The Consumer Goods FORUM

Food Waste

wrap

Towards the **2030 Food Waste Commitment:** Setting our Coalition Baseline

2023 REPORT

www.tcgffoodwaste.com

About The Consumer Goods Forum (CGF) Food Waste Coalition of Action

The Consumer Goods Forum (CGF)'s CEO-led Coalition of Action on Food Waste brings together 21 of the world's largest consumer goods retailers and manufacturers with the goal of halving per capita global food loss at the retailer and consumer levels. With its explicit CEO engagement, action-oriented commitments and passion for accelerating sustainable change on a global level, the Coalition is a leader in the effort to reduce food loss in supply chains worldwide by driving action on key issues such as public reporting, full supply chain engagement, post-harvest losses and regional challenges. Together, the Coalition and its members play a powerful role in the effort to reduce waste, reducing stress on the environment, benefitting the global economy and ensuring more food makes it to stores and onto consumers' tables in the process. For more information about the Coalition, visit *www.tcgffoodwaste.com*.

About WRAP

WRAP is a climate action NGO working around the globe to tackle the causes of the climate crisis and give the planet a sustainable future. We believe that our natural resources should not be wasted and that everything we use should be re-used and recycled. We bring together and work with governments, businesses, and individuals to ensure that the world's natural resources are used more sustainably. Our work includes: UK Plastics Pact, Courtauld Commitment 2030, Textiles 2030 and the campaigns Love Food Hate Waste and Recycle Now. We run Food Waste Action Week and Recycle Week.

Sections 2-7 written by Dr Rachel Devine and Oliver Bell, WRAP

CEO Co-Sponsor Foreword

We know by now that the environmental, social and economic consequences of producing food that goes to waste are massive. We firmly believe that businesses must recognise not only their ability, but their responsibility to take action. This is why, in 2020, we created The Consumer Goods Forum's Coalition of Action on Food Waste to work collaboratively, on a global scale, to achieve Sustainable Development Goal 12.3 to halve food loss and waste in their supply chains.

We have been encouraged by the findings of the latest Champions 12.3 report (SDG Target 12.3 on Food Loss and Waste: 2023 Progress Report) which shared that the private sector has made strong progress on food loss and waste reduction, especially when it comes to measurement and action. However, with just seven years left until our SDG deadline, and despite these strides forwards, we know that there is still much more to be done across the industry, and that impactful positive change can only come through collective action.

As a Coalition of leading businesses, we recognise the opportunity that through committed, collective action and knowledge sharing, we can accelerate the reduction of food waste loss in supply chains worldwide, making sustainable changes on a global level. Different geographies present different challenges and that is why we have active, engaged working groups in Latin America, China and Japan. We have also been trialling in-store market pilots in multiple countries across the globe to empower consumers on how to reduce their household waste. Our work can only be improved by continued collaboration with supply chain partners, such as suppliers, growers and distributors, as well as civil society organisations, to transform and develop more efficient systems.

We welcome the findings of this report, as it represents our commitment to transparency going forward, and will allow us to effectively track our progress and achievements along our pathway to our 2030 goal, as well as giving us a clear picture of the work that remains to be done. We are confident that our collective progress on food loss and waste will help us to have a real, lasting impact on the big issues of today - addressing food insecurity, protecting natural resources, reducing greenhouse emissions, mitigating climate change, and more.

As more companies join our Coalition, we can create more widespread impact, reaching more key players from all along the supply chain. We invite you to join us to help tackle this important issue together.

Ken Murphy
Group Chief Executive
Tesco

Max Koeune
President and CEO
McCain Foods

Co-Sponsors of the **Food Waste Coaltion of Action**

CGF Food Waste Coalition of Action Membership

"As Co-Chairs of the Coalition, we have seen the considerable work that has gone on behind the scenes to create this baseline report, which represents our commitment to ongoing reporting, and transparency of data. But the work doesn't stop there - we hope that this report will inspire continued action on a complex global challenge, recognising areas where we are succeeding, as well as areas where we need to work harder. The bottom line is that every consumer goods company should strive to go further, faster to reduce food waste. Join us in our work - we encourage you all to lean in to help us to reach this global ambition."

Janelle Meyers
Chief Sustainability Officer
Kellanova

Chris Franke
Manager of Global Sustainability
Walmart

1.0 Introduction

Leading a Global Commitment to Halve Food Loss and Waste by 2030

With each new report that comes out from our industry partners on the extent and repercussions of food loss and waste, the statistics continue to be startling.

According to the World Resources Institute (WRI), food loss and waste accounts for 8-10% percent of annual global greenhouse gas emissions — if food loss and waste were a country, it would be the third biggest emitter of greenhouse gases. Food loss and waste wastes 1/4 of fresh water used in agriculture every year. This loss represents a huge cost to the global economy of $940 billion.

The Consumer Goods Forum (CGF)'s Food Waste Coalition brings together 21 of the world's largest retailers and manufacturers at the CEO level with a shared commitment to halve food loss and waste in their supply chains, aligned with meeting Sustainable Development Goal 12.3.

When our Coalition was launched in 2020, it's members set out to achieve an ambitious yet practical strategy that will have real, lasting impacts on our global food systems and ensure more food makes it from producers, to grocery stores and finally on to consumers' tables. Thanks to its CEO leadership, our Coalition is able to drive swift action to address the important issue of food loss and waste within the industry.

However the CGF's journey on food waste began before the creation of the Coalition. In 2016, the CGF joined Champions 12.3, a coalition of leaders from governments, businesses, farmer groups, and civil society organisations dedicated to inspiring ambition, mobilising action and accelerating progress toward achieving SDG Target 12.3 by 2030.

CONTEXT: Global impact of food loss and waste is only getting worse, requiring urgent whole-chain action

40% or 2.5 billion tonnes
of all food grown **is wasted**

1 in 10
people around the world **are undernourished**

10%
of greenhouse gas **emissions**

> $1 trillion
economic losses
per year

$14-fold
return on investment
ratio for businesses

(sources: Champions 12.3 Progress Report 2021, FAO Global Food Loss Index 2018, UNEP Food Waste Index Report 2021, WWF Driven to Waste report 2021)

The move followed the CGF's 2015 resolution to halve food waste and reaffirmed its commitment to help tackle food waste globally. In 2017, we worked with Champions 12.3 on a Call to Action to simplify and standardise food date labels globally in order to reduce food waste by 2020. In 2020 the CGF joined another Global Call to Action with Champions 12.3 to encourage governments and industry actors to take steps to dramatically accelerate efforts to halve food waste in order to collectively meet Sustainable Development Goal 12.3 by 2030.

Building on these past five years of experience and progress, today our Coalition is working hard to reduce waste by fulfilling three priority actions, including measurement and public reporting of food loss data, and collaboration with key stakeholders on the scale up of '10x20x30' Initiative, part of Champions 12.3 — thereby looking beyond own operations to encourage other value chain actors to reduce food waste. In the same spirit, Coalition members are investigating ways to address food loss at the harvest and post-harvest level, by engaging with their suppliers on collaborative, innovative and effective food loss prevention strategies. In 2023, we have also been looking downstream to engage and empower consumers to help reduce waste at home.

In 2023, the Coalition commissioned WRAP (Waste & Resources Action Programme) to create this baseline study that gives us an understanding of where we are as a Coalition – a mark in the sand - enabling us to track progress as we move towards 2030.

We, as a Coalition, consider this report an important milestone in our journey, as it marks the start of effective reporting. As we look to the future, with 2030 fast approaching, we commit to transparency and plan to issue follow-up reports in the coming years. We invite you to get involved with our work to tackle this important issue together.

Executive Summary

This report presents operational food surplus and waste data from the CGF's Food Waste Coalition members. It also presents a summary of the action that businesses are taking to set a food waste reduction target, work with their suppliers, and support their customers to reduce food waste.

The baseline year, 2021 (i.e., the first reporting year for the Coalition), will act as the starting point for the Coalition, with all subsequent years of reporting being measured against data from the year 2021. This will help to track the Coalition's overall progress over time, measured against the agreement's food waste reduction targets (i.e., to halve food waste within the operations of its members by 2030). All results are presented in an aggregated form, to represent the baseline for the Coalition as a whole.

✓ A total of 16 Coalition members submitted data for 2021. All members of the Coalition with food business have committed to measuring and reporting and so in future years this proportion is expected to increase.

	Manufacture		Retail		Total
Contributors in 2021	7	+	9	=	16
Total members in the Coalition	9	+	12	=	21

Table ES1: *Number of coalition members used in analysis*

✓ The tonnes of food waste arising for 2021 totalled 2.12 million tonnes across the whole Coalition. Retail food waste was nearly 929,000 tonnes and waste from manufacture was 1.19 million tonnes.

	Manufacture		Retail		Total
Total food waste in 2021 (tonnes)	1,190,515	+	928,601	=	2,119,116
% of Total food waste	56.2%	+	43.8%	=	100%

Table ES2: *Food waste arising (tonnes) for year 2021.*

✓ In terms of food waste per tonne of food handled, manufacture food waste was 22.7kg per tonne of food handled compared to retail food waste at 5.88 kg per tonne handled. For the Coalition as a whole, food waste was 8.20 kg per tonne of food handled.

✓ Anaerobic digestion was the most common food waste management route, with over one-third (34.1%) of food waste being sent there by members, accounting over 720,000 tonnes.

✓ 13 of the 16 coalition members reported some food waste being sent to landfill. However, most of waste to landfill was from retail with 574,000 tonnes, compared to 29,000 tonnes for manufacture. Combined across the sectors, 28.5%, of food waste was disposed in landfills.

✓ All 16 members said that they are taking action to reduce their operational food loss and waste. 14 out of 16 members said that they are taking action to collaborate with supply chain partners to reduce food loss and waste. 13 out of 16 members said they are taking action to support citizens to reduce their food waste.

We hope that our data collected and lessons learned will be valuable for our members, companies within and beyond the consumer goods sector, and stakeholders across value chains.

2.0 Method

2.1 Data collection and analysis

Coalition members were classified into two sector categories:

- Retailers
- Manufacturers

Quantitative data were collected from members for calendar year 2021 using the Global Food Surplus and Waste Data Capture Sheet[2] including:

- Tonnes of food placed on the market
- Number of premises
- Food waste arising
- Treatment and disposal routes for food waste
- Food surplus redistributed to people
- Food sent to animal feed
- Food sent for bio-based material processing

All Coalition member's food waste data used for the baseline includes both food[3] plus its associated inedible parts[4].

Qualitative data was also collected using the Data Capture Sheet, which includes information about:

- The company food waste reduction target including the baseline year, target year, percentage reduction target, and any progress to date
- The level of engagement with suppliers on food loss and waste
- The level of engagement with citizens to support them to reduce food loss and waste.

This data was submitted by businesses in mid-2023 and were subjected to checks to ensure that the data were complete and contained no significant inconsistencies. Where issues arose, the member was contacted for more information and the data were corrected or amended as necessary. The approved spreadsheets were aggregated, and the results analysed using a script written in R (a statistical programming language).

[2] Food loss and waste data capture sheet | WRAP – version (6th May 2023).

[3] Food is defined in the Food Loss and Waste Accounting Standard as "Any substance that is – or was at some point – intended for human consumption. This includes both food and drink. This includes material that has spoiled and is therefore no longer fit for human consumption (i.e. would be regarded as no longer edible, for example due to it passing a 'use by' date or being spoiled). It does not include cosmetics, tobacco, or substances used only as drugs. It does not include processing agents used along the food supply chain, for example, water to clean or cook raw materials in factories or at home."

[4] Inedible parts are components associated with a food that, in a particular food supply chain, are not intended to be consumed by humans. Examples of inedible parts associated with food could include bones, rinds, and pits/stones. "Inedible parts" do not include packaging.

3.0 Results - Quantitative

3.1 Number of contributors to the Coalition baseline

Table 1 shows the number of members who contributed data to the coalition baseline for 2021. Overall, of the businesses that were able to contribute to the baseline. A total of 16 members submitted data for 2021. All members of the Coalition with food business have committed to measuring and reporting and so in future years, this proportion is expected to increase.

	Manufacture		Retail		Total
Contributors in 2021	7	+	9	=	16
Total members in the Coalition	9	+	12	=	21

Table 1: *Number of coalition members used in analysis*

3.2 Food Waste

Table 2 shows the total tonnes of food waste arising for 2021. Overall, total food waste across the cohort was 2.12 million tonnes. Retail food waste was nearly 929,000 tonnes and waste from manufacturer was 1.19 million tonnes.

	Manufacture		Retail		Total
Total food waste in 2021 (tonnes)	1,190,515	+	928,601	=	2,119,116
% of total food waste	56.2%	+	43.8%	=	100%

Table 2: *Food waste arising (tonnes) for year 2021*

The total level of food waste from businesses can be influenced over time by changes in factors such as sales and production volumes, acquisitions and divestments. Therefore, it is important to also look at the quantity of food waste expressed as per tonne of food handled.

Figure 1 below shows the calculation for food waste per tonne of food handled. For example, 3 tonnes of food waste divided by (50 tonnes sold as intended +3 tonnes of food waste +1 tonne of food surplus [e.g. redistribution to humans, animal feed, or bio-based material processing]) = 5.56%.
A food handled figure was only calculated for businesses that submitted both tonnes of food waste/surplus and tonnes of food sold as intended.

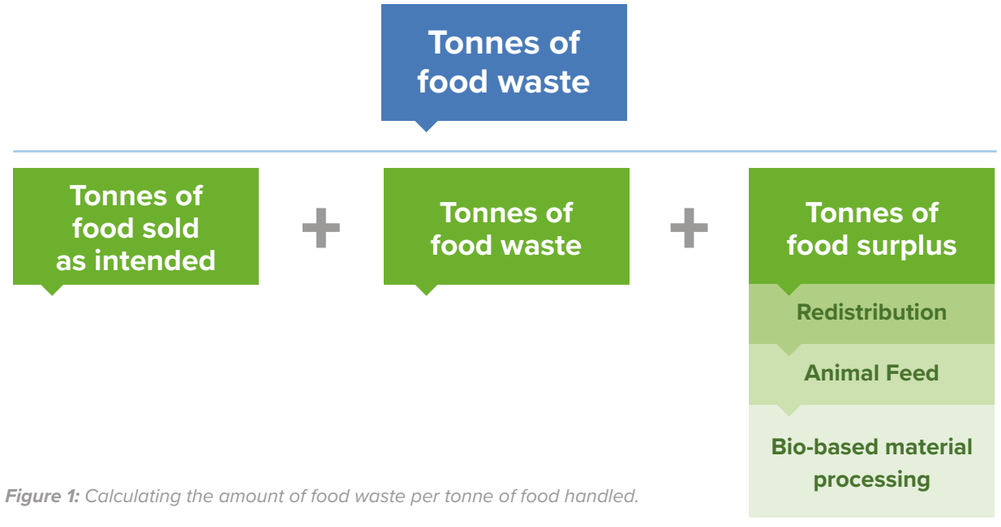


Figure 1: *Calculating the amount of food waste per tonne of food handled.*

Table 3 shows the amount of food waste arising (in kilogram) per tonne of food handled by coalition members that reported both food waste and the amount of food sold as intended. The same figure is shown as a percentage of food handled. The percentage is calculated based on the total food waste of all those that provided a figure for food sold as intended, and then divided by the total tonnes of food handled (for all members who provided a figure for food sold as intended) This was calculated on a sector-level basis and then for the Coalition as a whole.

	Number of businesses	Food waste (kg per tonne handled)	%	Min food waste (kg per tonne handled)	Max food waste (kg per tonne handled)
Manufacture	5	22.70	2.27%	1.61	53.90
Retail	5	5.88	0.59%	3.46	43.02
Total	10[5]	8.20	0.82%	1.61	53.90

Table 3: Food waste in kg per tonne of product handled and as a percentage of food handled

[5] Only 10 businesses provided a figure for food sold as intended (used to calculate food handled). Only businesses that provided a figure for food sold, and therefore had a total for food handled, were included in the calculations here.

Manufacture food waste was **22.70kg/tonne of food handled** compared to Retail food waste at **5.88kg/tonne handled**. For the Coalition, as a whole, food waste was 8.20kg/tonne of food handled, with a food waste % per tonnes handled of **0.82%** across the 10 businesses. This calculation is a key metric for businesses to track, not only for their own food waste reduction over time, but also to track progress of Coalition members as a whole. Unlike tracking absolute tonnages, it accounts for changes in sales and production volumes over time. The food waste per tonne of food handled for all Coalition members ranged from a minimum of 1.61kg/tonne to a maximum of 53.90kg/tonne.

The figures should be treated with a degree of caution, as they are based on relatively small numbers of reporting businesses (five manufacturers and five retailers) and so are sensitive to errors in the reporting of both food handled and food waste. As more businesses are able to report the total tonnes of food handled, the number of businesses that are included in the calculation will increase, and therefore will reflect, more accurately, the Coalition as a whole. Currently, only 10 out of 16 businesses that submitted data provided the total tonnes of food sold (used to calculate the total tonnes of food handled), and so the figures in Table 3 should be treated with caution.

3.2.1 Edible versus inedible parts

In total only one manufacturer and one retailer provided data on associated inedible parts separately from the amount of food (i.e., what was intended for consumption). There is therefore currently insufficient data to report by the material type with any degree of reliability for the Coalition.

3.2.2 Food waste management routes

The Food Waste Hierarchy

The food waste hierarchy, developed by WRAP, sets out steps for preventing and managing food waste to minimise the impact on the environment (Figure 2)[6] . Similar hierarchies have been developed by other organizations with similar intent. There is common agreement that the most preferrable course of action is the prevention of food and drink waste, whether in the form of raw

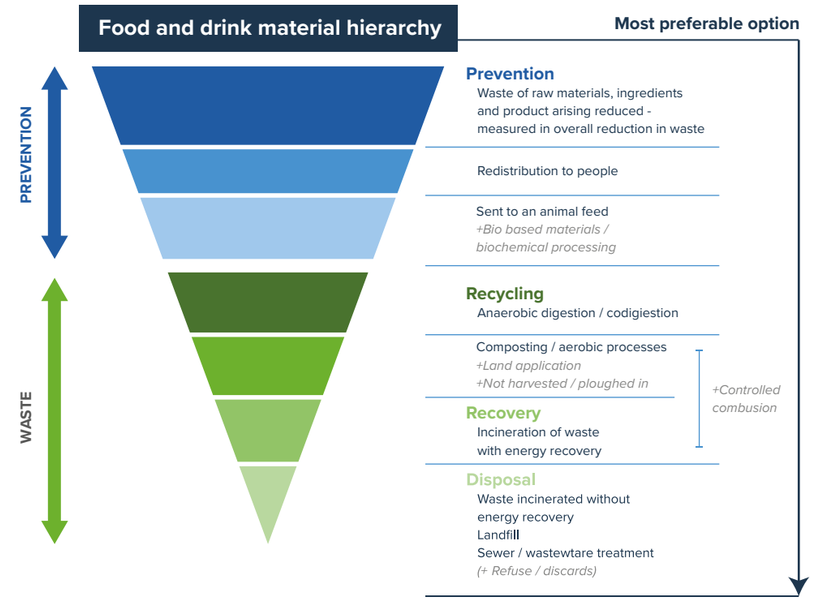


Figure 2: The Food Waste Hierarchy, developed by WRAP.

materials, ingredients, or products. If prevention is not achievable, then food surplus, which is still safe and wholesome, is ideally redistributed to people, followed by animal feed or bio-based materials/biochemical processing as options preferred to the destinations considered to be food waste (those in at Figure 2) option. The best option for any food that is wasted is for it to be recycled, either by being sent to anaerobic digestion, composting or land application. The next most preferred option for food waste is through incineration with energy recovery. Finally, the least preferred option is the disposal of food waste through waste incineration, without recovery or waste sent to landfill.

It is recommended that businesses work to move waste up the food waste hierarchy where possible, to waste management routes with a lower carbon impact. However, the prevention of waste should always be the priority and is the most preferred course of action to minimize the impact on the environment.

[6] WRAP. Action on Food Waste - https://wrap.org.uk/taking-action/food-drink/actions/action-on-food-waste

Food Waste Destinations

The food waste destinations used by members are shown in Figures 3 and 4. Across the 16 members reporting:

- The most common food waste destinations include food waste sent to anaerobic digestion (34.1%), with over 720,000 tonnes, followed by food waste sent to landfill (28.5%) with over 600,000 tonnes.
- 13 of the 16 coalition members reported some food waste being sent to landfill. The majority of waste to landfill was from retail with 574,000 tonnes compared to 29,000 tonnes for manufacture. This equates to 61.8% of retail food waste having been sent to landfill compared to 2.5% of manufacturer's food waste.
- In total almost 41,000 tonnes of food waste were categorised as "Other". This included food that is produced into biofuel products such as biodiesel and fuel pellets. Almost all was from manufacture.
- Just over 97,000 tonnes of food waste was sent to an "Unknown" destination. 4 of the 16 companies reported that some of the destinations were unknown. Several members noted that they will be working towards defining the food waste destination in time for the next report.

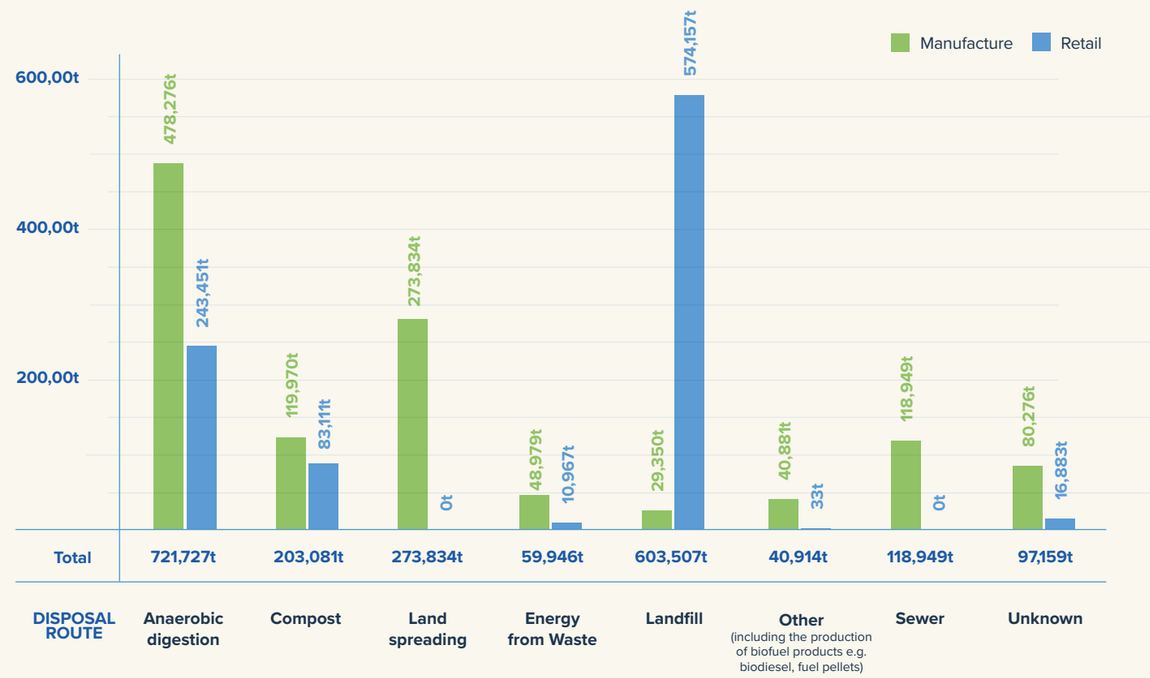


Figure 3: Tonnes of food waste sent to each disposal route (tonnes)

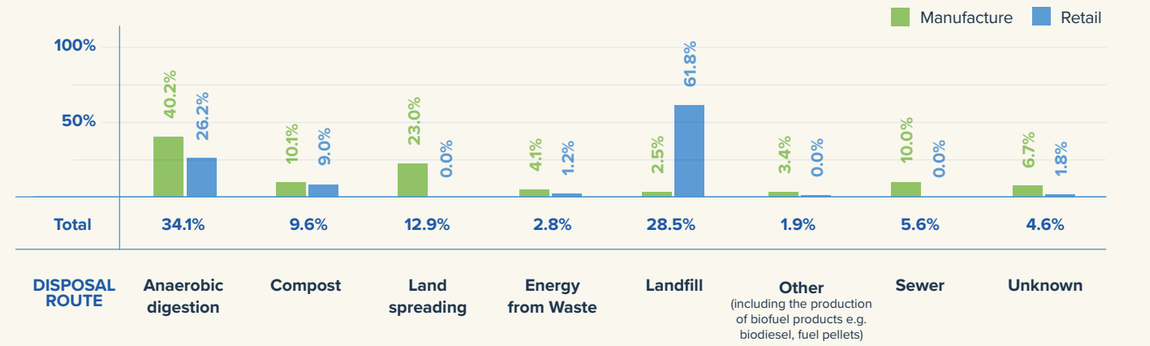


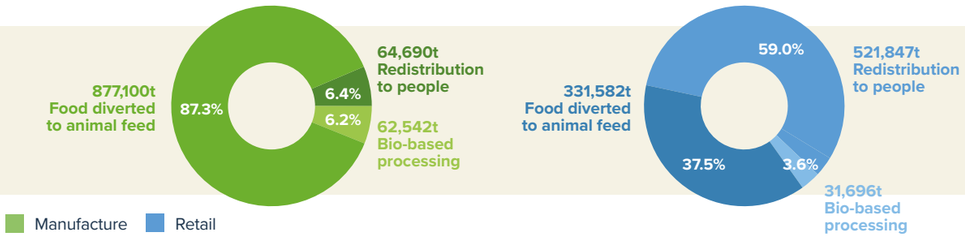
Figure 4: Percentage of food waste sent to each disposal route.

3.3 Food surplus

Food surplus describes any food and inedible parts that are sent to the following:

- Redistribution to people (e.g. through a charity or commercial redistributor)
- Animal feed
- Bio-based materials/biochemical processing (e.g., feedstock for other industrial products)

Table 4 shows the quantity of food that would otherwise have become waste that coalition members diverted to redistribution, animal feed and bio-based material/biochemical processing. The table highlights that among manufacturers, 87.3% of the surplus reported is sent to animal feed, with a small proportion being redistributed for human consumption. By comparison, among retailers, 37.5% is sent to animal feed with a large proportion being redistributed for human consumption.



Member type	Redistribution to people	Redist.% of Total Surplus	Food diverted to animal feed	Animal Feed % of Total Surplus	Bio-based processing	Bio-based % of Total Surplus	Total surplus
Manufacture	**64,690**	**6.4%**	**877,100**	**87.3%**	**62,542**	**6.2%**	**1,004,332**
Retail	**521,847**	**59.0%**	**331,582**	**37.5%**	**31,696**	**3.6%**	**885,125**
Total	**586,537**	**31.0%**	**1,208,682**	**64.0%**	**94,238**	**5.0%**	**1,889,457**

Table 4: *Food surplus destinations (tonnes).*

4.0 Results – Qualitative

Members were asked whether they have set a company food loss and waste reduction target and whether they know their food loss and waste hotspots. Figure 5 below summarises their responses.

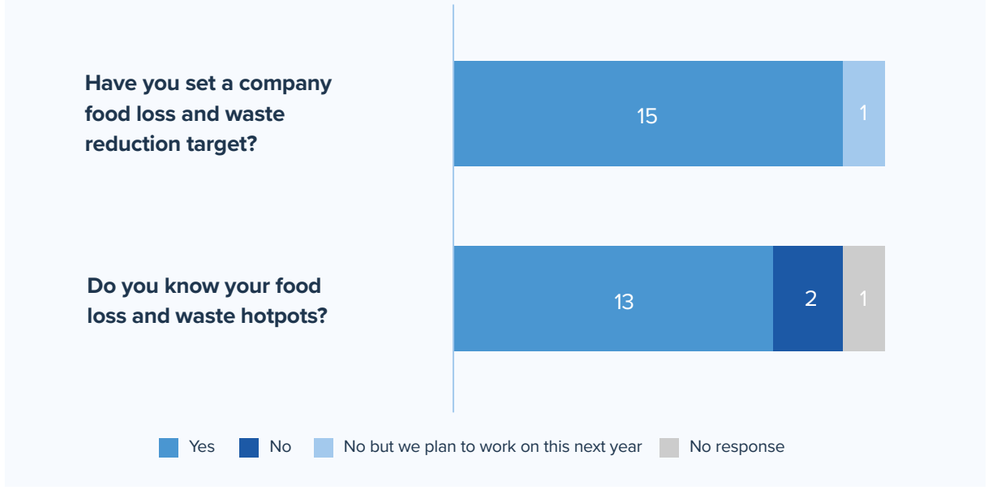


Figure 5: *Number of members that have a food loss and waste reduction target and know their food loss and waste hotspots.*

When asked if they had set a company food loss and waste reduction target, 15 out of 16 members said that they have. One member has not, but plans to work towards setting a target next year. Of the 15 members that have set a food waste reduction target 12 members have a target year of 2030, and three members have a target year of 2025. Across the 15 members, the baseline year for their food waste target ranges from 2016 to 2022.

Whilst it is encouraging that 15 out of 16 members said that they have set a company food loss and waste target, four members did not describe, specifically, what their food waste reduction target is. For example, whether it is a reduction in absolute food waste, a reduction in food waste per tonne handled (Figure 1), or a reduction in food waste per tonne of product sold. Of the 11 members that did describe their food waste reduction target, there were many different types of targets, as summarised below in Table 5.

Type of food waste reduction target	Number of members that have adopted the target
50% reduction in the percentage of food loss and waste per tonne of product handled (sold+reused+wasted)	2
50% reduction in absolute food waste	1
50% reduction in food waste to landfill	1
50% absolute reduction in organic waste including animal feed	1
50% reduction per tonne of product sold	1
50% reduction in waste per €1 million of food sales	1
50% reduction in anaerobic digestion	1
50% reduction but not clear whether the reduction is for absolute tonnes, per food sold, or per food handled	2
100% reduction but not clear whether the reduction is for absolute tonnes, per food sold, or per food handled	1

Table 5: *Type of food waste reduction targets that members have set.*

One member has a target to halve food waste to landfill. Whilst reducing waste to landfill is an important target for a business to have, a target to reduce food waste (either in absolute tonnes or a reduction per tonne of food handled), should also be adopted. Furthermore, as demonstrated by the food waste hierarchy (Figure 2), landfill has the highest carbon impact of all waste management routes and is therefore, the least preferrable destination. Diverting food waste from landfill to another food waste destination such as anaerobic digestion would likely have a lower carbon impact, however, a more impactful solution would be to simply reduce the amount of waste generated. It is therefore recommended that members adopt a food waste reduction target, in line with the first commitment of the coalition.

What does this mean for Coalition members?

Coalition members have committed to five important steps to reduce food waste, the first of which is to "Publicly adopt and commit to a goal of halving food waste within their own operations by 2030". Best practice is for members to adopt the SDG 12.3 target to reduce food waste across their own operations by 50% by 2030, or to set a target which exceeds this.

When members set their own target, should it be an absolute or relative target?

At a global level, SDG 12.3 aims to reduce food waste by 50% per capita, meaning that it is a relative target. WRAP recommendation is that when applied to a specific business the target should also be relative – e.g., a 50% reduction in the amount of food waste per tonne of food handled. For example, if a specific member's baseline is 2.4% food waste of food handled, their target would be to achieve 1.2% by 2030[7].

Do members still need to set a food waste reduction target if they already have little or no food waste?

WRAP's best practice guidance in the Food Waste Reduction Roadmap Toolkit states that if there is zero food waste in your operations, then this should be communicated very positively. In these circumstances members can focus on moving any food surplus up the food hierarchy (for example from diversion to animal feed to redistribution for people) and reducing the amount of food surplus arising in the first place (neither of these would contribute to waste prevention but would bring business benefits). Members should also look to collaborate with their supply chain partners to help them reduce food waste and explore what more could be done to help consumers reduce food waste.

When asked if they know their food loss and waste hotspots (e.g., compositional split of food loss and waste tonnage by key product category), 13 members said that they know their hotspots, two members said that they did not, and one member did not respond to the question. Members were also asked about the actions that they're currently taking to reduce food loss and waste. Figure 6 summarises their responses.

[7] Further guidance on setting company-level food waste reduction targets can be found in WRAP's Food Waste Reduction Roadmap Toolkit

Figure 6: *Number of members taking action currently to reduce food loss and waste.*

- All 16 members said that they are taking action to reduce their **operational FLW**.
- 14 out of 16 members said they're taking action to **collaborate with supply chain partners** to reduce FLW, two said that they are not but that they plan to work on it next year.
- 13 out of 16 members said they are taking action to **support consumers** to reduce their food waste, one member said that they are not taking action, one member said that they are not but are currently working on it. One member did not respond to the question.

Whilst these findings are encouraging, some members did not provide additional details about the specific actions that they're taking. These questions were optional for the 2021 reporting, and so WRAP did not follow up with members to ask for additional detail for these questions.

In 2023 WRAP updated the Global Food Loss and Waste Data Capture Sheet and it is now mandatory for businesses to complete the questions on targets and actions. For next year's annual reporting, coalition members will be required to complete these questions and the CGF may decide to place greater emphasis on collecting information about the actions that members are taking to reduce food loss and waste.

5.0 Data Uncertainties

- Whilst the data was quality checked for completeness, since this is the first year of reporting, comparison with previous year's data could not be undertaken as an additional quality assurance step.
- It is anticipated that businesses may improve or make amendments to their food waste measurement methodology over time and so the figures quoted in this report are subject to change as businesses improve their data collection process. As the coalition progresses, members are encouraged to improve their methodology, and may wish to amend previous year's data. As a result, the CGF may wish to restate the figures in this report each year, as they will be used as the baseline to track progress of the coalition over time.
- It should be noted that one manufacturer did not exclude the weight of packaging from their tonnages and so the tonnages quoted in this report for the member coalition include the weight of packaging for one member. This member was also able to provide a figure for the tonnes of food sold as intended and is therefore part of the 10 businesses included in the calculations for food waste per tonne of food handled.

6.0 Reporting Emissions Associated with FLW and FLW Reduction

Quantifying the greenhouse gas (GHG) emissions associated with food waste is an important step both to understand how FLW contributes to a company's GHG footprint and to communicate the reductions in GHGs associated with a reduction in FLW.

The FLW Protocol offers guidance on 'Connecting Food Loss and Waste to Greenhouse Gas Emissions' with the following formula:

Scope 3. Calculate the GHG emissions associated with the FLW and/or its reduction
The basic formula for estimating the GHG emissions associated with FLW is as follows:

GHG emissions associated with FLW = **GHG emissions from food supply chains** + **GHG emissions from FLW destination** + **Climate impacts outside GHG inventory scopes 1-3** *(reported separately optional)*

As an example, the basic formula for GHG emissions associated with a kilogram of apples sent to landfill by a grower would be:

(1kg of apple x Co2 eq/kg apple production) + (1 kg of apple x Co2 eq/kg apple to landfill)

Figure 7: *FLW Protocol guidance on 'Connecting Food Loss and Waste to Greenhouse Gas Emissions.*

The GHG emissions from food supply chains, otherwise known as *embodied emissions*, include emissions from the production, processing, transport, and preparation of food which is wasted. The GHG emissions from FLW destinations, otherwise known as *disposal emissions*, refers to emissions from the treatment of wastes, such as the decomposition of organic matter in landfills.

To calculate these, it is important to understand *how much* is being wasted, *what* is being wasted at a product level (or, at a minimum, food category level) and *how that is treated*.

For most Retail and Manufacture businesses, the disposal emissions are captured in indirect 'Scope 3' categories 'waste generated in operations' and 'end-of-life treatment of sold products'[8]. The embodied emissions would be captured in scope 3 'purchased goods and services' (products bought which were wasted) and Scope 1 & 2 emissions for company processes associated with producing food which is wasted. As primary production of bought products is likely to be the main source of emissions, accurate information about what products/food groups are wasted is important. WRAP's Scope 3 Measurement & Reporting Protocols provide guidance to businesses on how to calculate their Scope 3 emissions and available data sources[9].

It should be noted that reductions in food waste should be visible in GHG inventories through reductions in amounts of food waste being treated and the amount of food being bought (relative to output). Quantifying the GHGs associated with FLW and FLW reduction is important for targeting action and communicating progress, but care should be taken when reporting Scope 3 emissions to not count the reductions from food waste twice.

The CGF Food Waste Coalition of Action is exploring how it can support the ambition to accelerate industry's ambition towards net zero.

[8] FLW Protocol, Connecting Food Loss and Waste to Greenhouse Gas Emissions: Guidance for Companies - https://flwprotocol.org/wp-content/uploads/2021/10/ConnectingFLWGHG-Emissions_GuidanceForCompanies.pdf.

[9] WRAP, Scope 3 GHG Measurement and Reporting Protocols for Food and Drink - https://wrap.org.uk/resources/guide/scope-3-ghg-measurement-and-reporting-protocols-food-and-drink

7.0 Findings

This report has presented operational food surplus and waste data from the food waste coalition members for the 2021 baseline. It has also presented a summary of the action that businesses are taking to set a food waste reduction target, work with their suppliers, and support their customers to reduce food waste. The findings presented will serve as a baseline for which future years of the coalition will be compared against and progress will be tracked. The key findings from the baseline year can be summarised as follows:

- A total of 16 members submitted data for 2021[10].
- The tonnes of food waste arising for 2021 totalled 2.12 million tonnes across the companies who contributed to the baseline. Retail food waste was nearly 929,000 tonnes and waste from manufacture was 1.19 million tonnes.
- In terms of food waste per tonne of food handled, manufacture food waste was 22.7kg per tonne of food handled compared to retail food waste at 5.88 kg per tonne handled.
- For the Coalition as a whole, food waste was 8.20 kg per tonne of food handled.
- Anaerobic digestion was the most common food waste management route, with over one-third (34.1%) of food waste being sent there by members, accounting for 721,000 tonnes.
- 13 of the 16 contributing coalition members reported some food waste being sent to landfill. However, most of waste to landfill was from retail with 574,000 tonnes, compared to 29,000 tonnes for manufacture. Combined across the business types, 28.5%, of food waste was disposed in landfills.
- All 16 members said that they are taking action to reduce their operational FLW.
- 14 out of 16 members said they're taking action to collaborate with supply chain partners to reduce FLW.
- 13 out of 16 members said they are taking action to support citizens to reduce their food waste.

[10] This is the total number of businesses that were able to contribute to the baseline, with some members not able to submit data for the baseline year.

These figures for the proportion of food waste per tonne of food handled are broadly in line with those seen by businesses in the UK part of WRAP's Food Waste Reduction Roadmap. For Roadmap manufacturing businesses, of which there are 173 who collectively represent around 50-60% of large UK food manufacture businesses by turnover, food waste per tonne of food handled was around 3.8% in 2021 (or 2.44% when looking at just the edible parts of food waste). However, it is worth highlighting that this figure was slightly skewed by anonymously high food waste volumes from a number of manufacturers that reporting year. In addition, the list of manufacture businesses from the UK Food Waste Reduction Roadmap includes businesses that inherently have a higher amount of food waste per tonne of food handled such as those in the meat manufacture sector which would have a high volume of inedible food waste such as bones. As for retail businesses, of which there are 16 who collectively represent around 97% of the UK grocery retail market share, the food waste per tonne of food handled was 0.44% in 2021.

Although data from the Coalition's members appear to be broadly in line with the data from the Food Waste Reduction Roadmap, the figures generated from this report should be treated with a degree of caution. This is because based on relatively small numbers of reporting businesses (five manufacturers and five retailers) and so are sensitive to errors in the reporting of both food handled and food waste[11]. As more businesses are able to report the total tonnes of food handled, the number of businesses that are included in the calculation will increase, and therefore will reflect, more accurately, the Coalition as a whole.

It is recommended that Coalition members work to move waste up the food waste hierarchy where possible, to waste management routes with a lower carbon impact. However, the prevention of waste should always be the priority and is the most preferred course of action to minimize the impact on the environment.

Although the findings around the actions being taken by members are encouraging, some members did not provide additional details about the specific actions that they're taking, likely due to these questions being optional on the data capture sheet. For next year's reporting, Coalition members will be required to complete these questions and the CGF may decide to place greater emphasis on collecting information about the actions that members are taking to reduce food loss and waste.

Table 6 shows a summary of the main results and provides brief commentary on their estimated reliability.

[11] Please refer to section 3.2

Indicator	Results	Notes about reliability
Manufacturers		
Food waste arising	**1,190,515 tonnes**	In total, seven manufacturers provided data by the data submission deadline. This figure is subject to change once the CGF receive data from all manufacturers. WRAP experience suggests that businesses improve their food waste measurement methodology over time and that businesses are likely to update previous year's data as their internal systems and processes improve. This figure is subject to amends and will likely be restated in future reporting years.
Food waste per tonne of product handled	**2.27%**	In total, five manufacturers provided tonnes of food sold in 2021 (the figure is used to calculate food handled). The reliability of this indicator will improve in future reporting years if more businesses report the tonnes of food handled.
Retailers		
Food waste arising	**928,601 tonnes**	In total, nine retailers provided data by the data submission deadline. This figure is subject to change once the CGF receive data from all retailers. WRAP experience suggests that businesses improve their food waste measurement methodology over time and that businesses are likely to update previous year's data as their internal systems and processes improve. This figure is subject to amends and will likely be restated in future reporting years.
Food waste % per tonne of product handled	**0.59%**	In total, five retailers provided tonnes of food sold in 2021 (the figure is used to calculate food handled). The reliability of this indicator will improve in future reporting years if more businesses report the tonnes of food handled.

Table 6: Summary of key results.

8.0 Conclusion

Looking Towards 2030

When the Food Waste Coalition of Action was created in 2020, members agreed that data collection, measurement and public reporting would be its first priority. We knew then that without the numbers and the knowledge to understand just how much food is being lost between producers, retailers and consumers—and importantly, why—our efforts to tackle the problem will be fruitless.

This is why all of the work that has gone on behind the scenes in preparing this report is so vital to our mission. However, in order to move the needle and drive down food waste, we are very aware that our objectives and actions need to span the whole supply chain . This is why our work streams focus on the following areas:

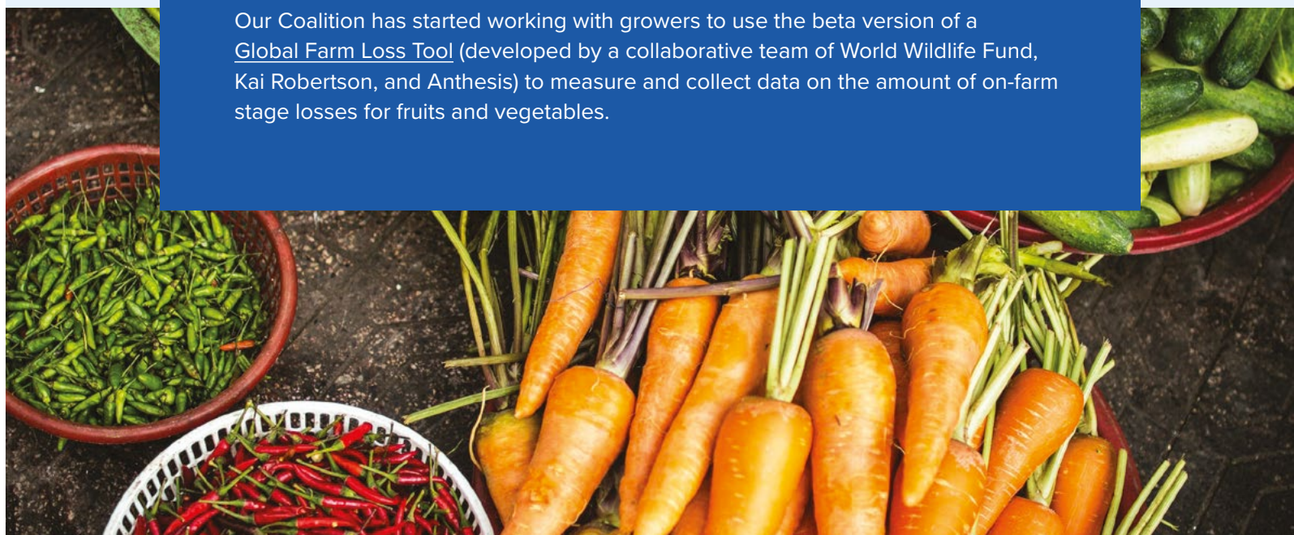
Scaling up the 10x20x30 Initiative

The Coalition continues to work with Champions 12.3, a private-public partnership from the WRI that encourages collaborative action to meet UN SDG 12.3, to scale up their 10x20x30 Initiative, a catalyst model that seeks to involve the entire supply chain which supports upstream food loss and waste reduction.

Upstream Losses

We are working to engage suppliers, growers and distributors and external stakeholders on upstream losses and gather learnings on how to transform and develop more efficient systems.

Our Coalition has started working with growers to use the beta version of a Global Farm Loss Tool (developed by a collaborative team of World Wildlife Fund, Kai Robertson, and Anthesis) to measure and collect data on the amount of on-farm stage losses for fruits and vegetables.



Consumer Engagement

In 2023, the Coalition launched a consumer engagement campaign, where members came together using the hashtag #TooGoodToWaste to share their individual reduction initiatives to encourage industry action, inform and educate, and help consumers reduce household food waste. By using the hashtag, our Coalition members add their voices to others calling for a greater global community of action targeting and changing specific behaviours that waste precious food. We are also looking to work with our retailer members to engage with consumers in store and online to empower them with tools and inspiration to avoid household waste.

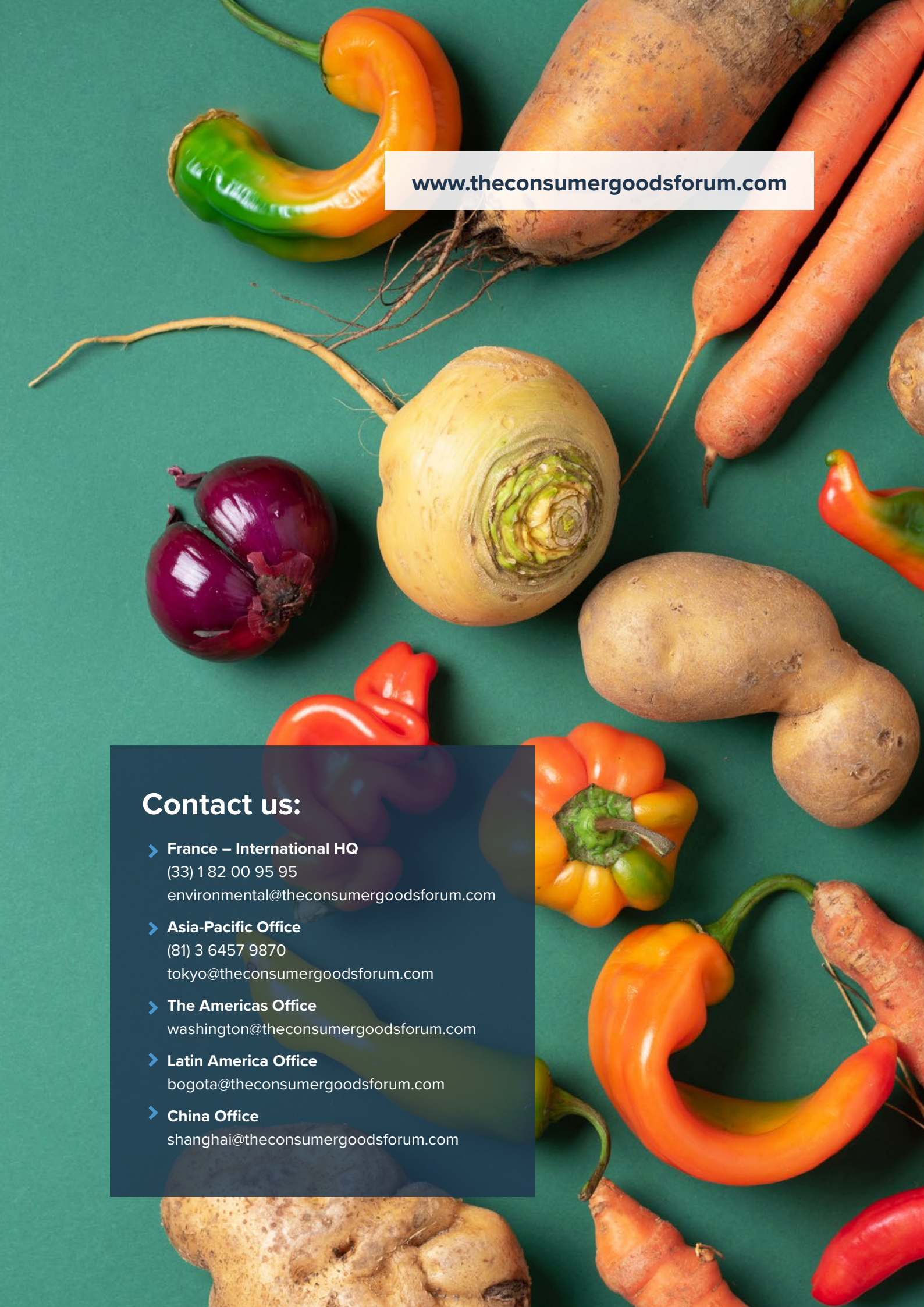
Measurement and Reporting

Increased transparency and public reporting are widely recognised as key triggers for rapid internal action and help build consumer trust in companies' engagements on the issue. We are committed to continuing to report on our progress using the Food Waste Atlas before 2030. It's these types of innovative tools that help bring clearer and aligned awareness to industry actors which equips them for stronger action and impact. Continuing to research and report on the scale of the problem, plus envisioning possible solutions, is key to continuing the dialogue on food waste and reaching SDG 12.3.

Effective measurement allows us to effectively track our progress and achievements along our pathway to our 2030 goal, as well as giving us a clear picture of the work that remains to be done by our Coalition, both upstream and downstream.

With just seven years away from the Sustainable Development Goals deadline, the time for urgent action is now. All of those in the food industry have a role to play in halting food waste and huge gains can be made on the fight against climate change if we can scale up our work.

If you are interested in joining our Coalition, please get in touch.



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