

April 2016

Household Food and Drink Waste Resource Listing



This document summarises all of the resources (guidance, tools and research) produced by WRAP to support taking action to reduce household food and drink waste. Everything is hyperlinked, download this file at: www.wrap.org.uk/waste-resource-listing.

WRAP's vision is a world in which resources are used sustainably.

Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.

Find out more at www.wrap.org.uk

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Front cover photography: [Love Food Hate Waste Behaviours: Portions: Spaghetti.]

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1.0 Guidance

1.1 Material to Help You Support Consumer Behaviour Change

Love Food Hate Waste Partners' Site Evidence-based artwork, videos, materials, template editorial, campaign calendar etc to support the Love Food Hate Waste campaign. All resources available FOC. Log in needed to download materials.	Ongoing
Courtauld signatory Partner Resources Pack	Ongoing
Guide to Running your own Community Food Waste Reduction Group Using the experience of LFHW partners, a Guide has been produced to help individuals promote food waste prevention behaviours, alongside other community-led action.	Dec-14
Love Food Hate Waste Single Person Household Messaging This brief provides guidance and recommendations to our partners on creating messages for and engaging with single person households.	Aug-14
Love Food Hate Waste - Save More – Activities The Love Food Hate Waste - Save More pack has been developed to help you run Love Food Hate Waste - Save More sessions in your community. Read the Evaluation Report .	Aug-14 Dec-14
Resources for Local Authority Communications Resources range from practical suggestions on the design and production of effective communication materials to help with planning local behaviour change programmes.	Sep-13
Food Waste Messages for Maximum Impact How to engage your residents in prevention and collections.	Jul-13
Fresher for Longer - Guide for Partners Consumers' attitudes to food waste and food packaging. (Related to Love Food Hate Waste Mar-13 theme.)	Mar-13
Guide to Running a Love Food Hate Waste Week Get a thorough understanding of how you can run a Love Food Hate Waste week or day in your business at work, in your community or anywhere at all.	Feb-13
Your Food Waste Assistant Love Food Hate Waste has created an online tool called 'Your Food Waste Assistant' designed to identify food waste behaviours and offers solutions based on user selected outputs. 'Your Food Waste Assistant' asks people about the last food they wasted, why they waste it and offers simple ideas to help them do something differently next time around. The tool is available free of charge for you to embed on your own website.	July-15

1.2 Action Needed to Make Changes to Products, Packaging and Labelling

Information Sheet – How to Apply Date Labels to Prevent Food Waste Defra Guidance on Application of Date Marks to Food Dairy UK Guidance on Application of Date Marks	Aug-12 Sep-11 Sep-12
Information Sheet – Freezing Guidance to Prevent Food Waste Freezing Guidance Decision Tree	Aug-12

1.3 Digests

Do you want to help your business take action on food waste prevention? Our new series of interactive digests, tailored to ten different themes bring together all the information you need in a user friendly and accessible format (N.B. You will need to register to view these digests; it is free of charge to do so).

Retailers	Dec-15
Brands, Manufacturers and Suppliers	Dec-15
Trade Associations and Service Providers	Dec-15
Meat, fish and poultry	Dec-15
Fresh Produce	Dec-15
Dairy	Dec-15
Prepared Chilled Food	Dec-15
Bakery	Dec-15
Ambient Grocery	Dec-15
Secondary Packaging Optimisation	Dec-15

2.0 Tools

<p>Food Waste Prevention – a guide to help your business challenge existing product life and ‘open’ life</p> <p>This guide is structured around the 5 key stages for extending product life: fact finding, opportunity identification, validation, implementation and review and embed.</p>	Mar-16
<p>Food Waste Prevention – a guide to help your business increase ‘available’ product life for consumers</p> <p>This guide includes sections for manufacturers and retailers. It provides a number of questions to ask when reviewing product life during supply chain operations, forecasting and demand planning, buying and product development. The responses can be used to support further conversations with key stakeholders when developing specific actions.</p>	Mar-16
<p>Food Waste Prevention a worked example</p> <p>This document should be read alongside the guidance listed above. It is structured around the 5 key stages for investigating the potential for extending product life and has been based on the example of using a raw meat product. A blank template is also available.</p>	Mar-16
<p>Webinar on extending product life</p> <p>This short webinar runs through WRAP’s findings regarding extending product life and the steps we recommend companies take to challenge and make changes to product life settings.</p>	Dec-15
<p>Product Action Finder</p> <p>Will help you identify potential actions you can take to change your products’ labelling, packaging and merchandising to help your customers waste less food.</p>	Nov-14
<p>Product Sustainability Forum Knowledge Base</p> <p>A library of information from the work the Product Sustainability Forum has completed over the last few years with the grocery market.</p>	Ongoing
<p>Resource Efficient Innovations Database</p> <p>Illustrates recent technologies in products and packaging from around the world, such as machinery, tooling, materials and design, that help reduce food waste.</p>	Ongoing
<p>Concept to Consumer</p> <p>An easy to read, interactive document to give you, your business and your suppliers some ideas on reducing household food waste throughout your new</p>	Apr-14

product and packaging development processes.	
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3.0 Research

3.1 Understanding the Amounts & Causes of Household Food Waste

Handy Facts and Figures on Waste in the UK A useful summary of waste data for the UK retail, and hospitality and food service sectors is available.	Ongoing
Strategies to achieve economic and environmental gains by reducing food waste This report highlights the need for action on food waste and provides concrete examples of how this can be achieved.	Feb-15
Household Food and Drink Waste – A People Focus Explores relationship between the level of avoidable food and drink waste from households and factors including socio-demographics, behaviours and others relating to food, such as healthy eating and time available for food-related activities.	Oct-14
Household Food and Drink Waste – A Product Focus Detailed reasons about why food is thrown away, size of individual instances of waste and proportion of food left in packaging. Also details which meal occasions are linked to the most waste and the percentage of purchases that are wasted.	Jun-14
Household Food and Drink Waste in the United Kingdom 2012 Updated household food waste figures for 2012; published 2013. It includes details of the types of food and drink wasted, why it is thrown away, and where the material goes. It updates WRAP's 2007 estimates of household food and drink waste. <i>Also published alongside this report is a Methods Annex Report And separate estimates for food waste arising in Wales and Scotland Note: data in appendix A (% of purchases wasted) has been superseded</i> <i>Also published alongside this report is the Diary Instrument and Questionnaires used in the research.</i>	Nov-13
WRAP's Food Vision 2025 The benefits of reducing food waste in the UK by 2025.	Nov-13
Synthesis of Food Waste Compositional Data 2012 Analysis of compositional data and WasteDataFlow information to produce estimates of food in local authority collected waste streams from UK homes in 2012.	Nov-13
Environmental Impact of Grocery Products A review of evidence on resource use and environmental impacts across grocery sector products in the UK.	Mar-13
Estimates for Household Food and Drink Waste in the UK 2011 Synthesis of Food Waste Compositional Data 2010 New research showing that annual UK household food waste has fallen by 1.1 million tonnes (13%) over a three year period to an estimated 7.2 million tonnes.	Nov-11
Relationship Between Household Food Waste Collection and Prevention Literature review to assess the evidence that food waste collections promote food waste prevention behaviour.	Aug-11
The Water and Carbon Footprint of Household Food and Drink Waste	Mar-11

Report highlighting the major environmental consequences of food and drink waste in the UK and globally.	
Household Food and Drink Waste in the UK 2009 Updated household food waste figures for 2007; published 2009.	Nov-09
Down the Drain 2009 A study in which householders recorded the quantities of food and drink that they were disposing of down the drain. This data was used to inform the 2009 report .	Nov-09

3.2 Understanding the Retail Environment

Helping Consumers Reduce Food Waste – A Retail Survey A survey across UK retailers, covering a range of factors believed to influence household food waste for a selection of products. <ul style="list-style-type: none"> • Updated report available Autumn 2015 • 2010 Report (2009 data) • 2012 Report (2011 data) 	Aug-10 Jun-12
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3.3 Understanding Consumer Attitudes and Behaviour

Consumer Behaviours, Attitudes & Knowledge Towards Food & Waste Results from WRAP's Consumer Food Waste Prevention Survey (bi-annual).	March-16
Understanding Out of Home Consumer Food Waste Research to understand why food is wasted 'out of home' and what the barriers are to reduce food waste, both from a consumer and staff perspective.	Jun-13
Consumer Attitudes to Food Waste and Food Packaging Research, involving a combination of qualitative and quantitative methods, to explore consumers' attitudes to food and packaging.	Mar-13
An Investigation into Household Bread Waste Research to investigate consumers' attitudes, motivations and behaviour around buying, storing, using and throwing away bread and bakery products.	Mar-11
Food Storage and Packaging This report explores consumer attitudes towards food storage and packaging.	Aug-07
Understanding Consumer Food Management Behaviour Investigates consumer decision-making processes that result in food being wasted.	Jul-07
Food Behaviour Consumer Research: Quantitative Phase Explores consumer attitudes and behaviours relating to food and food waste, and what might motivate consumers to throw away less food.	Jun-07
We Don't Waste Food! A Household Survey Details perceptions and behaviour around food and household food waste.	Mar-07

3.4 Helping Consumers Buy the Right Amount

Investigation into the Possible Impact of Promotions on Food Waste Analysis of promotions deployed by the UK grocery sector and a consumer survey to understand what effect promotions might have on food waste.	Dec-11
Research into Consumer Behaviour in Relation to Food Dates and Portion Sizes This report details research findings relating to how consumer perception of food dates and their demand for more varied portion sizes affects food waste.	Jul-08

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3.5 Helping Consumers Keep What They Buy at its Best

The Impact of Using Your Fridge and Freezer More Effectively Estimating the benefits and costs of more effective fridge and freezer use by consumers, in order to reduce the amount of household food waste.	Jul-13
Using Thermochromic Inks to Reduce Household Food Waste A scoping study to investigate the possible applications of thermochromic inks for household food and drink waste reduction.	Jul-13
Review of Literature about Freezing Food at Home This research aims to identify 'best practice' in terms of home freezing a range of foods, to inform customer communications and on-pack freezing guidance.	Jun-12
Reduction of Supply Chain and Consumer Potato Waste A report that evaluates ways of reducing levels of fresh potato waste along the retail supply chain and in the household. It includes a consumer survey, storage trial, packaging trials and in-store training.	Jan-12
Ethylene and Fungal Control Strategies to Reduce Waste of Fresh Produce A review of ethylene control technologies in the domestic fridge to reduce waste of fresh produce.	May-11
Understanding Consumer Use of the Freezer A quantitative study into consumer attitudes, understanding and behaviour with regards to home-freezing food, store-bought frozen food and use of the freezer.	Aug-10
Insights Around the Domestic Refrigerator An extensive study of refrigerated food practices in the home, and experimental measurements of refrigerated food temperatures during their transit from the retail store to the domestic fridge.	Aug-10
A Performance Assessment of Domestic Fridge Thermometers A series of scientific experiments to ascertain the accuracy, resolution and responsiveness of domestic fridge thermometers to a change in temperature.	Dec-09
Seal Integrity and the Impact on Food Waste An investigation into contribution that inadequate heat sealing of food packaging makes to the generation of food waste and the development of sealing technology.	Mar-09
Evaluating the Potential of Long Life Solutions An investigation into the potential of new technology to extend the shelf-life and quality of fresh produce.	Sep-08
Helping Consumers Reduce Fruit and Vegetable Waste Research into consumer attitudes and behaviour around storage of fresh fruit and vegetables in the home and how optimal storage conditions could be communicated.	Apr-08

3.6 Helping Consumers Use What They Buy

Guidance to challenge and extend product life Various guides to assist manufacturers and retailers in challenging product life and extending product life.	Mar-16
Reducing food waste by extending product life Demonstrates the business case for reviewing product life, and recommends five ways that retailers and manufacturers can act on this opportunity. WRAP's	Mar-15

recommendations do not require any alterations to packaging design or product formulation, and do not compromise on food safety or quality in any way.	
Developing Love Food Hate Waste 'Save More' activities To support the use of the Save More activities by LFHW partners, this report describes how the activities were developed, piloted and evaluated, to demonstrate that the resources are effective and tailored well to their target audiences.	Dec-14
Product Life Feasibility Study Project to assess the feasibility of gathering data around product life determination practices within the retail supply chain.	Sep-12
Consumer Insight: Date Labels and Storage Guidance Research to determine consumer understanding and use of date labels and storage guidance in order to reduce household food waste.	May-11
Developing new meat packaging: a) Reducing Household Meat Waste through Portioning Innovative packaging formats to help prevent meat portions being wasted. b) Packaging Optimisation for Whole, Fresh Chicken Reducing the weight of whole, fresh chicken packaging while also enabling an extension to shelf life.	May-11 Jul-10
Research into Consumer Behaviour in Relation to Food Dates and Portion Sizes This report details research findings relating to how consumer perception of food dates and their demand for more varied portion sizes affects food waste.	Jul-08
Survey of Packaging with the Potential to Reduce Food Thrown Away At Home This report reviews new and upcoming packaging formats and technologies which have the potential to assist in the reduction of food waste in the home.	Jul-07
Packaging Technologies with Potential to Reduce the Amount of Food Thrown Away This research investigates the potential of new packaging technology and formats to help consumers reduce food waste in the home.	Jan-07

4.0 Case Studies

Courtauld Commitment Case Studies Examples of work being progressed under the Courtauld Commitment.	Ongoing
Love Food Hate Waste 10 cities Retailer Case Studies Examples to date of work undertaken by grocery retailers to support the LFHW 10 cities campaign	Oct-14
The Benefits of Classic Green Innovation in Business	Dec-13
West London Food Waste Campaign This detailed case study contains more information about the comprehensive Love Food Hate Waste (LFHW) campaign in West London and its impacts.	Sep-13
Love Food Hate Waste Communications Case Studies Showing the impact of different communication methods, 2008-2011.	2008-2011
Love Food Champions An initiative between Love Food Hate Waste and the Women's Institute that helped participants reduce how much food they were throwing away by half.	Oct-08

5.0 Evaluating Impact

UK Food Waste – Historical Changes and How Amounts Might be Influenced in the Future An assessment of how food waste levels have changed historically in the UK, and the potential impact of a range of 'exogenous' factors and interventions on food waste levels in the future.	Nov-14
Development of WRAP's Econometric Model Using an econometric modelling approach to understand the influences on food waste and food purchases. A separate paper details qualitative and quantitative analysis to evaluate the impact of WRAP and partner activity over the period of WRAP's last Business Plan.	Jan-14
Evaluation of Courtauld Food Waste Target – Phase 2 WRAP worked closely with the 53 signatories of the Courtauld Commitment 2 to achieve financial and environmental savings. <i>Also published alongside this results document is a Household Food Waste Target Results – Technical Paper</i>	Nov-13
Evaluation of Courtauld Food Waste Target – Phase 1	Sept-10
Household Food and Drink Waste in the United Kingdom 2012 New WRAP research reveals a substantial reduction in the amount of household food and drink waste arising between 2007 and 2012. However, the research also highlights the scale of the opportunity remaining.	Nov-13
Synthesis of Food Waste Compositional Data 2012 This report describes analysis of compositional data and WasteDataFlow information to produce estimates of food in local authority collected waste streams from UK homes in 2012.	Nov-13
West London Food Waste Campaign Work to evaluate the potential impact on food waste arisings of running a comprehensive Love Food Hate Waste (LFHW) campaign.	Sep-13

<p>The Milk Model: Simulating Milk Waste in the Home Development of a method to simulate a household over time and model the purchases, consumption and waste within that household to investigate how various factors influence waste.</p>	Jan-13
<p>Evaluating the Impact of WRAP's Cascade Training Programme Report evaluating the impact of WRAP's Love Food Hate Waste community engagement training programmes.</p>	Jul-12
<p>Consumer Survey to Measure Behaviour Change WRAP has developed a series of documents to help explain how we measure the impact of our food-related activities on consumers. This information can also be used by partners to evaluate their own initiatives.</p>	Annual update

6.0 Published Papers

<p>Preventing Food Waste: Case Studies of Japan and the United Kingdom This OECD report contains case studies of food loss and waste policy practices in Japan and the United Kingdom. WRAP contributed to this report</p>	Mar-15
<p>New Climate Economy WRAP contributed to a new report laying out how countries across the world can reduce the risks of climate change and achieve high-quality, resilient and inclusive economic growth. Content from WRAP's work is included here, in this chapter: http://newclimateeconomy.report/land-use</p>	Sep-14
<p>Sustainable Consumption: Stakeholder Perspectives "Food for Thought" WRAP's journey to quantifiably reduce food waste at both the industry and consumer levels.</p>	Nov-13
<p>Spaghetti Soup: The Complex World of Food Waste Behaviours Resource Recovery Forum. Also available from: www.sciencedirect.com/science/article/pii/S0921344913000980</p>	May-13
<p>Food and Drink Waste from Households in the UK Nutrition Bulletin, 36: 460–467.</p>	Dec-11
<p>Reducing Food Waste in the UK: Where Science and Culture Meet Food Science & Technology Journal.</p>	Jun-11

7.0 Related activities

<p>WRI Food Loss and Waste Protocol WRAP is supporting work to produce a Food Loss and Waste Protocol, which seeks to address current challenges in gathering data and consistently measuring food loss and waste.</p>	Until Jul-15
<p>FUSIONS - Pan-European Food Waste Reduction Project The project will contribute towards the harmonisation of food waste monitoring, improved understanding of the extent to which social innovation can reduce food waste, and the development of guidelines for a common food waste policy.</p>	Until Jul-16
<p>Global Food Waste Reduction Programme WRAP has worked in collaboration with UNEP and the FAO to produce a food waste prevention guidance document. It provides clear and comprehensive steps for public and private sectors to develop strategies, programmes and activities to prevent and reduce food and drink waste, resulting in associated financial savings, reductions in environmental impacts and increased food and nutrition security.</p>	May-14
<p>The House of Lords EU Agriculture, Fisheries, Environment and Energy Sub-Committee conducted an inquiry into the EU's contribution to food waste prevention, to which WRAP contributed. Read the report 'Counting the Cost of Food Waste: EU Food Waste Prevention'.</p>	Apr-14
<p>For information about WRAP's other food waste activities (including Hospitality and Food Service, and Manufacturing and Retail), please visit:</p> <ul style="list-style-type: none"> • www.wrap.org.uk/food • www.wrap.org.uk/groceryresearch 	

www.wrap.org.uk/waste-resource-listing