

Grocery Manufacturing and Retail Resource Listing

This document summarises all the resources (guidance, tools, research and related activities) produced by WRAP to support grocery manufacturers and retailers in taking action on resource efficiency.

For a quick overview of WRAP's work with Grocery Manufacturing and Retail, [look here](#).

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1.0 Where to start

Driving out waste in food & drink manufacturing and retailing Start here to find out how to start reducing waste within your business, and why you should take action.	Jan-15
WRAP's 5-5-5 approach to maximising waste reduction WRAP's key advice to help businesses to maximise waste and cost reduction.	Jan-15
Food waste prevention signposting tool	Oct-15
Retailers Digest Brands, manufacturers and suppliers Digest Trade associations and service providers Digest Food waste prevention digests presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15

2.0 The case for change

The commercial case	Jan-15
The environmental case	Jan-15
The legal/policy case	Jan-15

3.0 Processes & tools to identify opportunities & develop solutions for preventing waste

Waste Mapping: Your Route to More Profit A guide for companies who are taking the first step in reducing waste covering identifying wastes, valuing them and taking steps to reduce them.	Mar-13
Self-assessment Review for Food and Drink Manufacturers A guide to completing a self-assessment review of current practices to enable companies to identify where waste is arising and take steps to reduce it.	Mar-13
Waste Prevention Calculator Use our waste calculator to get a ballpark estimate of how much you could save through changing waste management practices.	Jan-15
W.A.S.T.E. process A process to help businesses identify waste and reduce it within their operations and across their supply chains. The W.A.S.T.E. process a problem-solving discipline, which is rooted in continuous improvement and LEAN manufacturing strategies and builds on established techniques. The W.A.S.T.E. process is to be used in conjunction with the following tip sheets. These are designed to assist you during the different stages of the process:	Oct-13
Forming Teams and Champions	
Value Stream Mapping	
Scoping Project for Focus	
Cause and Effect Analysis Tool	
Brainstorming Techniques	
Plan, Do, Check, Act	
Embedding Change	

4.0 Guidance & tools for specific product categories

4.1 Fresh Produce

Fresh Produce Digest Food waste prevention digest presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15
Waste reduction in the fresh produce sector Web page summarising key actions for the sector.	Jan-15
Preventing waste in the fruit and vegetable supply chain Presents key results from WRAP research and other information on reducing waste in the fruit and vegetable sector. Highlights the issues and shows the key actions that organisations in the sector's supply chain can take to prevent waste being produced and to save money.	Jun-12
Increasing Profitability in the Potato Supply Chain: Key Opportunities for UK Potatoes Findings from a farm-to-fork assessment with Co-operative Food & Farms, plus wider WRAP research.	2014/15

4.2 Bakery

Fresh Bakery Digest Food waste prevention digest presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15
Improving Performance and Reducing Waste in In-Store Bakeries: Key Insights An insight guide as to how bakeries can apply WRAP's recommended steps for waste prevention, with bakery specific hints and tips and access tools and templates. Also contains a case study on Tesco's programme of waste prevention measures in their in-store bakeries.	Jul-15

4.3 Dairy

Dairy Digest Food waste prevention digest presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15
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4.4 Fresh meat, fish, and poultry

Meat, fish, & poultry digest Food waste prevention digest presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15
Preventing waste in the fresh meat supply chain Presents key results from WRAP research and other information on reducing waste in the fresh meat sector. Highlights the issues and shows the key actions that organisations in the sector's supply chain can take to prevent waste being produced and to save money.	Jun-12
Preventing waste in the fish processing supply chain Presents key results from WRAP research and other information on reducing waste in the fresh fish sector. Highlights the issues and shows the key actions that organisations in the sector's supply chain can take to prevent waste being produced and to save money.	Jun-12

4.5 Processed and prepared food

Processed and prepared food digest Food waste prevention digest presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15
Waste reduction in the processed food sector Web page summarising key actions for the sector.	Jan-15

4.6 Ambient

Ambient digest Food waste prevention digest presenting our research, evidence, tools and guidance in a user friendly and accessible format.	Oct-15
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4.7 Drinks

Guidance and checklists for waste prevention in brewing and soft drinks manufacture Carlsberg (UK) and Britvic Soft Drinks worked in collaboration with two trade associations to illustrate how drinks companies can reduce ingredient and product waste being sent to sewer or land injection.	Mar-15
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5.0 Key Areas for Action

5.1 Whole Chain Resource Efficiency

Whole-chain resource efficiency Home page for programme of whole chain resource efficiency Pathfinder projects.	Mar-15
Whole-chain resource efficiency toolkit This document is an introduction to WRAP's on-line toolkit designed to help organisations save money and improve resource efficiency. The tool can also be downloaded from this link.	Mar-15
True cost of waste screening tool As part of the whole chain assessments above, to map where in the chain significant losses occur and where action can add real value.	Aug-14
Quantification of food waste in the supply chain Report to add granularity to food waste estimates associated with the grocery supply chain and also to measure food surpluses that arise at different points in the supply chain.	May-16
Opportunities for Resource Efficiency in the Food and Drink Sector This report summarises the findings of 13 site reviews carried out on a variety of UK food and drink manufacturing companies. It covers waste arisings in food and packaging, identifies where resource efficiency savings can be made and estimates that the whole UK food and drink manufacturing sector could save about 720,000t/£404 million.	Sept-11

5.2 Sourcing & Buying

Resource efficient and sustainable buying in grocery supply chains Information to support retailers and manufacturers increase their resource efficient and sustainable behaviour through buying practices.	Jan-14
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<p>Raw Material Risk Tool: contact WRAP at karen.fisher@wrap.org.uk</p> <p>A web-based Raw Materials Risk and Opportunity Assessment Tool to help food and drink businesses inform their sourcing strategies and decisions for a range of raw materials.</p>	Jan-15
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5.3 Product Life

<p>Reducing food waste by extending product life</p> <p>Demonstrates the business case for reviewing product life, and recommends five ways that retailers and manufacturers can act on this opportunity.</p>	Mar-15
<p>Food Waste Prevention – a guide to help you & your business increase ‘available’ product life for consumers</p> <p>With a focus on improved performance in the supply chain and no change to the product or packaging.</p>	Apr-16
<p>Extending product life guidance to help businesses challenge product life/open life</p> <p>Focuses on opportunities to challenge existing product life and open life, with a view to extending it, without changing the product or packaging.</p>	Apr-16
<p>Extending product life: summary of opportunities for action and review</p> <p>Summarises for a range of products, a list of challenges and opportunities for extending product life.</p>	Mar-15
<p>Incorporating product life information in bar codes</p> <p>Discusses the potential waste prevention benefits presented by new bar codes, which incorporate product-life information.</p>	Mar-15

5.4 Food Promotions

<p>Preventing waste through good practice in grocery promotions management</p> <p>Summarises the findings of a project which examined whether there was a link between promotions and food waste arising at the retail and manufacturing stages of the supply chain.</p>	Aug-14
<p>Food Promotions – Guidance for Retailers</p> <p>Provides practical steps for retailers to prevent waste when planning promotions.</p>	Jan-15
<p>Food Promotions – Guidance for Manufacturers</p> <p>Provides practical steps for manufacturers to prevent waste when planning promotions.</p>	Jan-15
<p>Investigation into the possible impact of promotions on food waste</p> <p>Analysis of promotions deployed by the UK grocery sector and a consumer survey to understand what effect promotions might have on food waste.</p>	Dec-11

5.5 Food Redistribution

<p>Surplus food redistribution</p> <p>WRAP has been working with retailers and manufacturers, logistics and redistribution organisations together with industry bodies, to identify ways of increasing the beneficial use of surplus food. The outputs of this are:</p> <ol style="list-style-type: none"> 1. A set of Guiding Principles (a food waste hierarchy); 2. A series of case studies to illustrate how others are dealing with the challenges; 	Mar-14
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3. Animal Feed Information Sheet to encourage a greater quantity of food and drink to be used as an ingredient in animal feed rather than being disposed as waste.	
Retail Pilot in Surplus Food Redistribution Outputs from this project will include guidance for other retail stores to use to undertake surplus food redistribution and use, a communication piece to share findings from the work and a plan to roll out redistribution more widely across Wales.	Oct-15
Food Connection Programme Report on the potential for the redistribution of surplus food from grocery retailer stores to charities.	Mar-14
A Standard Partnership Model for Food Redistribution Model to provide a structured and efficient approach to creating and operating the partnerships which enable food redistribution, taking into account the needs and ways of working of both the food surplus providers and recipient organisations involved in redistribution.	Mar-16
Guidance for Food and Drink Manufacturers and Retailers on the Use of Food Surplus as Animal Feed Guidance document to describe the steps to be taken by organisations wishing to divert food surplus to animal feed.	May-16

5.6 Engage your Colleagues

Your Workplace Without Waste All the tools and materials you need to engage employees to reduce waste.	Oct-15
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5.7 Help your Consumers Reduce Food Waste

Concept to Consumer An easy to read, interactive document to give you, your business and your suppliers some ideas on reducing household food waste throughout your new product and packaging development processes.	Apr-14
Household Food and Drink Waste Resource Listing See this listing for household food and drink waste.	Mar-15
Freezing guidance to prevent food waste Five key recommendations for how food businesses can help their customers and the environment by helping them make the best out of the food they buy by freezing.	Aug-12
How to apply date labels to help prevent food waste Information sheet aimed to help food businesses make more informed decisions around date labelling to prevent food waste.	Aug-12

5.8 Packaging Optimisation

Secondary Packaging Digest Digest presenting our research, evidence, tools and guidance on optimisation of packaging, in a user friendly and accessible format.	Oct-15
Secondary Packaging Benchmarking across the Grocery Sector Project report identifying the areas where there is the greatest potential to reduce secondary packaging in the grocery sector and providing benchmarks in these areas.	Feb-15

Optimisation of pallet wrapping film use This research reviews the use of pallet collation films in the UK grocery market and identifies opportunities to optimise their usage in the UK food and drinks sector.	Mar-13
Optimisation of pallet wrapping tool This tool can be downloaded at this link. This is a Microsoft Excel based tool intended to assist in the preliminary evaluation of options available for reducing the amount of stretch wrap used in any given application.	Feb-13
Single Trip or Reusable Packaging - Considering the Right Choice for the Environment This report describes the factors which need to be considered when reviewing the environmental performance of single-trip and reusable packaging systems. It is the result of a review of the findings of Life Cycle Assessments and similar studies comparing the environmental burden of single-trip and reusable packaging systems.	May-10
Reducing stretch film waste in the food and drink sector: Good practice for buyers and users This document provides good practice advice for film use in pallet stabilisation operations. It complements the report Optimisation of pallet wrapping film and provides an overview of the selection and application of stretch film to reduce waste in the food and drink sector.	Apr-13

6.0 Research

Estimates of Food and Packaging Waste in the UK Grocery Retail and Hospitality Supply Chains Presents the results of three major WRAP studies carried out in 2013 to estimate annual food waste arisings within UK households, hospitality and food service, food manufacture, retail and wholesale sectors.	Feb-15
Estimates of waste in the food and drink supply chain This report contains estimates for the amount of waste in the UK supply chain of food and drink. Estimates for 2011 are presented for food and drink manufacturing, grocery retail and wholesale, including waste food and drink and waste packaging.	Oct-13
Household food and drink waste in the UK 2012 Provides estimates of the amount of food and drink waste generated by UK households in 2012. 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.	Nov-13
Food and Drink Federation Members' Waste Survey Report of FDF Members' Survey of Food and Packaging Waste Arisings in 2012.	Feb-14
Drinks resource map: information and guidance The objective of this project was to develop a series of resource maps for twelve key product groups within the UK drinks sector, detailing product and packaging waste, and water consumption and losses.	Aug-12
Resource map: fruit and vegetable This research highlights the extent to which fresh fruit and vegetables are	Jun-11

wasted or lost in the UK's food supply chain. It is estimated that about £400-£500 million could be saved through commercial improvements based on the recommendations outlined in this report.	
Resource map: fresh meat This research highlights the extent to which fresh meat is wasted or lost in the UK's food supply chain. It is estimated that the meat industry could save about £110 m annually through application of commercial improvements based on the recommendations outlined in this report.	Jun-11
Resource map: fish processing This research highlights the extent to which fish and shellfish products are wasted or lost in the UK's food supply chain. By identifying how, where and why the products are wasted, these resource maps enable the identification of where better management practices, in particular, can be used to develop more resource efficient strategies within the fish processing sector.	Jun-11

7.0 Case Studies

7.1 Waste Prevention

Extending product life worked example to help businesses challenge product life/open life	Apr-16
Improving Performance and Reducing Waste in In-Store Bakeries: Key Insights Tesco undertook a programme of waste prevention measures in their in-store bakeries. Also contains guidance for other in-store bakeries to utilise.	Jul-15
Project Shandy: The British Beer and Pub Association and British Soft Drinks Association worked in collaboration with Britvic Soft Drinks and Carlsberg (UK) on a joint project to reduce the amount of ingredient and product waste being sent to sewer and to land injection in the brewing and soft drinks industries: <ul style="list-style-type: none"> • Carlsberg UK implements a series of measures to reduce waste • Reducing syrup waste in soft drinks manufacture saves £117,000 a year for Britvic 	Mar-15
Collaboration reveals more waste savings in an already 'lean' supply chain. An extended case study describing the collaborative approach taken by Greencore and Sainsbury's to reduce waste in their sandwich supply chain.	2012/13
Significant potential pie manufacturing waste savings identified through a 'waste event' approach. Morrisons Farmers Boy ran a highly successful, Lean-based 'waste event' at their Bradford site to identify waste hot spots and develop an action plan to tackle these.	Sep-15
Waste prevention case studies The case studies in this pack represent real examples of how businesses have solely, or in collaboration with others, have become more resource efficient by preventing and reducing waste in the supply chain, and also saved money.	2012/13
Waste Prevention in the Supply Chain of Packed Products The purpose of this programme was to explore opportunities to reduce product and packaging waste that arises in the supply chain and deliver	Dec-13

measurable packaging / supply chain waste reductions.	
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7.2 Resource Efficiency

Potato Value Chain (Co-operative Food and Farms) A WRAP supported 'whole chain pathfinder project' has examined potato production in The Co-operative Group from farm to shelf. It demonstrates that by getting maximum value from its potato crop, the Co-operative Group can save up to £600,000 a year.	Mar-15
Apples Value Chain (Musgraves/Budgens) This project looked at a single supplier UK chain and highlights improvements which can be made.	Mar-15
Onions Value Chain (MyFresh and Hay Farming) Resource efficiency in onion ring production.	Mar-15
Resource efficiency in meat supply chains Case studies demonstrating the resource efficiencies in the supply chains for bacon, beef and pork.	Coming soon
Reducing Food Waste through Retail Supply Chain Collaboration Five leading grocery retailers and their supply chains took part in an IGD-facilitated Performance Improvement Programme to reduce food and drink waste. This report identifies new ways of working, which have wider applicability to food retailers and manufacturers not involved in the programme. It includes eight case studies.	Mar-11
Opportunities for Resource Efficiency in the Food and Drink Sector This report summarises the findings of 13 site reviews carried out on a variety of UK food and drink manufacturing companies.	Sept-11

7.3 Packaging Optimisation

Reducing Food and Packaging Waste in the Egg Supply Chain This case study presents an approach and methodology to help tackle packaging-related product damage and the associated waste and carbon impacts in the food and drink supply chain with a specific focus on Tesco's egg supply chain.	Aug-15
Reducing corrugated cardboard weight without compromising performance A packaging distributor has successfully trialled a lightweight corrugated cardboard carton that could significantly reduce paper waste and carbon emissions.	Oct-07
Cardboard packaging optimisation: best practice techniques Effective re-engineering of carton and corrugated cardboard packaging cuts costs and waste while retaining brand benefits and consumer appeal.	Jun-08

7.4 Product Life

Optimising product life will save The Co-operative Food £5m A case study showcasing how the Co-operative Food has undertaken a series of initiatives to give their stores and customers increased product life in order to combat waste.	Jun-14
Extending product life prevents food waste A case study showcasing how Sainsbury's and one of its suppliers, Cranswick, identified that there is a direct relationship between increasing	Mar-15

product life and reducing the amount of waste produced in store.	
Product Life Feasibility Study The feasibility study examined how manufacturers and retailers set product life and how much of this time is taken within the supply chain. Cheddar cheese and yoghurt were chosen as worked examples.	Sep-12

7.5 Food Redistribution

Food Connection Programme Several examples of distribution of back of store surplus food from retailers to charities.	Mar-15
Animal feed diversion case studies These Case Studies demonstrate how surplus food is being sent to Animal Feed from in-store bakeries at a major retailer, the dairy industry and from a soft-drinks manufacturer. These organisations have overcome various barriers and are now benefiting from significant savings on their waste management costs.	Apr-16

8.0 Related Activities

Product Sustainability Forum Knowledge Base The Knowledge Base includes an extensive library of constantly updated information from the work the PSF has completed with the grocery market.	Ongoing
Hotspot data for 50 grocery products The Product slide decks are available for the top 50 grocery products that are likely to contribute most to the environmental impacts associated with UK household consumption. The slide decks include hotspot information relevant to the product category as well as reduction opportunities, case studies and other key resources and activities to improve product sustainability.	Nov-13
Water usage in the UK food and drink industry A review of water use in the food and drink industry in 2007 and 2010, by sub-sector and UK nations, and an understanding as to the potential for the industry to reduce water use.	Jul-13
Federation House Commitment Progress Report This report can be downloaded from this link and summarises the water savings made by FHC signatories in 2014. As well as demonstrating the collective progress made by signatories, the report highlights measures taken by individual companies to reduce water use at their UK manufacturing sites.	Jul-14
FUSIONS - Pan-European Food Waste Reduction Project The project will contribute towards: <ul style="list-style-type: none"> • 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. 	Until Jul-16
Global Food Waste Reduction Programme The new Think.Eat.Save. Reduce Your Foodprint campaign to reduce food waste around the world was launched in January in Geneva by the UN	Ongoing

Environment Programme (UNEP) and the Food and Agricultural Organization (FAO) ; in partnership with WRAP, Feeding the 5000, and many other supporters. The campaign specifically targets food wasted by consumers, retailers and food manufacturers and the hospitality industry. A new tool has been developed to help reduce global food waste.	
Resource Efficient Innovations Database The REID database illustrates recent technologies in products and packaging from around the world, such as machinery, tooling, materials and design, which help reduce food waste.	Ongoing
Complete listing of all of WRAP's research covering the UK grocery sector Further material around resource efficiency can be found at www.wrap.org.uk/retail	Ongoing

For information about WRAP's other food-related activities, please visit:

- www.wrap.org.uk/food
- www.wrap.org.uk/groceryresearch

If you would like further information on the resources available on Grocery Manufacturing and Retail please contact foodspecialist@wrap.org.uk .

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