1, 2	None
Wellington City Council	1	GC	P	1 2, 5	Trialling
Western Bay of Plenty District Council	F, A	GC	P	1, 2, 5	FO
Westland District Council	F	0	P	1, 2, 5	None
Whakatane District Council	A	GC	P	1, 2	GO
Whanganui District Council	No council collections.				None
Whangarei District Council	F, A	GC	P, S	1, 2, 5	None
Totals	**58**	**56**	**58**	**58**	**21**
Subtotals	Foil= 20 Aerosols=33	CMW= 6 GC= 36 GWB= 4 CC= 10	P = 52 S = 7	#1 = 58 #2 = 58 #5 = 52 Other = 7	FO =8 FOGO = 7 GO = 4 FO/GO = 2 Scope / trial = 7

Appendix 3. Details about collection and recycling specific materials

Specific issues with aerosol cans, aluminium foil, trays, and plates

1. Recycling aerosol cans, aluminium foil, trays and plates in an ethical and circular manner requires separating them from the metal food and beverage containers such as the aluminium cans or tin cans collected in kerbside. Most materials recovery facilities sell all their aluminium as a 'used aluminium beverage container bale' as this makes up almost all of the aluminium collected. The specifications for these bales typically state that aerosol cans, aluminium foil, trays, and plates should not be included.[53]
2. This is due to the contamination from the plastic components, and for aerosols, the greater risk of contamination from the contents of non-empty aerosols. If these materials are accepted in a collection but not sorted separately, our recycling system is knowingly sending contamination to recycling processors who do not want it.
3. Facilities that process kerbside materials are generally set up to sort steel items (using magnets) and aluminium items (using eddy currents) from other materials. Secondary sorting to split the steel or aluminium stream by the type of item is not usual. To do so would require either hand sorting or using optical recognition technology to identify and divert foil, trays, plates or aerosol cans from food and beverage cans.

Aerosol cans

4. Aerosol cans can be made from steel or aluminium and are accepted by more kerbside collections than not. The steel and aluminium of the cans is recyclable, but aerosol cans need specific processing. Our kerbside systems are not usually set up to process aerosols in an ethical, high quality, and safe manner and only a couple of facilities across the country actually sort and recycle aerosols.
5. The trigger in aerosol cans is plastic and needs to be removed. Specialised metal recyclers do this by shredding the aerosol cans and then separating the steel and aluminium from the remaining floc (everything else). Because steel has a lower value than aluminium, the extra time and cost involved in this step can make processing steel aerosol cans financially marginal.
6. Partly filled and still pressurised aerosol containers can pop explosively during crushing in the collection truck, shredding, or compaction of a scrap metal bale. Some propellants used are flammable heightening the risk. The risks can be managed but usually require upgrading safety equipment such as enclosing compactors and processing fewer aerosols at one time, which increases costs.

Aluminium foil, trays and plates

7. Aluminium foil, trays and plates contain recyclable aluminium. However, the thinness of the material poses problems for collection, sorting, and eventual recycling.
8. The eddy currents used to sort aluminium will not work on a thin light item. Instead, foil, trays and plates may be sorted into the paper and cardboard stream and become contamination. Compacting these items into a dense ball larger than 55cm can allow them to be sorted into the aluminium stream but relies on householders to collect and compact these items in this manner.
9. Once in the aluminium stream thin items face the same ethical hurdle as aerosols. By default, they are included in the used beverage container bales despite specifications explicitly excluding them.
10. At the remelting furnace any uncompacted thin light aluminium is likely to float to the surface and be oxidised rather than be melted into new aluminium.

[53] New Zealand exports our scrap steel and aluminium to be recycled. Most exporters use the internationally accepted specifications of the Institute of Scrap Recycling Industries Scrap Specifications Circular | ISRI

11. Aluminium foil, trays and plates are often plastic coated and/or have food residues. The relative thinness of the aluminium can make these significant contaminants. They make up more than 5 per cent of the weight of collected material, decreasing the value of the bale and increasing energy and emissions when these contaminants are burnt off at the remelting furnace.

12. If aluminium foil, trays and plates could be efficiently sorted into their own stream, they could be sold as a post-consumer aluminium foil bale. But this is a much lower value commodity and depending on volumes and costs of separation is likely to be financially marginal.

Barriers to all council collections accepting plastic #5 (PP – polypropylene)

13. Even in the last twelve months further councils have started collecting plastics #5, partly due to industry efforts to promote the value of plastic #5 and Government supported investment in upgraded sorting equipment. Plastic #5 is now not accepted in only seven council collections. Plastic #5 is typically used in food packaging for items such as ice cream and yoghurt containers. It is included in the proposed standard materials because of its fit for our circular economy. It is highly recyclable, and the recycled product has strong demand and value. New Zealand currently imports recycled plastic #5 to meet our manufacturers' demand, while at the same time we landfill a proportion of what we use.54

14. Where it is accepted, plastic #5 is collected with the other plastics. Its acceptance does not require new crates, bins, or vehicles. Due to recent sorting equipment upgrades55 plastic #5 can now be sorted at all New Zealand materials reprocessing facilities.

15. In 2021 when a larger number of councils did not collect plastic #5, the main reasons given were concerns about:[56]
    - limited markets for plastic #5
    - increasing contamination (where only plastics #1 and #2 are collected)
    - the cost of re-educating households, especially if weak markets meant flip-flopping to not collecting again
    - collection contractor reluctance to change and contract timeframes
    - a lack of infrastructure to sort plastic #5 at the materials recovery facility (optical sorters for an automated line, or more staff, bins and training for a manual sorting line).

16. These concerns have largely been addressed in recent years. Before 2018, most plastic collected for recycling was sent offshore. Rapid changes in offshore markets introduced a period of volatility for recycled commodities including plastic #5. Some councils stopped collecting it in this period. Since then, investment in onshore sorting and plastic processing has increased New Zealand's capacity to sort and process plastic #5. Public demand is also driving an increase in the use of recycled plastic. Demand for recycled plastic #5 is strong and expected to stay strong as we continue to move towards a more circular economy.

[54] Polypropylene Recycling #5 | Plastics New Zealand and Spotlight on Circularity: Creating Circular Solutions for Polypropylene (#5) in New Zealand | Plastics New Zealand

[55] More action on waste – Government funds recycling infrastructure, moves to standardise kerbside collections | Beehive.govt.nz

[56] MfE correspondence with Plastic NZ polypropylene working group, September 2021

Appendix 4. Process and criteria to make changes to the standard set of materials accepted in kerbside services

1. The standard materials to be accepted in kerbside services would be set via a gazette notice under section 49 of the WMA. Section 49 allows the Minister for the Environment to set performance standards for the implementation of councils' WMMPs.

Amending standard materials for kerbside recycling

2. Whether to add material to, or remove materials from, the standard set of materials accepted in kerbside recycling would include consideration of the following criteria. These criteria have incorporated feedback from the consultation:
    - sustainable end markets – markets are sufficiently large and have longevity
    - end market solutions are circular and minimise environmental harm
    - processing technologies are economically viable
    - supply chains contribute appropriately to recovery and end of life solutions of their products
    - materials can be processed by both automated and manual recovery facilities

Amending standard materials for food and garden waste collections

3. For food, garden, and food and garden waste collections the proposed criteria for consideration are below and have incorporated feedback from the consultation:
    - products help divert food waste from landfills
    - products meet standards for compostability accepted in New Zealand
    - products are certified in their final form to ensure they do not pose a risk to soil or human health
    - products are clearly identifiable so that they can be distinguished from non-compostable products
    - a technology or process is available to easily identify and sort compostable from non- compostable products.
    - producers and users of the products and packaging contribute to the cost of collecting and processing.

When would either set of standard materials be amended?

4. For both sets of standard materials It is also proposed that classes of items or materials may be considered for inclusion by:
    - application of a priority product stewardship scheme
    - every four years
    - as initiated by the Minister for the Environment.

Appendix 5. Cost-benefit analysis summary for all proposals

Table 26: Monetised cost and benefit summary for all proposals preferred options.

	Proposal 1 Option 3	Proposal 2 Option 4	Proposal 3 Option 2	Proposal 4 Option 3	Proposal 5 Option 3	Proposal 6 Option 4	Total
Cost benefit summary							
Total costs over 20 years ($m PV)	$45	$303	$7	$19	$78	$172	$625
Total benefits over 20 years ($m PV)	$64 to $211	$309 to $497		$33	$66 to $107	$170	$643 to $1,017
Net present value	$19 to $165	$6 to $194	-$7	$14	-$12 to $29	-$2	$18 to $392
Benefit cost ratio	1.4 to 4.7	1.0 to 1.6		1.7	0.9 to 1.4	1.0	1.0 to 1.6
Cost benefit breakdown for households, councils, businesses, and/or the waste sector ($m present value)*							
Direct financial costs							
Implementation costs	$3	$28	$0.1	$0	$6	$13	$50
Operating costs	$38	$274***	$3	$18	$72***	$157***	$562
Direct financial benefits							
Increased revenue from diverted materials (quantity, quality, and/or change in packaging OR compost)	$46	$24		$33	$16	$13	$133
Reduced recycling processing costs	$18						$18
Reduced rubbish collection costs		$223				$122	$345
Reduced household disposal costs					$50		$50
Net direct financial impact	$23	-$56		$15	-$11	-$35	-$67
Indirect benefits							
Emissions reduction		$63				$35	$98
Household willingness to pay for increased recycling (dry or organics)	$146**	$187**			$41**		$374
Impact on a per household per year basis							
Annualised direct financial costs per household	$4	$42		$2	$81		$129
Annualised direct financial benefits per household	$5	$35		$3	$69		$111
Net impact per household per year**	$1	-$8		$1	-$12		-$18

Impact on Central Government ($m PV)							
Implementation costs	$4	$0.2	$3	$0.3	$0.1	$0.1	$7
Operational costs	$0.4	$0.2	$2	$1	$0.1	$2.1	$5

Note: some figures may not add due to rounding.

* For proposals 1, 2, 4, 5, these will be shared between households, councils and the waste sector. For proposal 3, these will be felt by the waste sector. For proposal 6 these will be felt by businesses and the waste sector.

** Only included in the upper range of cost-benefits

*** Includes recovery of capital investment in plants and vehicles

**** These figures are indicative and assume that full savings or costs will be passed down to households. It does not account for funding to councils which may decrease the net impact on households.

1. Indirect benefits: These will be shared by New Zealand as a whole. Household willingness to pay is included in the range to provide an indication that the scale of non-monetised benefits is non-trivial.

Key assumptions of analysis

2. For proposals 1, 2, 4, 5 direct financial costs and benefits will be shared among households, councils, and the waste sector. For proposal 6 these are shared amongst businesses and the waste sector. In the long-term competitive markets should see benefits and costs shared evenly. In the short-term contractual arrangements about sharing upside and downside risk for recycling costs and commodity revenue will determine the split between the relevant stakeholders for each proposal.
3. Costs to households, councils, and the waste sector will also vary by district depending on how different their current services are to the proposed changes.
4. The annualised direct financial costs per household assume that implementation costs are amortised over 10 years as this is a typical council contract period linked to the life of collection vehicles and average life of receptacles.

Risks and uncertainties

5. Several sources of funding may decrease the cost of change for councils, and hence households, and the recycling sector. How these sources of funding will be distributed is currently under consideration.
6. Waste disposal levy increases will provide greater funding to councils to spend on implementing changes (capital and operational costs). Central Government is likely to continue to invest in recycling infrastructure reducing the costs for the recycling sector and councils. The Government has also approved funding (through CERF) for activities such as a national behaviour change campaign, investment in organics processing infrastructure, bins, and service implementation, again reducing direct costs to the recycling sector, councils, and households.

Appendix 6. Facilities that currently have capacity and resource consent to accept kerbside collections of household food waste

1. The following organics processing facilities have been identified as currently having capacity and resource consent to accept kerbside collections of household food waste.

Table 27: Facilities with resource consent that can accept household food scraps	
Region	**Facility**
Waikato	• Envirofert – Tuakau • Hampton Downs – Waikato
Bay of Plenty	• Enviro NZ – new facility planned 2023 • Ecogas – Reporoa
Hawkes Bay	• Biorich – Napier [identified post-consultation]
Canterbury	• Living Earth – Christchurch • Timaru Eco Compost Facility – Timaru

2. For this analysis we suggested that councils within 150 kilometres of a facility have access. Based on the facilities identified in Table 36 above, the following councils have access and would have until 2026 to roll out a collection.
    - **North Island:** Auckland, Thames Coromandel District Council, Matamata-Piako District Council, South Waikato District Council, Waikato District Council, Waipa District Council, Waitomo District Council.
3. Identified post-consultation: Wairoa District Council, Hastings District Council Central Hawkes Bay and Napier District Council.
    - **South Island:** Waitaki District Council, Ashburton District Council and Hurunui District Council.
4. Note Auckland, Ashburton, Thames Coromandel, and Matamata Piako Councils have all announced plans to roll out organic collections.