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Project framework: Combatting food waste in Aotearoa

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The problem

Food that is produced for human consumption but not eaten due to waste throughout the food system has adverse environmental, social, and economic impacts.

- **Environmental:** Wasting food means accruing all the environmental harms and expending the often limited resources associated with food production without realising the benefits of nourishing the growing global population. Land and water use, soil and water contamination, and greenhouse gas emissions throughout the food lifecycle and during decomposition are among the environmental costs.¹ In Aotearoa in 2020, emissions from the waste sector accounted for 4.1% of our total greenhouse gas emissions, so combatting food waste can support climate change mitigation.²
- **Social:** In a country where 12% of children live in households where food runs out sometimes and 3% live in households where food runs out often,³ wasted food represents a missed opportunity to contribute to food security. The burden of food insecurity in Aotearoa falls unevenly: it is more likely to be experienced in Māori and Pacific households and among socioeconomically deprived people,⁴ a major equity issue for a food producing nation that earned \$31.2 billion from food and beverage exports in 2020/21.⁵
- **Economic:** Consumers lose money when food is wasted. In 2018, each New Zealand household wasted an average of NZ\$644 worth of edible food.⁶ Investing in measures to combat food waste has been found to offer a substantial return on investment for businesses too, with a 2021 Australian study calculating a return on investment (ROI) of 21:1 in direct and indirect savings resulting from business food waste interventions⁷ and a 2017 study finding a median ROI of 14:1 over a three year period.⁸

Wider context

Recognising the wins that can be achieved by reducing food waste, national and global efforts are ramping up. To build on these efforts, OPMCSA's major project for 2022/23 is focused on combatting food waste in Aotearoa. We announced the project in April 2022,⁹ and are now undertaking evidence syntheses and producing recommendations to inform action. This work is being released as a series of interrelated reports and will conclude with a summary report collating the key messages and recommendations. Illustrative case studies will be used throughout. While the project is being undertaken as a series of reports, we will ensure that connections are recognised and opportunities at the interface between workstreams are explored.

One of the challenges associated with tackling food waste is understanding the extent of the problem. In Aotearoa, we have some understanding of the extent of food waste at the consumer and retail levels, but less is publicly known about how much food is lost during production,

¹ [WWF-UK The global impact of food loss and waste on farms 2021](#), accessed 21 April 2022

² [MfE New Zealand Greenhouse Gas Inventory 1990-2020](#), accessed 21 April 2022

³ [MoH 2020-21 health survey](#), accessed 21 April 2022

⁴ Ibid.

⁵ [NZTE food and beverage exports](#), accessed 21 April 2022

⁶ [New Zealand Food Waste Audits 2018](#), accessed 21 April 2022

⁷ [Australia National Food Waste Strategy Feasibility Study 2021](#), accessed 21 April 2022

⁸ [The business case for reducing food loss and waste](#), accessed 5 December 2022

⁹ [Combatting food waste](#), accessed 5 December 2022

processing, manufacturing, transport, and export.¹⁰ While filling these data gaps is important both for understanding the nature and scale of the problem and monitoring progress, action shouldn't be delayed in the meantime.

Aotearoa is already taking some action on food waste. Efforts are increasing, particularly with the food rescue sector becoming more organised and better funded with support from the Ministry for Social Development (MSD), galvanised by the evident food security needs throughout the COVID-19 pandemic. In addition, the Ministry for the Environment (MfE) is working to standardise and improve waste management¹¹ and recognises food waste reduction as a key component of our climate change mitigation efforts.¹² The Love Food Hate Waste programme has also made an impact on household food waste through consumer empowerment,¹³ but is no longer funded by central government. There remains plenty more that could be done, with untapped solutions across our food system that OPMCSA is exploring throughout this project.

Project vision and guiding frameworks

The OPMCSA food waste project is guided by the following vision:

Everyone in the food system works collaboratively to reduce the environmental, social, and economic costs of food waste by preventing food waste in the first instance and working to capture the value of surplus and wasted food where prevention doesn't occur.

Our work is also guided by the food recovery hierarchy and circular economy frameworks, and Te Ao Māori perspectives and mātauranga Māori. These frameworks are detailed in the first report in the series, [Food waste: A global and local problem](#). In the first report in the series, we also highlight food waste as a wicked problem, requiring collaboration between research, government, community, and industry stakeholders to solve.

A wide range of stakeholders and experts with crucial knowledge and experience are involved in the project reference group. We are engaging with Māori experts and stakeholders, ensuring their expertise and knowledge is embraced.

The project also recognises the diversity in our food system – for example, from large-scale farms and fishery operations through to household and community māra kai – as well as the diversity of relationships with kai and contexts in which it is consumed. There are important cultural aspects of food waste – for example, some uses of food waste may be considered tapu – and we are seeking specific guidance from experts as we navigate these understandings. In addition, there will be several thematic through lines across the workstreams, with food safety and nutrition being particularly important recurring themes.



If you'd like to be involved in the project reference group and we aren't already in touch, please reach out

info@pmcsa.ac.nz

¹⁰ [Environment Committee briefing in investigate food waste in New Zealand 2020](#), accessed 21 April 2022

¹¹ [Transforming recycling: Consultation document](#), accessed 5 December 2022

¹² [Aotearoa New Zealand's first Emissions Reduction Plan 2022](#), accessed 5 December 2022

¹³ [New Zealand Food Waste Audits 2018](#), accessed 21 April 2022

Project timing, sequencing, and relationship to other work

We anticipate that this project will be completed by mid- to late-2023, with a series of reports produced in turn, but with sequencing overlaps and connections drawn between each report to create a holistic evidence base and interrelated series of recommendations. We will build on existing work, including a food waste report and set of recommendations provided to the Environment Committee in 2020.¹⁴

We are working to align the delivery of our reports with relevant government milestones. To that end, after characterising the nature and extent of the problem, we began by exploring food rescue to ensure that aspect of the project was ready in time to support MSD's Food Secure Communities strategic refresh. Other relevant government workstreams include MfE's work on waste management (including their proposal to mandate kerbside organic waste collection)¹⁵ and inclusion of organic waste in the Emission Reductions Plan,¹⁶ as well as cross-agency food systems work involving multiple government departments.¹⁷

Non-governmental and intergovernmental milestones and workstreams are important to bear in mind too. These include the urgent need to pursue global climate change mitigation in what has been described as the critical decade for climate action and the United Nations' work on measuring food waste to monitor progress towards Sustainable Development Goal 12.3.¹⁸ With efforts to tackle food waste ramping up globally, we will ensure our work is informed by insights from abroad, including but not limited to initiatives in Australia,¹⁹ the Netherlands,²⁰ and the UK.²¹

Since starting the project in April, we have published two reports in the series.

- Report 1 – [Food waste: A global and local problem](#)
- Report 2 – [Food rescue in 2022: Where to from here?](#)

In 2023, we plan to produce and publish a web resource, two further substantive reports, and a summary report.

- Web resource – We intend to produce a web resource which summarises key food waste processing options for household and business food waste.
- Report 3 – This report will explore options for capturing value from food waste which isn't prevented or rescued, such as upcycling, conversion to animal feed, composting, and anaerobic digestion. It relates closely to the planned web resource.
- Report 4 – This report will focus on food waste prevention at all stages of the food supply chain, from primary production through to consumer food waste prevention.
- Summary report – This report will collate key messages and all recommendations from the project and add recommendations to capture opportunities at the interface between workstreams.

¹⁴ [Environment Committee briefing in investigate food waste in New Zealand 2020](#), accessed 21 April 2022

¹⁵ [Transforming recycling: Consultation document](#), accessed 5 December 2022

¹⁶ [Aotearoa New Zealand's first Emissions Reduction Plan 2022](#), accessed 17 May 2022

¹⁷ [Food waste: A global and local problem](#), accessed 5 December 2022

¹⁸ Sustainable Development Goal 12.3: "By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses."

¹⁹ E.g. [Australian Government – Tackling Australia's food waste](#), accessed 4 May 2022

²⁰ E.g. [No Waste Network](#), accessed 30 June 2022

²¹ E.g. [WRAP UK – Food Waste Reduction Roadmap](#), accessed 4 May 2022