## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministerial Foreword</td>
<td>3</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>5</td>
</tr>
<tr>
<td>Introduction</td>
<td>9</td>
</tr>
<tr>
<td>Food Waste is a Global Problem</td>
<td>9</td>
</tr>
<tr>
<td>Acting on Food Waste: Scotland’s 2025 Food Waste Target</td>
<td>11</td>
</tr>
<tr>
<td><strong>Why do we need a food waste action plan?</strong></td>
<td>12</td>
</tr>
<tr>
<td>Planning for Success: Scotland’s Food Waste Action Plan</td>
<td>12</td>
</tr>
<tr>
<td>What is food waste?</td>
<td>12</td>
</tr>
<tr>
<td>The impact of landfill food waste</td>
<td>12</td>
</tr>
<tr>
<td>A circular economy approach to food waste</td>
<td>13</td>
</tr>
<tr>
<td>Valuing our food</td>
<td>13</td>
</tr>
<tr>
<td><strong>Where we are</strong></td>
<td>15</td>
</tr>
<tr>
<td>A collaborative effort</td>
<td>15</td>
</tr>
<tr>
<td>Food recycling availability</td>
<td>16</td>
</tr>
<tr>
<td>The food waste hierarchy</td>
<td>17</td>
</tr>
<tr>
<td>Landfill ban</td>
<td>17</td>
</tr>
<tr>
<td><strong>Where we need to be – a call to action</strong></td>
<td>19</td>
</tr>
<tr>
<td>Action areas and measures</td>
<td>23</td>
</tr>
<tr>
<td>Improved monitoring and infrastructure</td>
<td>24</td>
</tr>
<tr>
<td>Sector leadership</td>
<td>26</td>
</tr>
<tr>
<td>Public engagement and communication</td>
<td>30</td>
</tr>
<tr>
<td>Supporting delivery of a new approach to food waste</td>
<td>33</td>
</tr>
<tr>
<td><strong>Measuring progress and demonstrating success</strong></td>
<td>36</td>
</tr>
<tr>
<td>Leadership, governance and delivery</td>
<td>36</td>
</tr>
<tr>
<td>Investing for success</td>
<td>36</td>
</tr>
<tr>
<td>Measuring progress</td>
<td>36</td>
</tr>
<tr>
<td><strong>What success will look like</strong></td>
<td>39</td>
</tr>
<tr>
<td>Case studies</td>
<td>40</td>
</tr>
</tbody>
</table>
In our Climate Change Plan we committed to an ambitious target of reducing Scotland’s food waste by 33% by 2025. This Action Plan sets out a number of measures that will support the delivery of this target.

Scotland is a country internationally renowned for its food and drink. Our commitment is to be a Good Food Nation by 2025. This means a country where people from every walk of life take pride and pleasure in, and benefit from, the food they produce, buy, cook, serve, and eat each day. This commitment sets out our intention to ensure that we appreciate our food. But it is also increasingly important that we see our food as a something that has real value; something we should not casually over-purchase, over-consume or throw in the landfill bin.

Food waste in landfill is harming our environment and contributing to climate change. Recycling food waste stops that waste going into landfill. 80% of Scottish households have access to food waste recycling so there is no excuse for most of us not to recycle our food waste. Like many of our throw-away habits, it is a behaviour that we need to shift and that we can encourage others to change. That is why we have, as the first action under this Plan, launched a media campaign to promote food waste recycling to citizens so that we can highlight the harmful environmental impact of food waste.

In a world of finite resources, there is the moral imperative to reduce our demand on the planet’s resources. Food waste is harmful to our environment and the production, processing and transportation of food that is not consumed is a waste of resources and has no place in the circular economy we want to develop in Scotland.

This Plan sets out how the Scottish Government, public sector organisations, businesses, industries and consumers can work together to reduce food waste.

Roseanna Cunningham

Cabinet Secretary for Environment, Climate Change and Land Reform
Scotland plans to meet its ambitious target to reduce its food waste by one third by 2025
Executive Summary

Food waste is a global problem. An estimated 1.3 billion tonnes of food are wasted every year. This is around one third of all that is produced for human consumption, and it is generating about 8% of the world’s greenhouse gas emissions.

Scotland contributes to this problem. In 2014, Scottish households threw away around 600,000 tonnes of food and drink waste. This meant that, as a nation, we also wasted the resources that went into producing, transporting and buying that food. When food waste ends up in landfill, it produces methane gas that is many times more damaging to the environment than carbon dioxide. It also means that we are losing a potentially valuable resource that could be redistributed to humans, recycled as animal feeds, or even converted to fuel and energy.

Scotland is addressing its food waste problem with this ambitious Action Plan designed to: reduce unnecessary demand for food; improve how we produce, store and cook food so that we waste less; increase food recycling rates and; make better use of food waste as an organic resource. By tackling issues at every level in the food waste hierarchy, Scotland plans to meet its ambitious target to reduce its food waste by one third by 2025. This means that the country must prevent around 297,000 tonnes of food waste each year.

While Scotland is one of the most ambitious nations in its plans to reduce food waste, it is not alone. The United Nations’ Sustainable Development target 12.3 aims to half global food waste by 2030, and other European countries have also set targets to radically reduce food waste.

Everyone in Scotland can play a part in reducing our food waste.

The Scottish Government, supported by Zero Waste Scotland, will lead a collaborative effort to implement this Plan and organisations from every part of the food supply chain will help to combat food waste.

Key agencies, including SEPA and Food Standards Scotland, will provide the guidance, support, and infrastructure to drive change and deliver on the target.

The Scottish food and drink industry will show leadership and drive innovation to reduce waste throughout the supply chain.

Our public sector will reduce food waste throughout its buildings and services. This work will inform other organisations’ efforts and help to make unnecessary food waste unacceptable in Scotland.

We will support Scotland’s researchers and innovators in developing and sharing ways to reduce food waste and to extract value from this organic resource.

The people of Scotland will be motivated and empowered to reduce their food waste and, as consumers, they will also drive changes in labelling and in food businesses’ corporate behaviour.

Food is an important part of Scotland’s identity and of our economy. By valuing our food and wasting less of it, we can help to protect the environment, boost the Scottish food and drink sector, strengthen food security, and help make Scotland a healthier nation. The Food Waste Reduction Action Plan, therefore, aligns with the Scottish Government other cross-cutting policies, such as A Healthier Future and Good Food Nation.
This plan is designed to engage with every part of our food supply chain and waste hierarchy.
Executive Summary

We will make this change possible and reach our 33% reduction target by working across four vital and interconnected areas.

1. Improved monitoring and infrastructure
To reduce waste effectively, we need to improve our monitoring, measurement and reporting of food waste across all sectors. We will:
• Consult, by the end of 2019, on a mandatory national food waste reduction target and mandatory reporting of Scotland’s food surplus and waste by food businesses.
• Develop the infrastructure to support the reporting of food waste.

2. Sector leadership
Everyone in Scotland is expected to play their part in tackling food waste and reaching our target. We will support leadership, innovation, effectiveness and efficiency in Scotland’s public, private and hospitality sectors by:
• Building skills, competency and knowledge on the management of food waste.
• Sharing expertise and best practice.
• Promoting consistent, transparent, and Scottish-specific reporting on food waste following the principles of ‘Target, Measure, Act’.
• Working with leaders, forums, and professional and stakeholder groups to offer support and advice on reducing waste throughout the food supply chain; also creating ‘champions’ for the cause of reducing food waste.

3. Public engagement and communications
We are asking Scotland’s people to make changes in their choices and behaviours around food and food waste. We will deliver a sustained programme of communications designed to: raise people’s awareness and understanding of the food waste problem; engage them in activities that address the problem and; create citizen advocates for food waste reduction.

4. Supporting delivery of a new approach to food waste
Driving effective change throughout the food supply chain needs a coordinated approach. Through a new Food Waste Hub, we will:
• Connect businesses seeking to reduce food waste with the funding, support and innovations that they need.
• Identify the skills that Scotland needs if we are to develop new ways of reducing food waste and optimising our use of bio-resources.
• Promote research and innovation in emerging bio-technologies and other solutions that will tackle food waste.

The Scottish Government is committed to reducing food waste. This plan is designed to engage with every part of our food supply chain and waste hierarchy. It will make the targeted 33% reduction possible by engaging with the producers, suppliers and consumers of food. It will reduce unnecessary demand and avoidable waste and optimise how we use organic resources. It will support technical and business innovation. It will help to make food waste unacceptable in Scotland.
In a world with finite resources and a growing population, the huge scale of food waste has wide-ranging environmental implications.
Introduction

Food Waste is a Global Problem
In a world with finite resources and a growing population, the huge scale of food waste has wide-ranging environmental implications. It is damaging biodiversity and destroying habitats, it is using too much precious land and water, and it is contributing to climate change.

“Food loss and waste generate about 8 per cent of global greenhouse gas emissions. Estimates indicate that if it were a country, food loss and waste would be the third-largest greenhouse gas emitter behind China and the United States“.
(United Nations, 2016)

The United Nations’ Sustainable Development target 12.3 seeks to address the crisis: “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.”

An estimated 1.3 billion tonnes of the world’s food is wasted every year.

This waste is equivalent to one third of all the food produced for human consumption. (FAO)

If food loss waste were its own country, it would be the third-largest greenhouse gas emitter (FAO)

<table>
<thead>
<tr>
<th>Country</th>
<th>GT CO₂E (2011/12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>10.7</td>
</tr>
<tr>
<td>United States</td>
<td>5.8</td>
</tr>
<tr>
<td>Food loss and waste</td>
<td>4.4</td>
</tr>
<tr>
<td>India</td>
<td>2.9</td>
</tr>
<tr>
<td>Russia</td>
<td>2.3</td>
</tr>
</tbody>
</table>

A reduction in food waste will mitigate its environmental and economic impacts and have the potential to benefit civil society. In the EU, an estimated 20% of the total food produced is lost or wasted (FUSIONS, 2016), while 55 million people cannot afford the cost of a quality meal every second day.
Introduction

Acting on Food Waste: Scotland’s 2025 Food Waste Target

Scotland has a food waste problem too. In 2014 Scottish households threw away around 600,000 tonnes of food and drink waste (Zero Waste Scotland, 2016).

When we waste food, we also waste all the energy and resources that went into producing, processing, transporting and cooking it. We also lose the money spent on all these things – meaning that businesses are less efficient and competitive than they could be, and that householders have spent money unnecessarily.

On top of this, if food waste then ends up in landfill, it generates even more emissions in the form of methane gas. Methane is many times more harmful to the environment than carbon dioxide. Food waste is also a potentially valuable resource (for energy, fuel or for fertiliser) that we lose to landfill.

In 2016, the Scottish Government’s Making Things Last strategy announced an ambitious new target to reduce per capita food waste in Scotland by 33% (from 2013 levels) by 2025. This target was the first of its kind in Europe and recognises the critical role of food waste reduction in the fight against climate change and the transition to a more circular, resource-efficient economy.

Increasingly, other European countries are adopting similarly ambitious targets for food waste reduction. The Netherlands launched its ‘United against food waste’ initiative in March 2018, with the aim of becoming the first country in Europe to meet the United Nation’s Sustainable Development Goal 12.3.

“By 2025, we expect to reduce food waste by 33%...”

Scotland’s Climate Change Plan

...and to recycle 70% of all waste.”
Why do we need a food waste action plan?

Planning for Success: Scotland’s Food Waste Action Plan
To achieve an ambitious objective like the 2025 food waste reduction target, we need long-term planning and equally ambitious policy efforts. The Scottish Government recognised this in its Climate Change Plan: The Third Report on Proposals and Policies 2018-2032, where it announced that it would develop a National Food Waste Action Plan to reach its 33% target.

What is food waste?
Scotland has adopted the definition of food and drink waste developed by FUSIONS, a European collaboration funded by the EU Framework Programme 7: “Food waste is any food, and inedible parts of food, removed from the food supply chain to be recovered or disposed (including composted, crops ploughed in/not harvested, anaerobic digestion, bio-energy production, co-generation, incineration, disposal to sewer, landfill or discarded to sea).” It is likely that this definition will underpin further EU guidance and that Scotland will continue to align with this.

The impact of landfill food waste
Household food waste alone accounts for 2,240,000 tonnes CO₂ eq, this represents 2.9% of Scotland’s carbon footprint.

Food waste sent to landfill is particularly problematic as it releases methane, a greenhouse gas many times more potent than carbon dioxide. In 2016, 1.15 million tonnes of biodegradable waste (food waste and other organic waste such as garden waste) was sent to landfill in Scotland. This represented a 43% reduction over 10 years [CCC, 2018] but is still a challenging volume that must be reduced.

In January 2021, Scotland will ban the landfilling of biodegradable municipal waste. This Plan will help implement the ban by reducing the food waste in municipal waste. It will, therefore, support the continued reduction in emissions and Scotland’s climate targets.

![Greenhouse gas emissions from food waste](Zero Waste Scotland, 2016)
A circular economy approach to food waste

Our main aim is to prevent food waste. However, some waste is unavoidable or inedible and we treat this as a resource with value that can be used within a circular economy; supporting Scotland’s [Making Things Last] strategy.

- Scotland’s vibrant food and drink sector produces significant quantities of waste and by-products. Using biorefining technology could turn waste into valuable new forms. [The Biorefinery Roadmap for Scotland and IBioIC resource mapping tool].
- There is also potential for waste as an interim source of fuel as Scotland moves towards 100% renewable energy generation.
- Food waste can be used in more sustainable agricultural practices: as compost, for soil improvement; and to reduce reliance on fossil fuel-based fertilisers.

Valuing our food

Scotland has a vibrant and unique food and drink industry and our food is a strong part of our identity. By valuing our locally-sourced food more, and wasting less, we can boost the Scottish food and drink sector, improve our food security, and support national health and wellbeing. This aligns with Scottish Government policies such as A Healthier Future and Good Food Nation, and to the Scotland Food & Drink Partnership’s Ambition 2030.

When we are detached from our food’s source, from the people who produce it and its place in the environment, we are less likely to value our food and may be more likely to waste it. Scottish householders waste more than £1 billion worth of food each year.

Zero Waste Scotland has supported the Scottish Government in developing this Plan and its measures to significantly reduce food waste across all major sectors by 2025.

Zero Waste Scotland held workshops with stakeholders from all sectors to build an initial list of interventions. These suggested Measures were analysed and used to build a shortlist which was then assessed according to its applicability in the Scottish context, its coherence and its practicality.

Each Measure will be implemented through a series of actions and activities. Some of these have already been initiated while others will be introduced in the period up to 2025. The Plan also brings together Scottish Government commitments made in other relevant strategies and reports.
CASE STUDY: Primary school waste warriors – St Bridget’s Primary

Click here
Where we are

In Scotland, we reduced household food waste by 5.7% between 2009 and 2014 (Zero Waste Scotland, 2016). Our local authorities now provide food waste recycling services to most Scottish households.

This reduction in waste is a result of a range of Scottish initiatives and programmes including:
• improved local authority segregated food waste collections;
• Love Food Hate Waste Scotland;
• Scottish Government consumer campaigns;
• SME Advice and Support Service;
• Education packs for schools;
• Pilot projects and;
• the Good to Go initiative.

UK-wide interventions such as the Courtauld Commitment 2025, and the UK-wide Love Food Hate Waste campaign have also contributed significantly. Circular economy experts, WRAP, have strengthened this work with their technical support and sector specific guidance.

All these initiatives have built a bank of experience and expertise which will support this Plan.

A collaborative effort
We are not alone in our ambitions to reduce food waste. The Courtauld Commitment 2025 (C2025) is a voluntary commitment on the part of more than 100 UK organisations in the food system. Its goal is to make the production and consumption of food and drink more sustainable by cutting the carbon, water and waste associated with food and drink while also reducing food waste from 156kg to 125kg per person. This will reduce food waste in the UK by 1.5million tonnes a year by 2025.

The Scottish Government is a signatory and supporter of the C2025 agreement. Zero Waste Scotland, together with the Scottish food and drink industry, works closely with WRAP and C2025 signatories towards the C2025 goals - and beyond - to meet the even more ambitious Scottish target. This work contributes further to the Sustainable Development Goal 12.3 target of halving per capita food waste at the retail and consumer levels by 2030, and of reducing waste in the food production and supply chains.

The WRAP Food Waste Reduction Roadmap will support C2025 signatories as they ‘target, measure, act’ and reach milestones in 2019, 2021 and 2025.

The recent Department for the Environment, Food and Rural Affairs (DEFRA) ‘Resources and waste strategy’ further emphasises the importance of the C2025 actions in meeting the 2030 SDG goal. It focuses on redistribution and potential legislative tools to reduce food waste. It also provides guidance on the food and drink surplus and waste hierarchy; clearly prioritising prevention, and then, the treatment of food waste.

On the European level, food waste prevention is an integral part of the EU Action Plan for the Circular Economy. The Revised EU Waste Legislation calls on EU countries to reduce food waste at each stage of the food supply chain, to monitor food waste levels, and to report on their progress. The European Commission is developing a common EU methodology to measure food waste consistently and is expected to shortly pass a further revision to the EU Waste legislation requiring Member States to report food waste total annually and every four years provide detailed measurement of food waste at each stage of the supply chain.
It has also established a multi-stakeholder platform [EU Platform on Food Losses and Food Waste], of which Zero Waste Scotland is a member. The Platform includes EU countries and actors in the food chain, and helps define measurements, facilitate co-operation, and share best practice. A key goal of the Commission is to reduce food waste without compromising on food safety.

**Food recycling availability**
Separating food waste for collection allows it to be recycled; releasing the embedded value remaining within it. Food waste can be recycled to produce electricity, heat and vehicle fuel as well as compost and/or fertiliser to help grow more food. There has been good progress in the availability of household food waste collection, with most Scottish households now able to access food waste collection services. Between 2012 and 2017, the percentage of households recycling their food waste more than doubled, from 26% to 55% [Scottish household survey 2017: key findings]. Rates are lower in flats than houses, although the proportion of caddy use in flats is increasing. Food recycling rates are also lower in rural areas, where the rate of food waste composted at home or disposed of in residual waste is higher.

Only food businesses who consistently generate more than 5kg a week are affected by the regulations to separate food waste. Those businesses and organisations below this threshold, or who are defined as ‘rural’ under the Scottish Government classification, are not currently required to separate their food waste for collection.

Between 2012 and 2017, the percentage of households recycling their food waste more than doubled, from 26% to 55%.

[Scottish household survey 2017: key findings].
The food waste hierarchy
Scotland’s 33% target will focus strongly on prevention and will adhere to the principles of the food and drink surplus and waste hierarchy (detailed in Figure 2).

Figure 2: Food waste hierarchy definition (adapted from WRAP UK)

Landfill ban
From 1st January 2021, landfill operators in Scotland will be banned from accepting Biodegradable Municipal Waste. This will reduce landfill and greenhouse gas emissions and help us to extract the remaining resource value from residual waste. This legislative target will drive local authorities and businesses to further improve food waste prevention, separation, and reuse. Adequate support and guidance from bodies such as Zero Waste Scotland and SEPA will be required to help them do this.
The Scottish food and drink industry will demonstrate leadership through the adoption and implementation of the actions highlighted in this action Plan.
Where we need to be – a call to action

Reducing per capita food waste in Scotland to 33% below 2013 levels by 2025 is an ambitious, world leading target and requires the commitment of Government, the public and private sector, and, importantly, the Scottish citizen. We all have our part to play:

- The **Scottish Government**, facilitated by Zero Waste Scotland and partnered by key agencies including SEPA and Food Standards Scotland, will provide any required changes to the legislation; support; and infrastructure to deliver the target;
- The **Scottish food and drink industry** will demonstrate leadership through the adoption and implementation of the actions highlighted in this Action Plan and focus on the internationally recognised “target, measure, act” approach;
- Our **public sector** will lead the way in reducing food waste across our schools, hospitals and public buildings; developing experience and expertise that it can share with the private sector and ensuring that the next generation champions the minimisation of food waste;
- Our **researchers and innovators** will be supported to develop new technologies and processes that will reduce food waste and extract as much value as possible from our organic resources and;
- The **Scottish householder and our next generation** will be empowered to reduce food waste, drive changes in labelling and in food businesses’ corporate behaviour, and reuse or recycle as part of the wider circular economy.

Zero Waste Scotland estimates that total food waste amounted to around 988,000 tonnes in 2013, or 185kg per capita\(^1\). To achieve the target, per capita food waste must fall to 124kg per annum by 2025. Based on current population forecasts, this equates to a reduction of approximately 297,000 tonnes or 61kg per capita below the 2013 baseline (see Table 1).

\(^1\)This is a reduction to the original baseline published in 2016, based on an improved understanding of specific waste streams ([Updated Scottish Baseline Technical note can be found here](#)).

### Table 1: The future of food waste.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Total target tonnage</th>
<th>kg per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5,330,000</td>
<td>988,000</td>
<td>185</td>
</tr>
<tr>
<td>2025 (target)</td>
<td>5,570,000</td>
<td>691,000</td>
<td>124</td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td><strong>240,000</strong></td>
<td><strong>-297,000</strong></td>
<td><strong>-61</strong></td>
</tr>
<tr>
<td><strong>CO₂ eq impact of 33%</strong> (tonnes CO₂ eq)</td>
<td>1,110,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This Plan is a dynamic, living strategy that will respond to new evidence on food waste, closely monitor the Measures, and integrate new technologies and other solutions as they emerge. We will also share our collective national knowledge with our partners across the UK, EU and beyond to ensure we take the most efficient and cost-effective pathway to successfully reaching 33% in 2025.
Largest source of food waste in Scotland: Household & Consumer

61%
All key sectors must be ambitious in their drive to reduce food waste. And some have greater potential to make a positive impact than others; either because they have a greater capacity for reduction or because they can take more effective measures to combat waste.

The two largest sector sources of food waste are Household & Consumer (61%) and Food & Drink Manufacturing (25%). While the Scottish household is a clear target for change, the relationships between the consumer, the retailer and the supply chain are complex, with each influencing the others’ decisions and behaviour.

While there is some uncertainty about the food waste generated by Hospitality & Catering, Wholesale & Retail, Education, and Healthcare sectors, the actions within this Plan will increase our knowledge and understanding of these sectors’ contributions and their capacity to deliver towards the target.
CASE STUDY:
Macleans Highland Bakery: A cracker of an opportunity

Click here
Action areas and Measures

During the development of this Plan, four areas were identified as core in reaching the 33% target. All four, and their associated Measures, are closely interlinked and all encompass the ‘target, measure, act’ approach:

- **Improved monitoring and infrastructure**
  Food waste monitoring and measurement methods have developed considerably over recent years because of better food waste collection, the Courtauld 2025 agreement, and business driven initiatives. However, there are still considerable gaps in our knowledge and these must be addressed so that we can accurately monitor and report on our progress and proactively target sectors that need enhanced support or action. We must also address the barriers to food waste reuse and recycling to ensure that unavoidable food waste can be used in the most efficient manner.

- **Sector Leadership**
  Everyone in Scotland is expected to play their part in tackling food waste and reaching our target. Both the public and private sectors have huge influence and the potential to innovate successfully. Furthermore, changes to practices and the potential introduction of mandatory targets will not only reduce food waste but also increase efficiency, reduce costs and make Scotland a world leader in this field.

- **Public Engagement and Communication**
  Households and consumers are the biggest source of known food waste in Scotland, although their behaviour is heavily influenced by the public and business sectors. A consistent message and sustained communication designed specifically to address the needs of each target audience will empower householders and consumers to change their individual behaviours and drive change throughout the food supply chain.

- **Supporting delivery of a new approach to food waste**
  Addressing food waste is not simple and requires a coordinated multi-stakeholder approach to achieve the target in the most cost effective and efficient way. Coordination throughout the food and drink surplus and waste hierarchy will not only result in higher food waste prevention but in greater opportunities to exploit our organic resources and contribute to Scotland’s economy.

### TARGET
Set a food waste reduction target for your own UK operations, aligned with or contributing to Sustainable Development Goal 12.3

### MEASURE
In a consistent way and share what you’ve learnt

### ACT
To reduce your own food waste, to work in partnership with suppliers and to help your consumers reduce food waste
Improved monitoring and infrastructure

Enhancing food waste monitoring and measurement

Lead organisation: SEPA and Zero Waste Scotland

To act on food waste, we need to improve our monitoring, measurement and reporting of food waste across all sectors. This will:

• help to identify waste hotspots;
• drive the development of money-saving solutions;
• facilitate the more accurate measurement of food waste in the supply chain;
• encourage large businesses to develop Key Performance Indicators and to compare the performances of companies or sites;
• find resources for biorefining;
• identify companies with an interest in developing bioeconomy solutions;
• assess the volumes and types of materials that are available;
• develop relevant networks, and ultimately;
• divert suitable materials from the total food waste stream to other uses in line with the food waste hierarchy.
• review current practices in the coding and reporting of waste materials at manufacturing and waste management sites to identify and resolve inconsistent practice and drive improvement.

The multi-stakeholder Scottish Waste Data Strategy Board will have a lead role in implementing this Measure. We will also continue to share our knowledge and learn from international partners through forums such as the EU Platform on Food Loss and Food Waste.

To deliver improved monitoring of our food waste we will:

• Improve the measurement, reporting and baselining of food loss and food waste for all sectors;
• Consult on mandatory public annual reporting of Scotland’s food surplus and waste by food businesses in by end of 2019, building on the developments within the Food Waste Reduction Roadmap;
• Consult on seeking legal powers for a mandatory Food Waste Reduction Target by the end of 2019 as stated in Good Food Nation Statement of Measures [September 2018];
• Develop an infrastructure, built on existing expertise, to support the reporting of food waste and;
• Identify food waste ‘hotspots’ across all sectors and develop innovative ways to tackle them.
Breaking down barriers to food waste reuse and recycling

Lead organisation: Scottish Government and SEPA

Although food waste recycling is not a directly preventative Measure, it does raise awareness of food waste and it facilitates the re-use of organic resources into fertiliser, new products, fuel, or energy. We can promote and encourage the use of separate food waste collections to raise awareness and encourage engagement among householders and businesses.

Enhanced monitoring of food waste segregation would increase compliance among businesses. Barriers such as geography and the costs of collection mean that rural householders, businesses and organisations have more limited access to segregated food waste collections than those in urban areas. At present, rural businesses and organisations are not required to separate their food waste for collection, although many of the contributors to food waste sources are rural.

In other areas, where food waste collections may be available, barriers to participation include communal waste storage and social factors such as access to education and information, cultural differences and language barriers.

We must work to improve not just the volume but the quality of our food waste recycling to ensure it can be effectively reused or recycled and will not be a source of environmental contamination.

To address these issues, we will:
• Identify the barriers to food waste reuse and recycling through focused stakeholder engagement with relevant householder groups, communities, businesses and local authorities;
• Co-design recycling and reuse solutions that benefit both citizens and local authorities;
• Consult on the rural exemption and review the food waste separation requirements by the end of 2019 and;
• Deliver audience-appropriate communications to raise people’s awareness and participation in food waste recycling;
• Work with SEPA and local authorities to drive improvements in the quality of recycling from households and businesses across Scotland.
Sector Leadership

Support public and private sector leadership on food waste

Lead organisation: Zero Waste Scotland

Every sector has its part to play in reducing food waste. The public sector is a leading light; positively influencing the private sector, wider society, and Scotland’s young people to make food waste reduction part of everyday life. Exciting projects and pilot programmes are already underway.

- Zero Waste Scotland is working with schools, communities, the NHS, and local authorities across Scotland.
- The Scottish food and drink industry is engaging with C2025.
- Small and medium-sized enterprises are receiving Zero Waste Scotland financial support to improve efficiency and reduce food waste.
- Exciting opportunities are being developed in the reuse of organic resources.

Public Sector

The public sector spends millions of pounds annually on food and drink. Good practice in the public sector, such as more consistent and stringent scoring factors in local authority public procurers’ tenders, will set a standard for private sector procurement and suppliers.

The drivers of food waste in schools are complex and numerous. However, outcomes of initiatives such as the Small Change Big Difference campaign have shown that pupil led classroom-based interventions, in tandem with catering measuring and monitoring efforts, can reduce waste within schools. The principles of a ‘Good Food Nation’, reinforced through the value of food, will also ensure that a future generation of Scots has a more holistic understanding of the true cost of food waste.

Food waste prevention in our healthcare system is also difficult to address because of the sheer size of the system that caters for the competing demands of its patients, visitors and staff. Reducing food waste, while meeting patients’ nutritional needs, could lower costs. The NHS has committed to developing a national action plan and the process will be initiated in 2019.

We will:

- Expand pilot programmes across the education sector (schools, colleges, universities and local authorities) and in the government’s and other public sector buildings.
- Support the development and implementation of the NHS Scotland national action plan on food waste.
- Develop best practice guidance and training for public sector procurement teams to drive new ways of working and more transparent supply chains.
- Build skills, competency and knowledge on the management of food waste.
- Update the ‘Love Food, Hate Waste’ education pack and expand its distribution and facilitation.
• Support the integration of food waste prevention into relevant aspects of the national curriculum.
• Working with Good Food Nation measures including their food education programmes.

Business Sector
Food waste prevention can only be effectively achieved by driving transformative change in business practice throughout the food supply and value chain, and across all sectors. Overproduction at the farm gate, unnecessarily stringent specifications, and poor procurement practices are common examples of drivers of supply chain food waste ‘hotspots’.

We will address this with:
• Greater monitoring and public reporting on supply chain food waste;
• Increased accountability and transparency and;
• The encouragement of businesses to take collective responsibility for food waste occurring throughout their supply chains.

The recently released Food Waste Reduction Roadmap developed by WRAP and the IGD (Institute of Grocery Distribution) suggests that businesses are willing to participate.

We will increase participation and ‘cascade’ best practice by incorporating food waste reduction and reporting criteria into existing accreditation standards and qualifications. This will embed food loss and food waste considerations into business models.

We will support the business sector with:
• Continued engagement with C2025 and the Food Waste Roadmap development to promote increasingly consistent, transparent, and Scottish-specific reporting (‘target, measure, act’).
• Developing, testing and promoting the use of the most cost-effective measuring and monitoring tools for businesses of all sizes.
• Integrating food waste into existing environmental and sustainability accreditation schemes or establishing requirements for new schemes.
• Working with industry leaders, through sector-specific forums, to offer support and advice to businesses on supply chain food waste ‘hotspots’.
• Gathering and sharing international best practice on food waste reduction measures with the Scottish food sector.
CASE STUDY: Good to Go

Click here
We will support the Hospitality and Catering sector by:

- Providing dedicated resources and a sector champion to build on and expand engagement and facilitation across this priority sector.
- Identifying and demonstrating the value of reducing food waste to the sector through the expansion of business advice and support services.
- Developing activities with sector stakeholders and suppliers to engage with multiple businesses (i.e. their membership or customers).
- Developing best practice guidance for prioritised sub-sectors.
- Integrating food waste awareness and management into hospitality training; in further education and in Continuous Professional Development.

**Hospitality sector**
The Hospitality & Catering sector is very diverse, and it is difficult to offer food waste solutions when it is challenging to even quantify the volume of waste that this sector produces.

A recent analysis from Champions 12.3 found that half of the 1,200 businesses reviewed saw at least a 14-fold return on their investment in food loss and waste reduction efforts. There is a need to work with the hospitality industry on such elements as business models, portion sizing, and leftovers and also with consumers regarding their dining and ordering behaviour.

Our work will address sub-sectors such as: hotels, restaurants, quick service restaurants, food-to-go specialists, coffee specialists and takeaways and will develop targeted and practical best practice guidance. We will prioritise our work with sub-sectors according to their potential to reduce food waste and their capacity to adapt.
Public engagement & communication

Sustained and large-scale public communications activity on food waste

Lead organisation: Scottish Government, Zero Waste Scotland & Food Standards Scotland

Households and consumers are the leading source of food waste (61%) and sustained and wide-reaching communications with the Scottish public is vital. Our consumer food waste prevention actions will be based on the latest in behaviour change science; dynamic and responsive to changing consumer behaviour. They will also align with other food and sustainability initiatives such as Good Food Nation. We aim to empower householders and consumers to drive change in their own homes and to prompt further change in the business and public sectors.

We will do this by increasing communications activity between now and 2025. Multi-channelled and audience-specific campaigns will reach Scotland’s householders and consumers with messages that focus on preventing food waste, food reuse and recycling.

The first campaign, from Greener Scotland, will launch just before the publication of this Plan.

Preventing food waste
Prevention is the highest priority in the fight against food waste and the focus of the Love Food Hate Waste Scotland consumer focused programme since its launch in 2009. Many of the most successful campaigns have focused on key periods of food waste like Christmas, Halloween and Burn’s Night. The campaigns provide practical advice, educating and inspiring consumers with recipe ideas, shopping tips and storage guidance. Key elements in Love Food Hate Waste Scotland is the consistency of the message and accessible format of the delivery.

Progress has been made, and the public recognition of the environmental and societal impact of food waste is growing daily. However, sustained and large-scale public communications are urgently needed to empower the householder and consumer to drive change. We have seen how powerful the consumer has been in driving change on the issue of plastic packaging.

We aim to replicate this kind of behaviour change through:
• Educating consumers by providing information based on robust evidence and insight;
• Promoting tools for the consumer and householder to prevent waste in their own homes;
• Working with C2025 partners and businesses to address issues such as pack size, single portion pricing, and portion guidance;
• Delivering integrated, audience-specific marketing campaigns and;
• Using ‘Food Waste Champions’ (chefs, and key figures from different sectors) to help reach and engage all audiences.

Wrap will consult on draft guidance/criteria for pack and portion size and relative pricing during 2019.
How to reuse and recycle food waste
Recent Scottish Government research shows that consumers are unaware of the environmental damage caused by food waste. Shortly before the publication of this Plan, the government’s Greener Scotland team will raise awareness of this issue with a national integrated campaign ‘Food Gone Bad’. This will encourage more householders to recycle their food waste effectively; meaning that less will go to landfill and more will become a source of renewable energy.

The contamination of food waste can result in a potentially valuable resource being sent to landfill or resulting in environmental contamination if used for composting. Improving the quality of food recycling will, therefore, be a key message in our communications to householders and businesses.

Food labelling
Extensive confusion about the meaning of different food product labelling leads consumers to prematurely dispose of significant amounts of food. Providing consumers with clear and consistent product labels, and a better understanding of when food is no longer safe for consumption, will help them to reduce waste, make the most of their food purchases, and save money.

Under the C2025 agreement, this work with key industry signatories (including all main UK retailers) is already well underway and best practice guidance is published. Scotland will continue to contribute to this process and will launch communications to develop people’s understanding of new labelling and of the best way to store food.

We will promote food waste reuse and recycling by:
• Launching the national campaign, ‘Food Gone Bad’ to educate consumers on the environmental damage caused by food waste and encourage them to recycle unavoidable food waste.
• Developing targeted campaigns that work with Food Standards Scotland and with Local Authorities to improve recycling rates amongst ‘hard to reach’ audiences whose participation is poor.
• Working together with SEPA to communicate the importance of improving the quality of our food waste recycling to reduce contamination.
• Raising awareness of how our food waste can be a valuable resource for Scotland.

For food labelling we will work with Food Standards Scotland, across the UK governments, with industry and WRAP to help reduce consumer confusion and increase knowledge on:
• The information used on labels (for example, ‘Best Before’ rather than ‘Use By’);
• The length of time between the purchasing of a product and the expiry date;
• Advice on how long a product is still good to eat after its packaging has been opened and;
• Optimal storage and freezing advice.

CASE STUDY:
Love Food Hate Waste ‘Festive Food Waste Fight’ with Gary MacLean

Click here
CASE STUDY: Black Soldier Fly larvae could turn some of Scotland’s food waste into salmon feed

Click here
Supporting the delivery of a new approach to food waste

Establish a Food Waste Hub to deliver coordinated and collaborative action

Lead organisation: Zero Waste Scotland

A Scottish Food Waste Hub will provide a one-stop-shop for food waste issues in Scotland. It will be driven by the principles of the complete food surplus and waste hierarchy, support food waste prevention, and encourage the optimisation of Scotland’s bio-resources. It will harness the existing expertise in Zero Waste Scotland, other national agencies including SEPA and Food Standards Scotland, and Scottish Research Institutes. It will also build and use wider links to other forums existing under current UK arrangements such as C2025 and EU Platform activities. The Hub will be governed by a multi-stakeholder Steering Group.

Scotland is world-renowned for breakthrough science and innovation. There is huge opportunity to bring together our resources and talents to address the food waste challenge through the development of a dynamic bioeconomy. In accordance with the waste hierarchy, the reuse of food waste resources is far more desirable and sustainable than its disposal. Therefore, all prevention and redistributions options must be exhausted.

Industry recognises this as a major – and under-utilised - resource stream. The scale of the opportunity is huge: more than 27 million tonnes of bio-resources arise every year in Scotland [Zero Waste Scotland 2017]. Even within the limits of existing legislation and waste regulations, these could be converted into low cost, high quality animal feeds or turned into high value renewable products such as nutraceuticals, pharmaceuticals and chemicals.

In the Whisky, Fish and Beer sectors alone, we could save an estimated £500 to £800 million every year by making better use of waste and by-products [Zero Waste Scotland 2015]. The planned actions will drive the Scottish bioeconomy and ensure, when food waste is not preventable, that it can provide a useful resource and also help to keep Scottish businesses at the forefront of this rapidly evolving area.

The Food Waste Hub will:

- Expand Scotland’s business advice and support services for SMEs through Zero Waste Scotland’s funds and programmes;
- Provide technical support and special financial assistance to food businesses; overcoming the barriers and accessing technologies;
- Develop a ‘matchmaking’ service to pair novel technologies with potential funders and users across the food supply chain;
- Analyse Scotland’s skills in this area and identify which skills are needed to support food waste prevention and optimise bio-resources
- Raise awareness of food waste hierarchy’s principles; promoting alternative uses for food waste where collection is unavailable or unviable.
- Promote research into innovation to identify emerging Bio-technologies and facilitate collaborations between businesses that generate food waste and those who can utilise these resources.
CASE STUDY:
Moray Food Bank and The Fair Food Transformation Fund

Click here
Food only becomes waste when it is no longer complies with food safety or hygiene requirements. Making sure it is redistributed before this point will, therefore, reduce food waste.

Many organisations already use high quality surplus food as part of their community activities. Some do so with support from the Scottish Government’s Fair Food Fund, which will be £3.5 million in 2019-20.

The Scottish Government is committed to making Scotland “a country where everyone has access to nutritious food without needing emergency food aid”. In accepting recommendations from an Independent Working Group on Food Poverty in 2016, Scottish Government recognised the contribution surplus food can make today within a broader framework that promotes dignity and is focused on tackling the causes of poverty.

More widely, food sharing or redistribution can be both macro or micro in scale and its possibilities are generating interest at local and national levels. Many organisations access surplus by building direct relationships with retailers or producers, others work with organisations like FareShare who make the connection, and some use technology or shared assets to avoid waste.

There are already many examples of successful redistribution initiatives across Scotland:
- Community fridges in Kirkcaldy, Glasgow (Pollokshields) and Mull & Iona;
- Edinburgh’s Food Sharing Hub which is facilitated by the Shrub Co-op, part-funded by Zero Waste Scotland, and working with Tesco, Co-op and Lidl and;
- An increasing number of mobile apps such as Too Good To Go, Olio and many others, offer redistribution.

To scale up food surplus redistribution and ensure that no edible food is wasted, we will:
- Work with SEPA to provide advice and guidance to business and charities regarding their legal obligations and statutory waste management obligations for food waste;
- Work with Food Standards Scotland to review food standards and reduce barriers to food waste redistribution;
- Consult, in 2019, on an obligation for food retail sites over a certain size to ensure that they redistribute edible products in line with the principles of the food waste hierarchy;
- Support Scottish businesses in their commitment to redistribution targets in line with the Food Waste Reduction Roadmap;
- Continue to offer financial support to Scottish redistribution charities and;
- Develop our advice and support service for community redistribution projects such as community fridges and innovative food redistribution hubs.
Measuring progress and demonstrating success

Leadership, governance and delivery
Leadership is vital to the success of this Plan. The Scottish Government will drive policy and Zero Waste Scotland will deliver its Measures. A clear definition of roles and responsibilities among the many players across the food waste landscape will be important to the Plan’s effectiveness. A lead organisation has been identified for each Measure and they will drive actions and activities in collaboration with their stakeholders.

Investing for success
Achieving such an ambitious target will require significant investment. This need not all be ‘new’ money and we could optimise our use of the existing innovation and business support funding streams available through Zero Waste Scotland and the Scottish Enterprise Agencies. Measures focused on research and innovation could benefit from national, UK and European funding streams.

So far, Scotland has invested close to £30 million in food waste prevention, management and re-use. To reduce food waste by 33% by 2025, implementing the Measures outlined in this Plan, we anticipate a further investment of approximately £20 million.

This Plan will make a return on this investment. Reducing food waste by 33% by 2025 will save the public sector, businesses and households money. It will also reduce our national environmental impact and show Scotland as a leader in the global fight against climate change.

Measuring progress
This Plan aims to reduce Scotland’s food waste by 33%. To achieve this, we must establish clear methods for measuring progress towards that target.

It is difficult to predict the exact impact or success of the Measures outlined in this Plan. Scotland’s ambitious 33% target is not something that can be achieved by replicating actions from somewhere else, there are no examples to follow, although other countries are also working towards a food waste reduction target and learning and experience can be shared.

Food waste solutions are seldom ‘off the shelf’ or from a directly transferable situation and they are always difficult to measure. Furthermore, the precise delivery of these Measures is highly likely to affect the scale and speed with which they make an impact.

Baseline and food waste monitoring developments
Scotland’s first full food waste baseline used 2013 data (Zero Waste Scotland 2016) from SEPA and Zero Waste Scotland studies. The 2013 baseline estimate has since been updated (see Scottish Baseline Update Technical Briefing); deploying improvements in knowledge and methods from around the world. This Plan utilises the updated baseline.

We will continue to monitor and update estimates of food waste in Scotland, to track the reductions that the Plan generates, and to use our improving knowledge of where waste is and how it can best be tackled.

Several Measures in this Plan will improve the quality of our data and, as a result, they will help to make us more effective in tackling specific issues.
The EU is expected to require the standardised reporting of food waste from Member States from 2020 onwards, and the Scottish Government expects to comply with this.

Until then, food waste will not, at least initially, be reported annually because of the high cost of delivering some elements of food waste measurement, infrastructure requirements, and the need to give policy interventions time to take effect.

A detailed monitoring and reporting timeline will be developed by the Waste Data Strategy Board to align with the progress reporting timeline of this Plan.

**Keeping the Plan on track**
This Plan outlines a dynamic and agile programme to reach our 33% reduction in Scotland’s food waste. It also provides the structure for its reporting and review. In 2021, the Food Waste Hub will review and assess the latest estimates of Scotland’s food waste and our progress towards target. This will be an important reporting milestone, before which potential options will be developed to:

- Optimise success;
- Integrate new solutions and technologies and;
- To address any challenges to the Plan’s progress.

**Leadership is vital to the success of this Plan**

**This Plan aims to reduce Scotland’s food waste by 33%**
What success will look like

33% reduction in food waste in Scotland

A greater national understanding of the value of food and of its environmental impact

A 33% reduction in food waste in Scotland will result in the following benefits:

- Food waste in Scotland will be reduced by 290,000 tonnes;
- The Scottish economy will see a net benefit of nearly £2.7 billion;
- Scotland’s carbon footprint will reduce by 1.5%.
- We will produce lower methane emissions as less food waste goes into landfill;
- Scotland could realise 27 million tonnes of available bio-resources in Scotland;
- A prospering and dynamic Scottish bio-economy;
- A greater national understanding of the value of food and of its environmental impact.
- A Scottish food culture that respects how food can impact our health, our wellbeing and our communities’ cohesion.
St Bridget’s Primary in Kilbirnie, North Ayrshire, is a prime example of a school that has immersed itself in the battle against food waste. The school has been actively tackling food waste since 2017 making lunchtime a place of learning – as well as eating!

Pupils are at the heart of St Bridget’s approach with ‘Waste Warriors’ acting as lunchtime waste auditors whose role is to encourage pupils to eat their lunch or share it with a buddy. They also take pictures of the clean plates and ensure that any unavoidable waste or recycling is put in the correct area. At the end of each lunch session they weigh and record the bags of food waste so that progress can be measured.

Head Teacher, Mr Hopkins explains: “We have a meeting in the school every Monday morning with all the pupils, staff, nursery children and usually about 30 to 40 parents. One of the first things we do is to show the zero waste pictures, which we also put on Twitter. The publicity and spotlighthing has been really effective in getting the pupils engaged.”

And this focus on food waste has also been adopted by the youngsters outside school through ‘zero waste at home’ and ‘zero waste out’ with families taking pictures of their empty plates in restaurants.

Laura McNally is a catering assistant at St Bridget’s as well as having a son at the school who is one of its Waste Warriors. “The waste from our kitchen has fallen dramatically and the message is going home to parents to encourage their children to eat more and throw less out.”

And what do the Waste Warriors think? “It’s a waste of food to put it in the bin. We’re Waste Warriors. We need to fight that to make it stop going in the bin.”

St Bridget’s Primary School demonstrates how a whole school approach can have wider benefits for pupils, parents and community as we all strive to do our bit to fight food waste in Scotland.
Take some leftover grains from a local brewery. Add a little flour and butter, perhaps some seasoning, and a magical touch gleaned from years’ of baking experience. What do you get? For Macleans Highland Bakery in Forres, it’s a tasty cracker with global sales potential that reduces waste at the same time.

Back in 2017, a waste audit, arranged through Zero Waste Scotland’s Resource Efficiency programme, prompted the question: could Macleans Highland Bakery use the spent grains, draff, coming out of the nearby Windswept Brewing Company in Lossiemouth? Draff is a fibre by-product of beer and whisky production that is rich in protein. At that point in time, the draff at Windswept Brewing Company was being composted but by considering a more circular approach there was the potential to capture more value from the material.

After the collaboration was suggested, Macleans Highland Bakery got to work with the new product development and exploring how they might use the draff as an alternative to flour. The team baked bread, rolls, oatcakes and crackers and got some good results. The bread worked well but the crackers were a better fit for the business and Maclean’s plans for the future. The biscuit from beer was born.

Not only does the draff add a depth of flavour to Maclean’s new product but it gives the cracker a real point of difference and sense of provenance. At the moment, the draff crackers are made by hand. All going well, the bakery will scale up to produce the cracker commercially. An official launch is planned for the end of 2019.

Managing director, Lewis Maclean, spoke of his ambitions for the cracker: “I’m looking to make a great product with as clean a label as possible. And we want the packaging to be minimal and in keeping with the zero waste philosophy.”

Macleans Highland Bakery showcases what a business can achieve by looking at its processes, exploring new ideas, and collaborating with other businesses. Within Scotland, there is an appetite for innovation to transform surplus food stuffs into higher value products through adopting circular economy principles with benefits for profitability and planet.
Every year £200 million worth of food is wasted in Scotland’s hospitality sector. Around 34% of this is estimated to be ‘plate waste’ – good food left over at the end of a meal.

Good to Go is helping to change the culture around leftovers by giving customers an easy way to take uneaten food home.

Zero Waste Scotland’s research revealed that, while customers are keen to be offered ‘doggy bags’, two fifths are too shy to ask. Restaurants participating in our Good to Go pilot, where customers were proactively offered doggy bags, reported average food waste reductions of 42%. They also said that customers overwhelmingly welcomed the service.

By providing the customer with advice from Food Standard Scotland for keeping food safe on each Good to Go box, the scheme also addresses possible safety fears.

Zero Waste Scotland now offers free Good to Go starter packs, that include 300 boxes, bags and communication materials, to organisations employing up to 250 people. So far, more than 300 Scottish businesses, social enterprises and charities have taken part in the Good to Go initiative.
In December 2018, Love Food Hate Waste Scotland launched a campaign to reduce food waste at Christmas, fronted by popular MasterChef winner and Scotland’s National Chef, Gary Maclean.

Evidence suggests that 100,000 turkeys are wasted each December in Scotland. One of the main reasons for this is cooking at too high a temperature. Other behaviours that result in festive food waste are over-buying and not using up leftovers.

To counter this problem, the campaign focussed on Gary calling on Scots to turn down the temperature of the oven and cook the bird for longer to achieve the perfect festive roast. This message was brought to life in three videos, where Gary shared his top turkey tips (Buy smaller than you think you need, Clever carving, Turn down your oven and cook upside down).

The campaign was delivered through a blend of PR and social media advertising and content. This integrated approach targeted busy families and couples in the run up to and during the festive season, aiming to support them in an accessible and positive way.

Other food-saving tools were developed, including a waste-free Christmas dinner shopping list to feed two, four or eight people. Vegans were catered for too, with a festive menu for four. The campaign also featured five creative dishes to use up leftovers.

To support this content, an overarching PR campaign featuring Gary Maclean with turkey farmer Roger Lucey, of Gartmorn Farm, highlighted the need to value our food and connect with where it comes from.

The results of this activity included 178 pieces of media coverage, involving international titles such as the Huffington Post, with a total reach of 326.8 million. The Love Food Hate Waste Scotland Facebook saw a total page reach of 557,000 and 3422 individual engagement that generated interactions and information sharing between followers.

As part of the growing movement against food waste in Scotland, campaigns such as this will play a key role in empowering people to make small changes that, collectively, can have a big impact.
Black Soldier Fly larvae are voracious eaters who could help Scotland to reduce one strand of its food waste. They fatten up on organic residues from food manufacturing and agriculture and become a source of protein for salmon.

As Scotland’s second biggest food export industry, salmon farming uses huge volumes of feed, with a lot of it sourced from wild caught fish. This could be replaced by ingredients from Black Soldier Flies, making it an attractive circular economy opportunity for turning food which might otherwise have been wasted into a valuable feedstock. Even the by-products from insect farming could have potential economic value, as they can be processed and turned into biodiesel, chitosan and fertiliser. With a world leading food and drink manufacturing sector, a large salmon farming industry, and an emergent biorefining industry, Scotland is well-placed to be a global leader in insect farming.

The evidence gathered by Zero Waste Scotland suggests that Black Soldier flies could also be part of the solution for environmental problems associated with food waste. At present, the most environmentally effective method used for treating food waste in Scotland is anaerobic digestion (AD). Zero Waste Scotland’s report estimates that Black Soldier Fly treatment of food waste from manufacturing businesses could generate additional environmental and financial benefits.

To highlight the potential of Black Soldier Flies, Zero Waste Scotland organised the Scotland’s first insect farming conference in Edinburgh in 2019. The organisation has also been working with technology start-up company, Entocycle.

Entocycle’s business is insect farming. It grows and harvests fly larvae to produce protein-rich flour that can be used in aquaculture or as pet food. In 2018, Zero Waste Scotland helped the company to identify opportunities and Entocycle hopes to begin the rollout in early 2020.

Keiran Whitaker, Entocycle’s CEO and founder, said; “When it comes to insect production, all roads lead to Scotland. The waste streams, financial support, salmon industry... it’s all there. For green technology to evolve you need forward thinking local authorities and public bodies to support them because it’s inherently risky. Having agencies like Zero Waste Scotland, which can be a driving force in a positive way, is vitally important.”
Case Study
Moray Food Bank and The Fair Food Transformation Fund

The Scottish Government’s Fair Food Transformation Fund aims to “support projects that give a more dignified response to food poverty and help to move away from emergency food aid as the first response.” The fund invests in projects that balance current demands for emergency food aid with community-led long-term solutions to food insecurity. In 2019-20, the Fund will invest £3.5 million in projects that benefit individuals, families and communities, while also reducing food waste.

Moray Food Bank in Elgin has received £52,977 of Fair Food Transformation Funding between 2017 and 2019. Having started as a traditional food bank, operating from a fixed location in Elgin, this project has progressed on to a wider distribution model. It works with local food suppliers and with other services to provide support for people experiencing food poverty across Moray.

The project has broadened the opportunities for people to access food aid in easier and more dignified ways. They can choose to use food banks, enjoy community lunches and access community larders in a range of convenient and discreet locations.

Having established connections with its participants, Moray Foodbank has been able to extend its support to include advice on fuel and on accessing other services.

Moray Food Bank has brought even bigger benefits to its users’ lives; it offers people the chance to engage with their community by volunteering with the project. The project focuses on finding a meaningful role for everyone, working around whatever barriers volunteers may have, to ensure that they feel useful and involved. The project has built a strong network of participants, volunteers, suppliers and support services. Because so much of Moray is rural, the food bank experienced the specific challenges of serving a widespread community and of being further from the networking opportunities available to similar organisations in the Central Belt.

Longer-term support from the Fair Food Transformation Fund has helped protect and develop the partnerships that are so important to Moray Food Bank, the services it provides and the people who use it.

Moray Food Bank puts food, that might otherwise have been wasted, right at the heart of its services to people who need help. This successful community-led project illustrates how a creative and coherent approach to food and its redistribution can benefit participants, their families and their communities.